

# Tracing an ancient monument within a multi-layered historical-urban context: The octagonal structure in Pergamon/Bergama

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## Abstract

A large part of Bergama has been inscribed as a World Heritage Site due to its rich history that transformed the city into a 'multi-layered cultural landscape'. As these cultural and urban layers often overlap, the remains of older layers are hidden beneath the younger ones. This paper examines this phenomenon by focusing on the octagonal structure.

In the last decade, scattered remains of ancient walls and enclosed spaces have been discovered, incorporated into the houses in the former neighborhood of Greeks and Armenians. The long-lost monument, the octagonal structure, is situated at the southern skirt of the fortified city hill of Pergamon, facing towards the Kaikos (Bakırçay) plain. As the (Hellenistic) Attalid Kingdom's capital city, the city hill of Pergamon once incorporated not only the palaces of the royal family but also a great variety of monuments.

The aim of this paper is to provide an overview of the rediscovery of the octagonal structure by giving references from its research history, describing current access routes to the structure, and interpreting the concept of 'multi-layered city' based on its state of preservation. The study of a monument which is buried under private properties is highlighted as another challenge, not only in terms of potential accessibility issues but also in terms of conditions affecting observation and documentation. The octagonal structure at Pergamon is presented here as a case study to emphasize the potential of discoveries in multi-layered cities.

## Keywords

Bergama, Multi-layered cultural landscape, Octagonal structure, Pergamon, Settlement pattern.

## 1. Introduction

Throughout its history, the town of Bergama (İzmir Province, Turkey) has been home to numerous civilizations that have left their traces on the cultural, urban, and architectural fabric. Although this is a common phenomenon to be observed in cities in Asia Minor, in Bergama, the composition of material evidence of past cultures forms the unique image of the city today. As a consequence, ‘Pergamon-Bergama and its multi-layered cultural landscape’ has been inscribed on the World Heritage List of UNESCO in 2014 (Bilgin Altınöz et al., 2016).

The site of the octagonal structure (hereafter referred to as the Octagon<sup>1</sup>) is at the heart of a residential quarter today, where this multi-layered character can be well observed (Figure 1). This historical settlement is situated on the lower slopes of the city hill of ancient Pergamon, and after antiquity it was inhabited for the first time by Ottoman Greeks from the 16th century onwards<sup>2</sup> (Conze et al., 1913a, p. 352, Pirson 2017, p. 122). The fact that this settlement was partly built on ancient ruins explains the origin of the local name of this neighborhood: *Kale Mahallesi*<sup>3</sup>. Accordingly, the choice of this area for the developing Greek neighborhood also raises the question whether the Greek community of Ber-

gama considered themselves the descendants of the ancient Pergamenians (Augustinos, 2011, p. 270; Bachmann, 2012, p. 491; Bammer, 2001, p. 71). Following political affairs resulting in dramatic events, especially the population exchange between Turkey and Greece in 1922-23, there was no Greek community left in Bergama and the neighborhood was partially inhabited by migrants from Greece and the Balkans (Anagnostopoulou, 2013, p. 531; Smith, 2022; Ulusoy Binan, 2018, p. 16).

According to the publications of the Pergamon excavation until a decade ago, the Octagon was not a known monument (Pirson & Scholl, 2014; Radt, 2002). For the first time in 2013, scattered remains of ancient masonry and enclosed spaces were found incorporated into the houses, thanks to the testimonies of inhabitants of the Kale Mahallesi (Pirson, 2017, p. 105; Tezer Altay, 2021). The next stages were the documentation of ancient remains and extensive research in the excavation archives. However, some challenges arose during the documentation process as it was carried out on private properties, making this research project also a case study of fieldwork in multi-layered urban contexts. In addition, physical conditions were determinants in the extent and duration of documentation. Nevertheless, the documentation has led to the conclusion that these scat-



**Figure 1.** The historical residential quarter on the lower slopes of the ancient city hill of Pergamon, 2010 (Pergamon Excavation Archive, Istanbul).

tered remains are parts of an octagonal monument with a diameter of about 40 meters. Furthermore, the archives provided surprising information about the ancient structure, proving that the Octagon had, in fact, been discovered much earlier but was forgotten for certain reasons. Therefore, focusing on the research history sheds light on the factors that led to the loss of knowledge over a long period of time.

## 2. Research history

According to archival records, the Octagon was initially discovered by the first generation of researchers at Pergamon in 1880s, and was only traceable through visual materials such as maps, that were produced at that time. The structure was thoroughly documented during the second excavation period at the beginning of 20th century. However, these records remained unpublished and were partially lost, eventually and were becoming completely forgotten until the definitive rediscovery of the ancient structure in 2013. The summary of the research history of the Octagon during excavation periods is presented below, divided according to changing leadership and excavation stages.

### 2.1. First excavation period (1878-1886)

The first excavation period in Pergamon was directed by the Royal Museums of Berlin and conducted under Carl Humann between 1878-1886. Until then, Pergamon had only been known from ancient literary sources and reports of travellers but was never systematically investigated. The first systematic excavations focused on the upper plateau of the city hill, so the Octagon must have been far out of sight since it is located a rather long distance away. However, the maps produced by the end of this period suggest otherwise.

The first accurate city plan of Pergamon, prepared by Humann in 1886, preserved in the archives of the Berlin State Museums, shows that the Octagon must have already been discovered by then. On this map, the structure can be seen together with other discovered monuments of the city (Tezer Altay, 2021, p. 225).

Subsequently, the first guide book of Pergamon, *Führer durch die Ruinen zu Pergamon*, was published in 1887. Here, the Octagon is again depicted on the city map, but there is no information given about the structure in the book's text (Generalverwaltung der Königlichen Museen zu Berlin, 1887). During this period in general, the Octagon is mentioned neither in the excavation diaries nor in the published reports.

