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An Ottoman Period Addition to Attaleia Castle: Antalya Clock Tower

Attaleia Kalesi'nde Bir Osmanlı Dönemi Eki: Antalya Saat Kulesi

Abstract: The defense system of the city of Attaleia, whose first construction dates back to the Hellenistic period, consists of outer walls, curtain walls, inner walls and the gates and bastions on them. Maps, engravings, and drawings have been made regarding the city, which many travelers and researchers have visited throughout history. However, Antalya castle retains an air of mystery, because definitive knowledge regarding its original character hasn't been established. Attaleia Castle has undergone many modifications throughout its history from the 2nd century AD to the present day as a result of natural disasters, sieges, repair works, demolitions, and additions. Although the walls surrounding the city remained largely intact until the early 20th century, it is known that demolitions began in 1914, starting in the vicinity of the Government House. The castle gate, walls, and bastions located in the vicinity of the bastion, which had Antalya clock tower added to it during the Ottoman period, were destroyed in earlier times and have not survived to the present day. This situation has caused the bastion, originally part of the fortification system and later converted into a clock tower, to largely lose its physical and visual connection with the other elements of the castle. This study presents the results of the research regarding the Antalya Clock Tower built during the Ottoman period on one of the few remaining bastions of the multi-layered heritage of the Attaleia castle, this important defence system has survived to the present day.

Key Words: Antalya Clock Tower, Attaleia Castle, multi-layered cultural heritage, bastions, city walls

Öz: İlk yapımı Helenistik döneme tarihlenen Attaleia kenti; savunma sistemi, dış surlar, perde surlar, iç surlar ile üzerindeki kapı ve burçlardan oluşmaktadır. Tarihî süreçte pek çok gezgin ve araştırmacı tarafından ziyaret edilen kent ile ilgili haritalar, gravürler, çizimler yapılmış olsa da, kale hâlâ gizemini korumakta, özgün niteliği ile ilgili kesin bilgilere ulaşılamamaktadır. Attaleia Kalesi MS 2. yüzyıldan günümüze pek çok değişim geçirerek ulaşabilmiş olup bu değişimlerin başlıca nedenleri; doğal afetler, kuşatmalar, onarım çalışmaları, yıkımlar ve ekler şeklinde tanımlanabilir. Şehri çeviren kale 20. yüzyılın başlarına kadar büyük oranda ayakta kalmasına rağmen, 1914 yılında Hükümet Konağı civarından başlanarak yıkım yapıldığı bilinmektedir. Osmanlı döneminde üzerine saat kulesi eklenen burcun yakın çevresinde yer alan, Attaleia Kalesi'nin ögeleri olan kale kapısı, sur duvarları ve burçlar önceki tarihlerde yıkılarak günümüze gelememiştir. Bu durum, aslında sur sisteminin bir parçası olan ve sonradan saat kulesine dönüştürülen burcun kalenin diğer ögeleri ile fiziksel ve görsel ilişkisini büyük oranda kaybetmesine neden olmuştur. Bu çalışmada çok katmanlı miras niteliğine sahip Attaleia kenti kalesi ve bu önemli savunma sisteminden günümüze ulaşabilen az sayıdaki burç örneklerinden birinin üzerine Osmanlı döneminde inşa edilmiş olan Antalya Saat Kulesi'ne ilişkin araştırma sonuçları aktarılmaktadır.

Anahtar Kelimeler: Antalya Saat Kulesi, Attaleia Kalesi, çok katmanlı kültürel miras, burçlar, surlar

Introduction

According to the findings from the necropolis located near the city center of Antalya, it is known that the settlement was established before the Hellenistic period, yet data explaining the urban texture and defence system during its foundation have not been reached.[1] The history of Antalya extends back to the ages when traces of humanity were first observed in Anatolia. It is accepted that the ancient city of Attaleia was founded by King Attalos II of Pergamon seeking a

[1] Burhan Varkıvanç and İsmail Akan Atila, "A New Monumental Gate from the Roman Imperial Period on the Attaleia City Walls". Adalya, no. 24 (November 2021): 249- 268.

natural harbor in the region in the 2nd century BC in an area where a previous settlement existed.[2] Shaped like a horseshoe from west to east, the city, with its harbor as its focus, was surrounded by walls for protection against attacks.

Under the dominion of the Roman Empire, Attaleia, visited by Emperor Hadrian in the 2nd century AD, had a monumental gate built in honor of the emperor's arrival[3], known today as Hadrian's Gate. Attaleia, after accepting a community of Roman veterans established by Augustus, gained the status of a Roman colony in the 3rd century AD. The city maintained its importance in the 5th and 6th centuries, becoming one of the most significant and active trading ports in the Eastern Mediterranean.[4] During the Byzantine Empire, from the 7th and 8th centuries onwards, the walls of Attaleia were reinforced, and curtain walls, gates, towers, and ditches were added to this system.[5] Both Western and Turkish historians state that the arrival and settlement of Turkmens in Anatolia took place in two stages. In the first stage, after the Battle of Manzikert in 1071, Turkmens began to settle in Anatolia en masse.[6] After the collapse of the Byzantine Empire, the Turks' entry into Anatolia from the east accelerated and Attaleia became one of the cities in Anatolia that the Turks wanted to capture. The city, renamed Adalia by the Seljuks, came under Seljuk rule in 1207, and structures like the Yivli Minaret Mosque and Karatay Madrasa were built. Activities aimed at strengthening the walls were also undertaken. Antalya became part of the Ottoman Empire during the reign of Bayezid I in 1390.[7]

The city walls, originally constructed during the Hellenistic period[8], underwent expansions, additions, and repair works over time. The central part of the city, surrounded by outer and curtain walls, was divided into three sections by inner walls. Interventions made to the Attaleia city walls throughout history reflect the city's long historical background. The architectural characteristics and construction phases of Attaleia Castle, with its multi-layered texture, have been the subject of various studies. Sönmez extensively examined the locations and numbering of walls, gates, and towers on the plan by reviewing maps of researchers such as Erten and Lancoronski. According to Sönmez's map, the walls surrounding historical city centre *Kaleiçi* were constructed in six periods.[9] Within the scope of Süer's thesis, the Attaleia walls were examined in the Hellenistic, Roman, Byzantine, Seljuk, and Ottoman periods, and periodical restitution proposals were developed using Hellen Kempler's maps and studies.[10]

Dayar aimed to identify the repair needs of Attaleia Castle in the early 19th century based on the inspection report and the map prepared by Architect Mustafa Raşid Efendi in 1815.[11] In another study, Dayar examined maps and photographs prepared on March 27, 1905,

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[2] Feridun Emecen, "Antalya". Türkiye Diyanet Vakfı İslam Ansiklopedisi 3 (1991): 234.

[3] Karl Graf Von Lanckoronski, Pamphylia ve Pisidia Kentleri. 1. Cilt Pamphylia. Suna İnan Kıraç, Akdeniz Medeniyetleri Araştırma Enstitüsü Çeviri Dizisi 2. İstanbul: (2005): 8.

[4] George. E. Bean, Turkey's Southern Shore (An Archeological Guide), London: Ernest Benn Limited, (1968): 21-22.

[5] Hansgerd Hellenkemper,; Friedrich Hild, ,. Tabula Imperi Byzantini VIII.1: Lykien und Pamphylien. Viyana: Avusturya Bilimler Akademisi Yayınevi, (2004): 324.

[6] Ahmet Yaşar Ocak, Turkey Byzantium to Turkey 1071-1453, Volume 1, Edited by Kate Fleet, Cambridge University Press, (2009): 362-363.

[7] Trudy Ring, Noelle Watson and Sharon Boda. International Dictionary of Historic Places, Vol.3, Southern Europe, London: Fitzroy Dearborn Publishers, (1995): 36-38; Barbara Flemming,. Geç Ortaçağ Dönemi'nde Pamfilya, Pisidya ve Likya'nın Tarihi Coğrafyası. Çev. Hüseyin Turan Bağçeci. Ankara; Türk Tarih Kurumu Yayınları, (2018): 167-192.

[8] Bean, Turkey's Southern Shore (An Archeological Guide, 21-22.

[9] Cemil Cahit Sönmez, Antalya Kenti Kalesi'nin Tarihi: Burçlar Kapılar ve Sur Duvarları, Antalya; Mimarlar Odası Antalya Şubesi: (2008): 32.