There are key figures, who probably knew about the Octagon, during this time. One of them is building researcher Richard Bohn, who conducted studies on ancient walls on the city hill between 1880-1886, mainly focusing on the fortification systems (Conze & Schuchhardt, 1899, pp. 110-111). As the southern extent of the fortification was already overbuilt by new houses, the remains of the ancient walls could be identified only in small parts. Bohn was, therefore, not able to distinguish whether they were part of the fortification or not. During this study, a small part of the Octagon was also recorded, which most probably belongs to the superstructure. However, before Bohn could finalise and prepare his work for print, he passed away in 1898. After his unexpected death, his documents were brought to Pergamon the same year to be re-studied. At that time, the excavation director Alexander Conze, states that he walked along all walls that Bohn had recorded in his work, and became acquainted with every wall "stone by stone" (Conze et al., 1912, p. 30). This suggests that the remains of the Octagon must have been re-visited during that time.

Another key figure is cartographer Otto Berlet, who was invited to Pergamon in 1898 by Conze, particularly for the preparation of the map of Pergamon and its surroundings (*Pergamon und Umgebung*). Berlet states that he based his work on Humann's works and Bohn's maps (Conze et al., 1912, p. 37). The map that Berlet finished in 1904 was published for the first time in the first volume of the *Altertümer von Pergamon* (Conze et al., 1913b) and its draft version from 1898 is preserved in the archives of the Berlin State Museums. These two versions from 1898

and 1904, however, differ in a crucial detail: The Octagon can be seen on the draft version, whereas it was removed for the published map. The riddle of why the Octagon disappeared from the map could be solved thanks to a worksheet of Bohn's with notes on it. Evidently, it was Berlet who deliberately omitted the Octagon from the map (Tezer Altay, 2021). The reason for this may be that archaeological evidence of the Octagon might not have been visible on site any more, possibly because ongoing construction activities had eventually covered the remains. Furthermore, the unexpected deaths of Humann and Bohn might have caused the loss of related knowledge, as they were probably the only ones who had seen the remains of the Octagon.

## 2.2. Second excavation period (1900-1911)

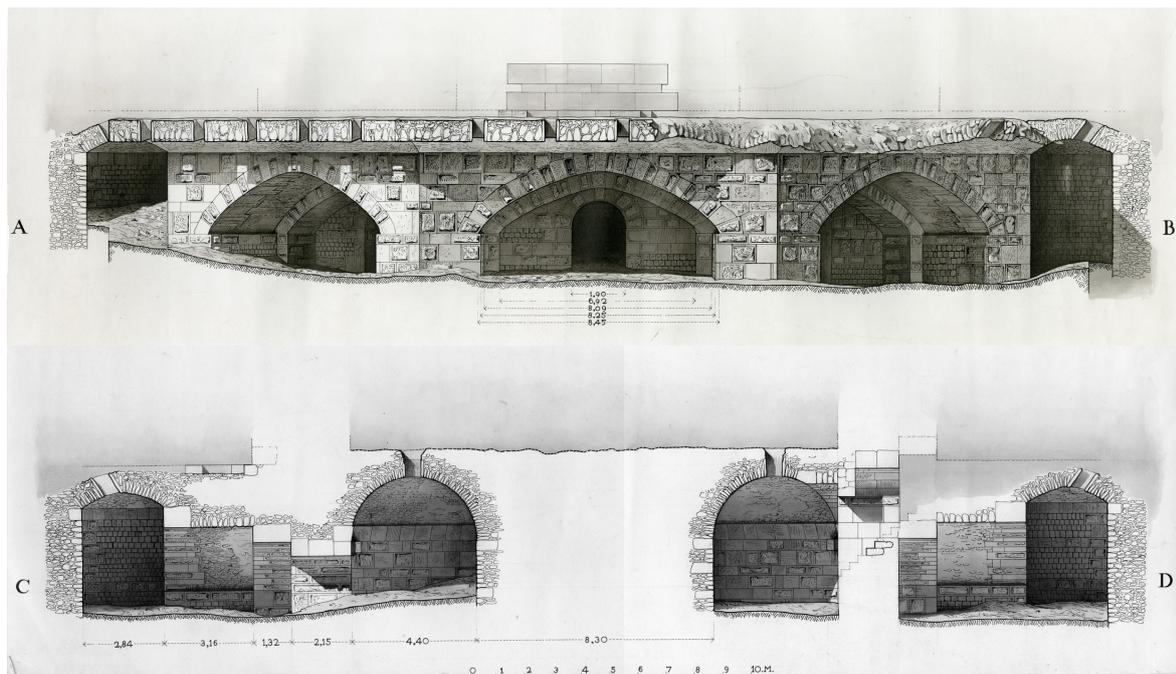
The second excavation period was carried out through the Athens Department of the German Archaeological Institute (hereafter referred to as DAI) and under the field supervision of architect Wilhelm Dörpfeld. He had previously gained experience at archaeological sites like Olympia, Troy and the Acropolis in Athens, and eventually become the director of the Athens Department of DAI in 1887.

The main focus of this excavation period remained on the prominent hill and included also the lower plain, where many other ancient remains were known to be hidden within the younger urban layers. The key figure of this period is building researcher Paul Schazmann, who investigated especially the Roman buildings in the lower plain between 1906-1909 (Dörpfeld, 1908, pp. 370-371; 1910, pp. 385-388). This area encompasses the city expansion area of the Roman Imperial Period, outside the Eumenian city walls towards the Kaikos plain (Pirson, 2017, p. 97). The first written record acknowledging the Octagon was discovered in Dörpfeld's unpublished excavation diary:

“This week Mr. Schazmann has investigated and documented the large octagonal Roman building located below the church of Zoodochos Pigi.”<sup>4</sup> (Dörpfeld, 1909, p. II-002)

Written correspondances between Schazmann and Conze in the archives of the Berlin State Museums further support this observation. In one of them, Schazmann states that he

“was very absorbed by the octagonal building under Makropoulos' house, the entire lower part of which is admirably well preserved and will provide an interesting plan and section.” (Archive of Berlin State Museums, P152)



**Figure 2.** Cross section drawings of the Octagon, drawn by Paul Schazmann in 1909 (Pergamon Excavation Archive, Berlin).