[10] Ayşe Süer, "The Analysis Of Historical / Cultural Pattern Development And Conservation Plans Of Antalya Kaleiçi. İzmir: İYTE, Unpublished Master Thesis. (2006).

[11] Evren Dayar, "1815 Haritası'nda Antalya Kalesi: Surlar, Kapılar ve Burçlar", Belleten, Cilt 84 - Sayı 300: (2020): 667-716.

documenting the damage done to the walls and towers of Attaleia Castle, providing important information about the state of Attaleia Castle in the early 20th century.[12]

While the defense system of the historical settlement was examined in all these studies mentioned above, comprehensive architectural research data couldn't be found regarding the Antalya Clock Tower (Figure 1a, 1b), which is identified as number B50 on Sönmez's map. For this reason, in the content of this study, in addition to examining the modification of Antalya Castle in the historical process, how the Antalya Clock Tower was affected by this process, its architectural quality, and conservation problems are also discussed.

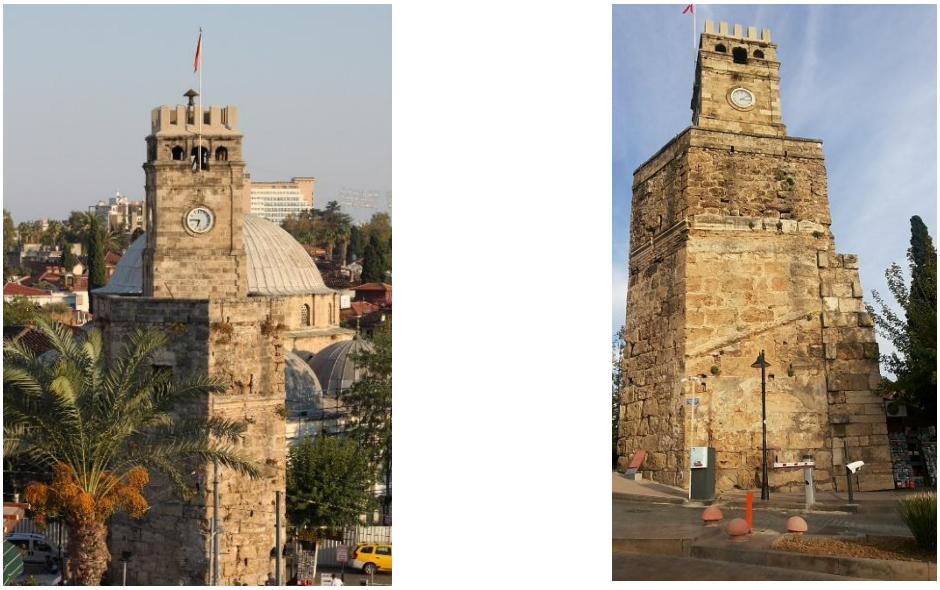

Figure 1a, 1b. The north and west facade of Antalya Clock

Within the scope of this study, methods such as literature and archive research, on-site measurement, and examination studies were used. While examining the architectural features of the building and its change in the historical process, it is aimed to understand the general similarities of the building with the clock towers of the same period.

The research consists of four sections and a conclusion. After introduction, the situation and change of Attalaia Castle in the historical process are summarized in the light of the information obtained from the literature research in the first section. Secondly, Antalya Clock Tower and its architectural features, problems, and current situation are detailed and supported with photographs and drawings. Thirdly, the process of transforming bastion number 50, into Clock Tower in the Ottoman Period is explained by examining the construction works of the clock tower and comparative studies. In the conclusion section, the information obtained during the research process is summarized, and the deficiencies and suggestions for the preservation of the historical structure and its immediate surroundings, and the perception of its historical context to the local people and visitors are discussed.

1. Modifications of Attaleia Castle in Historical Process

The Arab traveler Ibn Battuta, who visited Antalya in the mid-14th century, mentions the city with praise, noting its resemblance in name to the city of Antakya, with just a single letter difference. He writes of the city's walls separating it from the port where traders from different nationalities gather, mentioning that the gates of the walls are closed on Fridays and every night.