Drawings of Schazmann are stored in the Pergamon Archive of the Head Office of DAI in Berlin. However, only one plate including two cross sections of the Octagon is preserved, while the plan drawing is missing (Figure 2). In the following excerpt from Dörpfeld's annual report on Pergamon, Schazmann mentions the Octagon:

“The other round building, which is preserved almost intact on the first floor, is located in the northeastern quarter of the city, slightly below the Greek Agora we have excavated; its massive forms are instructive for the use of [an?] octagonal construction, so popular later in Byzantine [Empire]. The purpose of the superstructure, of which some granite columns have been preserved, has not yet been determined.”<sup>5</sup> (Dörpfeld, 1910, p. 387)

In addition, Dörpfeld indicated that the upcoming volume of the *Altertümer von Pergamon* would be a compilation of Schazmann's works focused on the Gymnasion and the Roman buildings in the lower city (Dörpfeld, 1908, p. 370; Deutsches Archäologisches Institut, 1910, p. 1). However, the volume was never completed, probably due to the outbreak of the First World War. The sixth volume of the *Altertümer von Pergamon*, which solely focused on the Gymnasion, was published in 1923. Schazmann's work on the Roman buildings in the lower plain was preserved in archives and examined for the first time by architect Ulrike Wulf (Wulf, 1994).

### 2.3. Third excavation period (ongoing since 1929)

The foundation of the Istanbul Department of DAI in 1929 marked a change in directorship of the Pergamon Excavation. Following the upheavals of the First World War and the Independence War of Turkey, excavations in Pergamon were resumed under the supervision of archaeologist Theodor Wiegand. During this period, the members of the excavation team included two key figures: Paul Schazmann, who also participated in the previous excavation period, and archaeologist-numismatist Erich Boehringer, who would later become the director of the excavation. Wiegand's supervision ended in 1938

due to the outbreak of the Second World War and there is no evidence of fieldwork on the Octagon until this period.

In 1957, excavations were resumed under the leadership of Boehringer. Schazmann's obituary written by Boehringer proves that the latter undoubtedly knew about the Octagon:

“But not only the Gymnasium in Pergamon was his [Schazmann's] task. Besides this, he researched and measured the Roman buildings of the lower city, [...] an octagonal building below the Lower Agora, [...]. Schazmann was able to present plans and drawings of these buildings [...]. They were considered lost, but five years ago there were still some at the son Paul Emile Schazmann's in Bern, and there is hope that more will be found. They are to be published elsewhere.” (Boehringer, 1972, p. 11)

According to this excerpt, Schazmann's drawings of the Octagon were considered lost in the 1970s, and the location of the monument remained unknown as it was not indicated on the maps at that time (Boehringer, 1959). One of the foundational publications focusing on the urban development history of Pergamon, also examined Schazmann's unpublished work on the Roman buildings in the lower plain for the first time (Wulf, 1994). However, among many drawings of Schazmann, only those of the Octagon remained unpublished, likely because the drawings were not labelled, hence the structure was not identified. As a result, the ancient building remained forgotten until its re-discovery in 2013. Since then, a more systematic research has been conducted, revealing the current state of the ancient structure, which is described below.

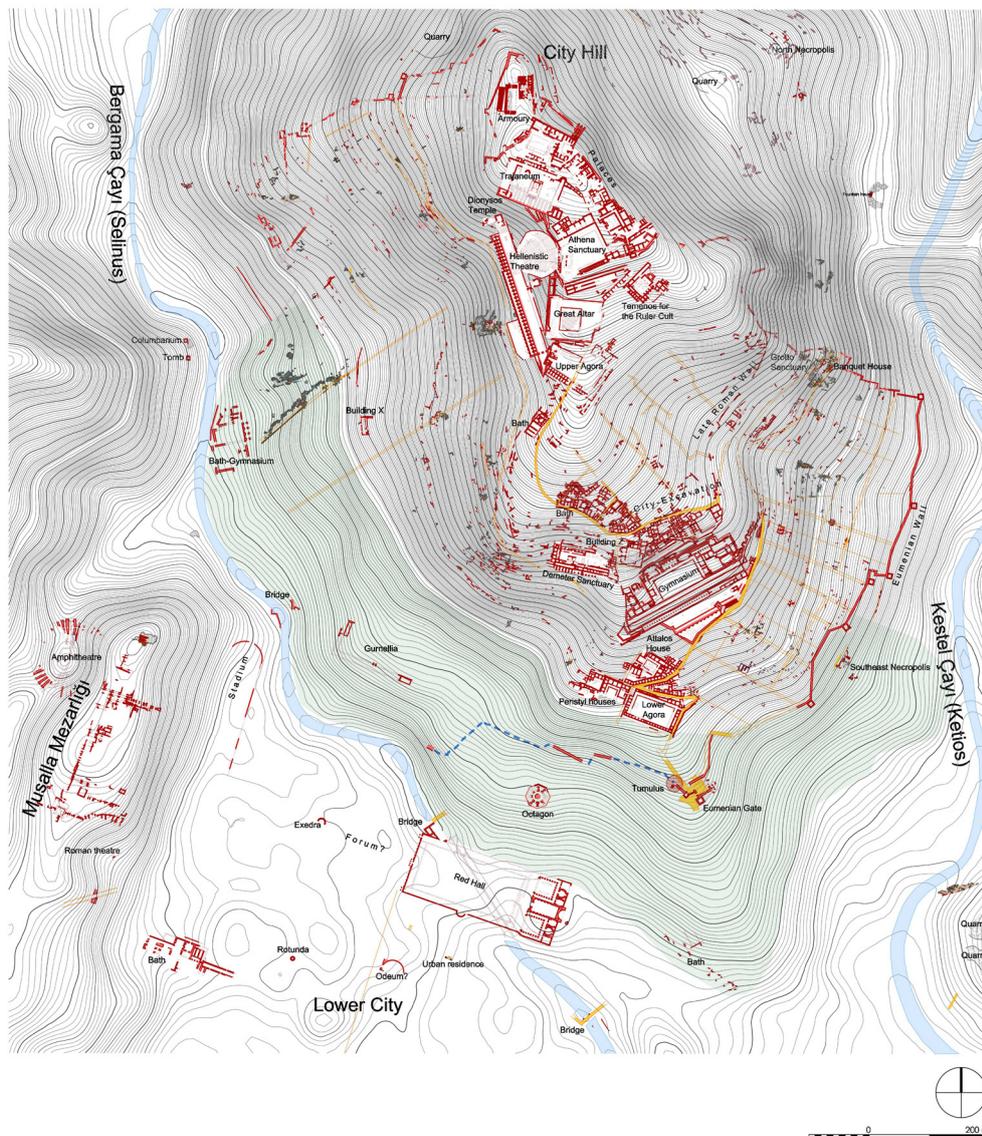
### 3. Access and the state of preservation

In Bergama, a significant part of the lower southern slope of the ancient city hill is occupied by a residential neighborhood today, called ‘Kale Mahallesi’ by the locals. Situated on a sloping terrain towards the south, this historical neighborhood comprises around 1000 houses, with the oldest dating back to the first half of the 19th century (Alanyali, 1994). Despite the high density of ancient remains

throughout the quarter, at first glance, it is difficult to determine to what extent they have been preserved. However, several ancient structures within the Kale Mahallesi have been identified and studied at different scales including the main city gate (Eumenian Gate) and fragments of the Eumenian City Wall, marking the southern edge of the fortified Hellenistic city. Furthermore, the so-called Gurnelia (modern 'Domuz Alanı') and the so-called lower southwest Gymnasium should be mentioned, both of which were built within the expansion area of the Roman Imperial Period (Figure 3).

In the heart of this neighborhood another ancient monument was identi-

fied in 2013, following the oral reports of local residents in its immediate vicinity. In 2014, the Bergama Museum conducted a rescue excavation at the house. Following the information from the local residents, further research revealed other houses containing walls or spaces that might belong to one single structure. This hypothesis was proven right after the fieldwork in 2015 and 2017 proved that all individual fragments, each accessed from different houses, constitute one monumental octagonal structure. The preserved structure remains almost entirely underground, giving the impression of foundations of a free standing, central-planned monument.



**Figure 3.** Ancient structures located at the south skirt of the city hill of ancient Pergamon (Digital Map of Pergamon, 2020). Green: The area of the Kale Mahallesi as of today. Blue dashed lines: presumed line of the city walls, after Wulf, 1994.

Today, the site of the ancient structure is occupied by ten houses. On-site observations showed that the ancient structure can be accessed only from six of them (Figure 4, 5). Each access route follows a specific path, leading to a separate part of the structure under different conditions. At the house in which the Museum conducted rescue excavations, a spatial segment of the Octagon was uncovered by removing a vast quantity of debris<sup>6</sup>. Further remains within the house were documented through brief measurements of their outlines. In the following sections, access routes, documented spaces and the state of preservation of the segments are briefly described, according to the respective cadastral code of the houses<sup>7</sup>.

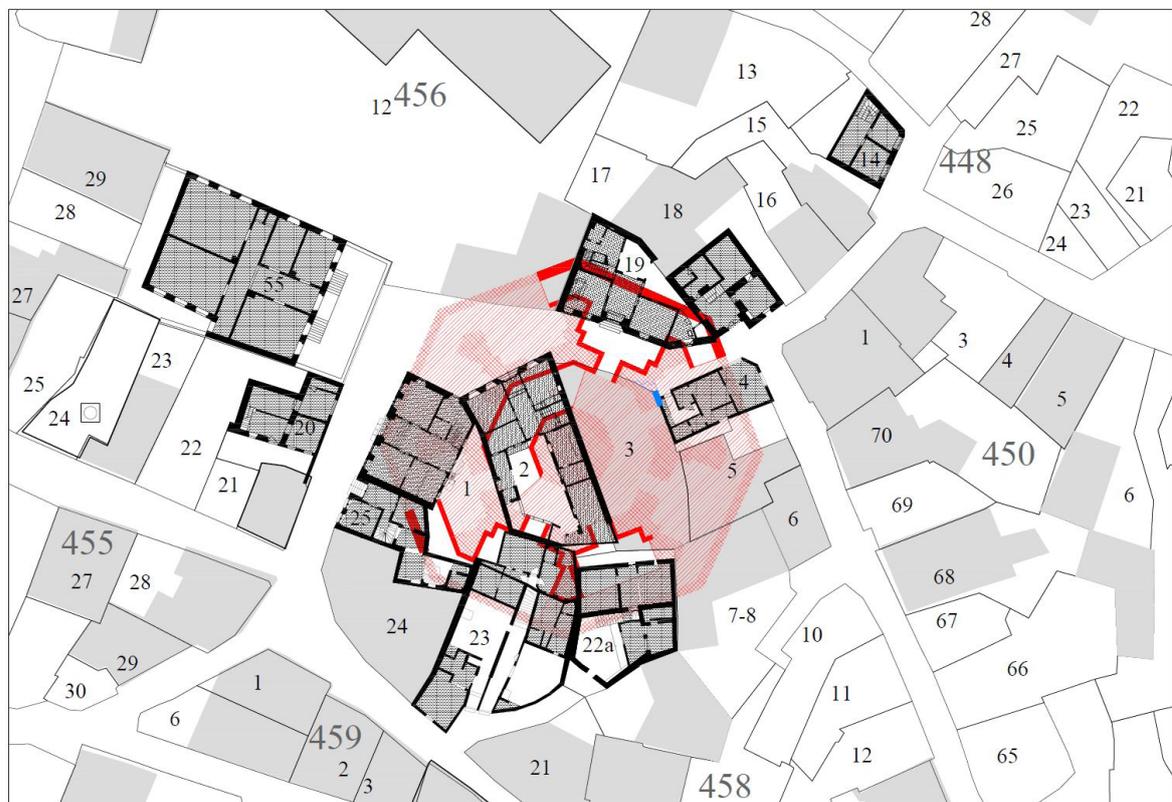
### 3.1. Block 456 Parcel 19

Within the local community, the house on Block 456 Parcel 19 is known as the 'Priest's house'. It is located next to the former Greek Orthodox church of Zoodochos Pigi, today the primary school (14 Eylül İlkokulu). The location and the remarkable appearance of this house with its distinctive architectural characteristics confirm this information.

In the basement floor, a gate leads to the ancient structure below (Figure 6). Evidence of an illicit excavation resulted in the Bergama Museum's rescue excavation in 2014, during which artifacts from various historic periods were recovered. In 2015, the house was sold and restored, and is now used as a private guesthouse.

The finds from the excavation could not narrow down the dating of the building. However, the uncovered space has enabled further research on aspects such as building technique and spatial composition of the structure.

The excavation revealed a corridor and a passage connecting to it in the center. In the corridor, two corners (at 135° angles) were identified forming the building's octagonal shape. The walls on both sides of the corridor display different masonry techniques. Both the corridor and the passage feature segmental vaults, where the latter has an 8-meter span (Figure 7). The original floor level could be determined in a single trench. Interestingly, the small ashlar blocks comprising the facing of the walls are almost entirely missing above the level of this trench. This means that these blocks were sys-



**Figure 4.** Superimposition of the cadastral map and plans of the houses and the remains of the Octagon (red: substructure, blue: superstructure).

tematically removed, probably during the construction of houses in the Greek neighborhood. As a result, the internal structure of the wall (mortared rubble) was exposed, and iron clamps joining

the ashlar blocks in the masonry were stolen. Except for the sewer connections from the houses above, the vault of the ancient building is generally in good condition.

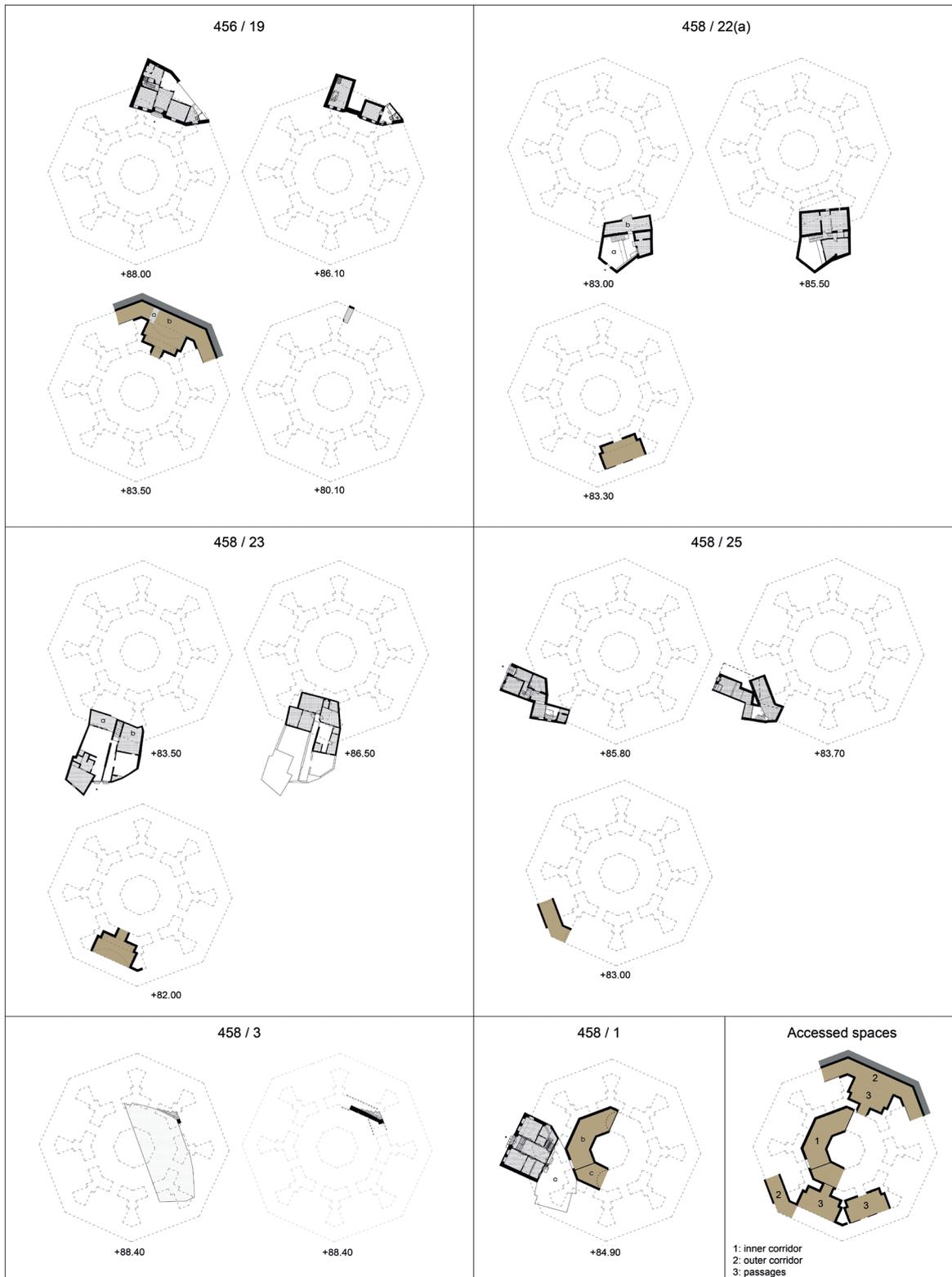
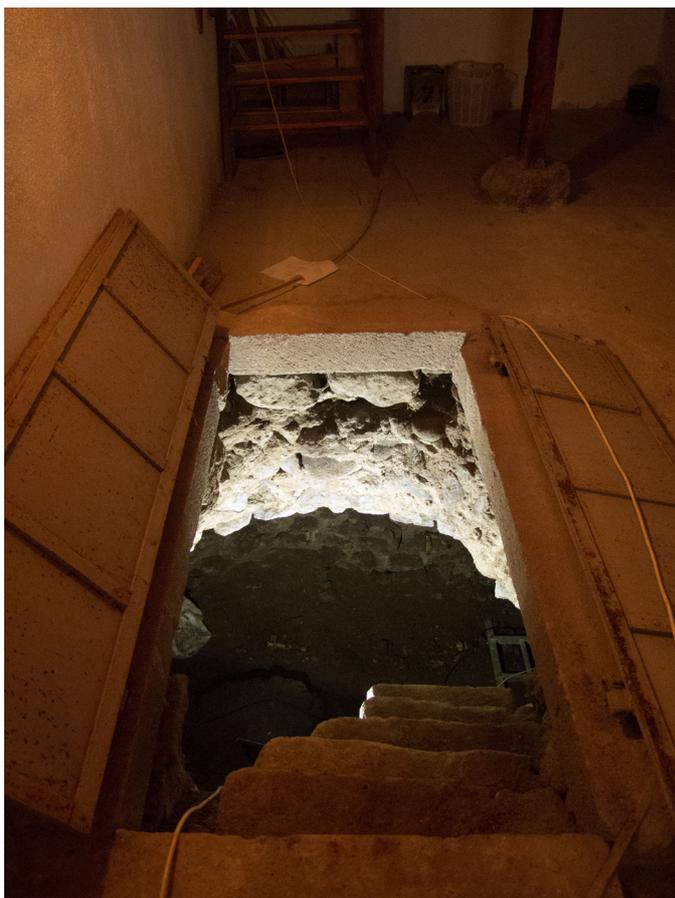


Figure 5. Plans of the houses, shown with the incorporated segments of the Octagon.



**Figure 6.** Entrance to the space from the gate on the floor, 2019 (Author, 2019).



**Figure 7.** View of the corridor, with the segmental arch of the passage on the right (Author, 2018).

### 3.2. Block 458 Parcel 1 (access via Parcel 2)

The house on Block 458 Parcel 2 dates back to 1859, as indicated by the inscription on the entrance door. The central hall of the house leads to the courtyard at the back of the building. A door in the courtyard serves as the

entrance to the ancient structure, which leads under the building on the neighboring parcel (Parcel 1). The framing of the entrance door with original stone jambs indicates that this access is likely contemporary with the house.

Upon entering the ancient structure through the courtyard, one descends two steps into another vaulted corridor with a different character, compared to the previous one. Due to the position within the building plan, this corridor is called the inner corridor and the previous one (in Block 456 Parcel 19) the outer corridor.

In the inner corridor three corners are identified (at 135° angles). The barrel vault of the inner corridor is in a very good condition and shows an opening in each vault segment between the corners (Figure 8). At the end of the accessible part of the corridor, there are younger walls, probably used to set borders between different users. Current function of the ancient corridor is the accommodation of a small toilet, located at the entrance from the courtyard.

The owner of the house stated that a ventilation window in the central hall of the building, close to the floor level, “was built to ventilate the tunnels below.” The location of this vent on the plan corresponds to a line through which the outer corridor of the ancient structure would possibly pass.

### 3.3. Block 458 Parcel 3

The house on Block 458 Parcel 3 has no historical character. Except for the front facade, there is no material evidence that may be associated with the Octagon. The facade seems to contain an older wall so it can be assumed that it belongs to the ancient structure due to its positioning. The remains of this older wall can be better distinguished in an old photograph taken in the 1970s (Figure 8). This ancient wall may be the only remain of the Octagon’s superstructure that has survived until today.

### 3.4. Block 458 Parcel 22(a)<sup>8</sup>

The building has no historic character. Remains of the Octagon were identified in the storage room at the courtyard. A

small part of an ancient wall was found incorporated in the younger walls of the storage room. The space behind this wall was accessible only through a gap that had been filled with rubble by the inhabitants of 2015.

The accessed segment consisted of another passage in the south, displaying similar characteristics to the one on Block 456 Parcel 19. Here too, a younger wall of mortared rubble at the opposite end of the passage was constructed, probably in order to establish a border.

The space was mostly filled with rubble and garbage at different levels, resulting in challenging conditions regarding accessibility and conducting fieldwork inside. As the present building is interconnected with the ancient building, it is currently not possible to determine how much of the ancient building is fully preserved.

### 3.5. Block 458 Parcel 23

The house on Parcel 23 seemed to have been abandoned long ago (fieldwork 2015). Though it exhibits historical features, it must have undergone numerous repairs and, therefore, lost much of its original substance. In a room on the ground floor, large ashlar blocks were discovered immediately behind wall plaster. These blocks, similar to those found in Parcel 22a, belong to the segmental arch of the passage. Under these blocks, loose stones were removed in order to create an access point to the passage. Within this area, the working conditions

were as demanding as on Parcel 22a, restricting fieldwork to taking measurements only. This space could not be entered for a second time.

### 3.6. Block 458 Parcel 25

The house is a typical Greek house of the 19th century. According to Tsolisos's book on the Greek community of Pergamon (Tsolisos, 1984, p. 272), *Georgios Tseftsis* lived in this house between the years 1914-1922. Between 2009 and 2016, Dr. Martin Bachmann, the architect of the Pergamon excavation, lived in the building with his family<sup>9</sup>. Since 2019, the building has been used by an association.

The basement floor of the house is integrated into the southern part of the outer corridor, which is a decision that must coincide with the construction



**Figure 8.** The inner corridor of the Octagon. Walking level is at the feet of the vault (Author, 2015).



**Figure 9.** View of the remains of the superstructure of the Octagon (left: 1973, Pergamon Excavation Archive, Istanbul; right: 2015, Author).

of the house (Figure 9). Here, one of the corners of the outer corridor was demolished to provide a spatial connection between the ancient corridor and the basement of the house. The segmental vault of the corridor is well preserved.

#### 4. Documentation in dark chambers

Physical conditions and logistics of the site played a major role in defining the methods and extent of the work. The fieldwork at the Octagon was limited by various factors, significantly impacting the outcome.

The most decisive factor was the accessibility. Most of the accessed spaces described above could be visited only once or twice, as the fieldwork caused an inconvenience to and feelings of insecurity of the inhabitants. However, there is a widespread local awareness of cultural heritage, generally perceiving older cultural heritage as more valuable than the younger. In this case study it became apparent that the ancient remains were regarded as more important than the 19th century houses. This misperception consequently lead the inhabitants to fear losing the rights over their property, which was the main reason for reluctance and rejection of this academic fieldwork.

Another determinant of the fieldwork was the physical conditions. Some of the spaces were very humid and lacked fresh air, mostly due to the extensive use of these spaces as the respective houses' sewer outlets. The exposure to these straining external

factors could only be mitigated by dividing the working time into short periods and taking regular breaks.

In some of the spaces, standing straight and walking upright was not possible. These spaces were then studied crawling and documented by oral descriptions, saved as audio recordings.

Almost all of the accessed spaces lacked daylight. The lighting of the studied spaces was only possible by using flashlights or headlamps, resulting in a poor visibility.

Only in the house on Block 456 Parcel 19, brighter lamps could be set up using the building's electricity network. The establishment of a safe work environment allowed for longer working periods at this property, eventually enabling a thorough study using different techniques, including drawing on paper.

The first step towards a systematical documentation was photogrammetry, in this case Structure from Motion (SfM)<sup>10</sup>. Unfortunately, due to inconsistent lighting of the study area amongst other technical reasons, this method proved to be insatisfactory. The second – and more traditional – approach was measuring with a Total Station. The coordinates of the measured points and the subsequent pointcloud proved to be quite valuable for further research, as it creates a precise and coherent image of the object of study. However, the model of the measured object also has to be located in its accurate position in the city plan, which requires the correct merging of these points within the overall measurement network. The merging could be carried out, but in the case of the Octagon it was very time-consuming due to its subsurface location. The measuring process with a Total Station was followed by on-site hand drawings.

#### 5. Afterlife of the Octagon

Although the octagonal plan layout became significantly widespread after Late Antiquity, its origins date back as early as the end of 2nd century BC. A wellknown example which marks this date is the Tower of the Winds at Athens, a monument that served as a clock pavilion with the function of a weather station, depicting the



**Figure 10.** Connection between the ancient corridor and the basement of the house (Author, 2014).

mythologically based wind system of the Greeks (Kienast, 2014). From Asia Minor, another example from late 1st century BC is the Octagon at Ephesos, which is the alleged mausoleum of Arsinoe IV (Thür, 1990). However both examples from late Hellenistic Period are considerably smaller than the Octagon at Pergamon (diameters: ToW: 7,5 m; OaE: 4,4 m; OaP: 39 m), and differ from it in their construction techniques.

Based on its detailed architectural study and comparisons particularly on the building technique with other monuments at Pergamon, the Octagon is most probably dated to the 2nd century AD. Its shape and size are evocative of functions of a mausoleum or a temple (Figure 11). No contemporary examples with similar characteristics (i.e. size, shape, building technique) have been found in Asia Minor. Yet, octagonal temples in Gaul (Fauduet, 2010) seem to be distant relatives of the Octagon at Pergamon, but their relevance remains to be examined.

It is unclear how long the Octagon at Pergamon remained in use and whether its construction was ever completed. The city of Pergamon fell on hard times, especially in the second half of the 3rd century (a major earthquake in 262 and invasions between 255-276) and must have suffered its first major decline under the Roman rule.

Based on archaeological evidence, the city was never completely abandoned, and remained in use also during the Byzantine era (Otten, 2010; Rheidt, 1991). The city was later taken over by the Karasi Dynasty in the early 14th century and, soon after, by the Ottoman Empire. However, written records and visual materials do not indicate the presence of the Octagon until the early 20th century.

The Octagon has not been visible for at least the last two centuries, probably since the area was redeveloped by the Greek community in the early 19th century. On the site of the ancient structure, prominent religious and educational buildings of the Greek community were constructed: in the northwest, the Greek Orthodox church of Zoodochos Pigi was built (in 1836, in the place of a former church) (Tsoli-

sos, 1984, p. 22). East of the church, the Priest's house (see above, Block 456 Parcel 19), and south of it, the Greek primary school for girls were located, both of which have survived until today. The second half of 19th century marks the time when non-muslim communities in the Ottoman Empire gained more social rights and privileges following the Ottoman Reform Edict (Islahat Fermanı) of 1856. Especially after this period, the area around the church was intensely developed and inhabited until the population exchange between Greece and Turkey in 1923.

Most of the evidence concerning later uses of the Octagon and its impact on the urban fabric can be associated with the time of the Greek community. Although the ancient structure would entirely be covered with new residential buildings during this time, the builders were well aware to benefit from it in various ways. For instance, spaces of the Octagon were divided into segments according to parcels and were integrated into the houses, as can be seen in the cases of Block 456 Parcel 19, Block 458, Parcels 2 and 22(a) (Figure 5). According to statements of elderly residents, these spaces were used, for example, as storage rooms and wine cellars.

The motivation to incorporate ancient spaces into newly built houses has resulted in these houses' alignment with the outline of the ancient structure, which is clearly reflected in the urban texture<sup>11</sup> (Figure 4). Also on a larger scale, the relation between ancient remains and anomalies on the terrain is another aspect to be considered. The Octagon is located southeast of 14 Eylül İlkokulu, the only school in the neighborhood as of today. In fact the site of the school has previously attracted attention, as it is one of the few places in the neighborhood on flat terrain, a distinctive feature that might be associated with the presence of ancient structures below<sup>12</sup>. However, the Octagon is located at the edge of the flat area, where the slope to the south begins. Therefore, this potential association, particularly in the area of the school, needs to be taken into consideration in case of further research.

At least until 1909, when Schazmann first documented the structure, the internal spaces of the Octagon were not yet used for dumping waste (Figure 2). One can draw this conclusion, as the level of deposit was depicted significantly lower in his drawings, compared to the situation observed in 2013. Sometime after 1909, the structure must have fallen completely out of use, as in 2013 the space (in Block 456 Parcel 19) was found almost completely filled with waste and soil. According to the assumption that, since the 2nd century AD, the backfilling of the rooms took place for the first time in the last century, the rate at which the deposition occurred is quite high. Moreover, during this last period, the Octagon was systematically exploited as a quarry of cut stone, probably for the needs of the houses being built at the time. As a result, the Octagon was forgotten and neglected, leaving it vulnerable to damage. In 2015, during the restoration of the Priest's House (Block 456 Parcel 19), a small part of the vault of the Octagon was damaged, probably due to a lack of information or interest in the existing structure. Following the application of the author to the Conservation Board of Izmir in 2021, the Octagon has been registered as a historical asset to be protected by law<sup>13</sup>.

## 6. Conclusion

Studying of archaeological remains at a multi-layered urban site is a challenging task, especially when the upper layer is still a living one. In the case of the Octagon, the documentation process had to be handled with particular care, as this activity took place exclusively on private properties. Involvement and support of local official authorities (such as the Museum) and continuous communication with inhabitants about this study played key roles in the success of the documentation. However, it should be pointed out that conducting a field study on private properties can pose a variety of constraints, as the reaction of the inhabitants to the study cannot be anticipated. Yet, as stated above, inspecting neighboring parcels of the Octagon may yield results, that provide further insights about the ancient urban context.

This case study also highlights the importance of archive studies, especially if the excavation itself has a long history. The Pergamon excavation project, which has been carried out for over 140 years under different management authorities and teams, has a significant amount of archival material stored in separate locations. Therefore, sufficient time should be reserved to complete research in the archives. Data obtained from the archival research revealed that the Octagon has actually been known since the earliest stages of the Pergamon excavation, but remained in focus only for very short periods of time. In addition, the fact that the notes and drawings on the Octagon were never published, has caused the monument to be forgotten to this day.

The fieldwork revealed not only the preserved remains of the Octagon, but also its use and impact on the city over time. The structure has been utilized in various ways and as a result, it has directly influenced the spatial orientation of the residential sections developed on it. This correlation accommodates great potential for the study of multi-layered cities. The results obtained from the architectural documentation of the Octagon and a detailed architectural comparative approach to discuss its potential functions will be the subject of another article.

Whatever its function might have been, the Octagon did not have a long lifespan and probably fell out of use as an inevitable consequence of events that occurred shortly after its construction. Since then, its fragments must have been reused multiple times, a common phenomenon of long-lived cities. The longevity of the city of Bergama might also explain why its foundation level is entirely preserved, i.e. for the sake of "reuse". From the early 19th century onwards, a new residential settlement was built on the subsurface remains of the Octagon, benefiting not only from its solid walls and foundations but also from its spaces. However, these spaces must also have fallen into disuse in the last century, as indicated by the enormous amount of deposit found inside.

As a remarkable monument of its time, the Octagon had long deserved extensive research. Although today it is

no longer visible from the public space, since its reveal by this research, it has been under protection by law and has finally taken its place on the latest digital map of Pergamon<sup>14</sup>.

### Endnotes

<sup>1</sup> The Octagon is investigated within the framework of the author's doctoral research titled "Pergamon – Bergama'nın Kent Gelişimi Bağlamında Sekizgen Yapı" (The Octagonal Structure in the Context of the Urban Development of Pergamon – Bergama) under the co-supervision of Prof. Dr. Turgut Saner (Istanbul Technical University) and Prof. Dr. Felix Pirson (German Archaeological Institute Istanbul).

<sup>2</sup> In addition to the Greek inhabitants, the existence of an Armenian community in this area could only be attested by a small number of sources with limited information. Today, the majority of the houses in the neighborhood date between the second half of the 19th century and the early 20th century.

<sup>3</sup> The word 'kale' means 'castle', commonly used for places, and refers to older settlements or ancient remains in the same area.

<sup>4</sup> The Zoodochos Pigi Church used to be the main church of the Greek Orthodox community of Bergama, see also Berlet's map of 1907; plate III in Conze et al., 1913b.

<sup>5</sup> All excerpts are translated by the author. Although it is not mentioned explicitly, granite columns must have been part of the Zoodochos Pigi Church. Today, there is a primary school in the original location of the church (constructed in the 1970s) and only two remaining granite columns lay in its courtyard.

<sup>6</sup> After the museum excavation, access to the ancient space in this house was only granted with permissions of both the Bergama Museum and the owner of the house and, hence, became semi-official. For accessibility issues, see also section 4.

<sup>7</sup> All houses are registered in Talatpaşa Mahallesi, Bergama, İzmir.

<sup>8</sup> Parcel 22 is used by two different parties, which only became apparent during the fieldwork in 2015 and not

through the official records. For a clear distinction of the area accommodating the ancient remains, the parcel was divided and the relevant area numbered 22a.

<sup>9</sup> Thanks to late Martin Bachmann, the significance of the ancient remains in the basement of the building was recognised, and through his supportive guidance, eventually became the subject of this dissertation.

<sup>10</sup> The technique Structure from Motion (SfM) aligns and rectifies photographs in order to create the 3D model of the object. Orthophotos (the views of the object) can be extracted from the 3D model. The most satisfying result is obtained by drawing on paper over printouts of the orthophotos on-site. This method enhances on-site observations, where further details can be identified.

<sup>11</sup> This intriguing aspect has already attracted the attention of urban archaeology scholars studying multi-layered cities (Capoferro Cencetti, 1979; Migliorati, 2017). I sincerely thank A. G. Bilgin Altınöz for making me aware of this concept.

<sup>12</sup> The so-called Gurnelia is a good example of the association of surface characteristics with the presence of ancient remains. The outline of this large monument has been preserved by the residential urban fabric, where houses were built along this outline, leaving a large square in the center ('Domuz Alanı'). However, the motivation behind the preservation is based more on pragmatic reasons of statics rather than common concerns of preservation of cultural heritage.

<sup>13</sup> The registration is issued by the Board (İzmir II Numaralı Kültür Varlıklarını Koruma Bölge Kurulu) on 27.09.2022, document number 16775.

<sup>14</sup> The Digital Map of Pergamon is open access and can be experienced online under <https://www.dainst.blog/transpergmikro/pergamon/pergamon-map/>

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