[12] Evren Dayar, "1905 Haritalarında Antalya Kaleiçi ve Çevresi." Art-Sanat, 21: 229–260, (2024): 229- 260.

Additionally, he indicates the presence of structures such as the Friday Mosque, madrasa, and baths in the city center, stating that there are neighborhoods not only for Muslim Turks but also for Christians and Jews, all of which are surrounded by walls for protection.[13]

Another famous traveler Evliya Çelebi, who visited Antalya in 17th century, described Attaleia Castle as a large historic stone castle located on rugged rocks at the end of Antalya Bay's coastline.[14] When examining the maps drawn by Architect Mustafa Raşid Efendi (1815), Lanckoronski (1890), Lieutenant Ali Rıza Efendi (1905), and Erten (1922- 1924), it becomes clear that these maps provide important information about the periods in which they were prepared. Sönmez's book published in 2008 reveals that Erten's and Lanckoronski's research were particularly utilized, and restitution proposals for the construction phases of Attaleia Castle were developed based on on-site observations.

The maps by Mustafa Raşid Efendi in 1815 (Figure 2) and Lieutenant Ali Rıza Efendi in 1905 (Figure 3), prepared approximately a century apart, show the outer and curtain walls, inner walls, castle gates, bastions, and ditches, that constitute Antalya Castle. These maps, prepared by state officials for different purposes in the context of restoration and investigation of the damage caused in the castle, have been extensively examined in Dayar's research. In his study, the researcher conveyed data and opinions regarding this significant defence system.[15][16]

[13] Trudy Ring, Noelle Watson and Sharon Boda. International Dictionary of Historic Places, Vol.3, Southern Europe, London: Fitzroy Dearborn Publishers, (1995):38; A. Sait. Aykut, Ebu Abdullah Muhammed Ibn Batuta Tanci Ibn Battuta Seyahatnamesi, 1. Cild. (İstanbul: Yapı Kredi Yayınları, Şefik Matbaası, 2000) 402-403.

[14] Seyit Ali Kahraman, Günümüz Türkçesiyle Evliya Çelebi Seyahatnamesi: Kütahya, Manisa, İzmir, Antalya, Karaman, Adana, Halep, Şam, Kudüs, Mekke, Medine, 9. Kitap, 1. Cilt, İstanbul: Yapı Kredi Yayınları, Promat Basım Yayım San. ve Tic. A.Ş. (2011):, 310.

[15] Dayar, "1815 Haritası'nda Antalya Kalesi: Surlar, Kapılar ve Burçlar", 706.

[16] Dayar, "1905 Haritalarında Antalya Kaleiçi ve Çevresi", 229- 260.

Figure 2. Architect Mustafa Raşid Efendi's map dated 1815.[17]

[17] Dayar, "1815 Haritası'nda Antalya Kalesi: Surlar, Kapılar ve Burçlar", 706.

Figure 3. Map of Lieutenant Ali Rıza Efendi, dated 1905.[18]

The 1905 map, predating the systematic destruction of Attalaia Castle, which carried out between 1911 and 1936, provides insight into the defence system of the settlement in the historical city center of Antalya, and the historical development experienced in the city until the early 20th century.[19]

Lanckoronski, who conducted research trips to Pamphylia and Pisidia starting in 1882, examined Attaleia Castle and its harbor and then published results of his research (Figure 4). He describes his views on the historical walls of Attaleia as follows: "The reason for the city's establishment and its initial location seems to be the harbor itself. This is the most suitable place for a harbor along the entire coast." He also marked the location of the castle and its walls, gates, and bastions on his plan, describing the castle as "... small semicircular planned city walls facing the harbor, all bastions, the front wall, and the sections connecting the docks on both sides of the harbor, as well as the wider city walls that draw a larger arc, and the internal walls dividing the inner part were only drawn accurately using a compass and could be reached step by step." The researcher also pointed out the difficulties faced by the terrain engineer due to the inability

[18] Dayar, "1905 Haritalarında Antalya Kaleiçi ve Çevresi", 233.
[19] Dayar, "1905 Haritalarında Antalya Kaleiçi ve Çevresi", 229-260.

to progress in all sections of the walls and the problems of not being able to reach the walls from both inside and outside.[20]

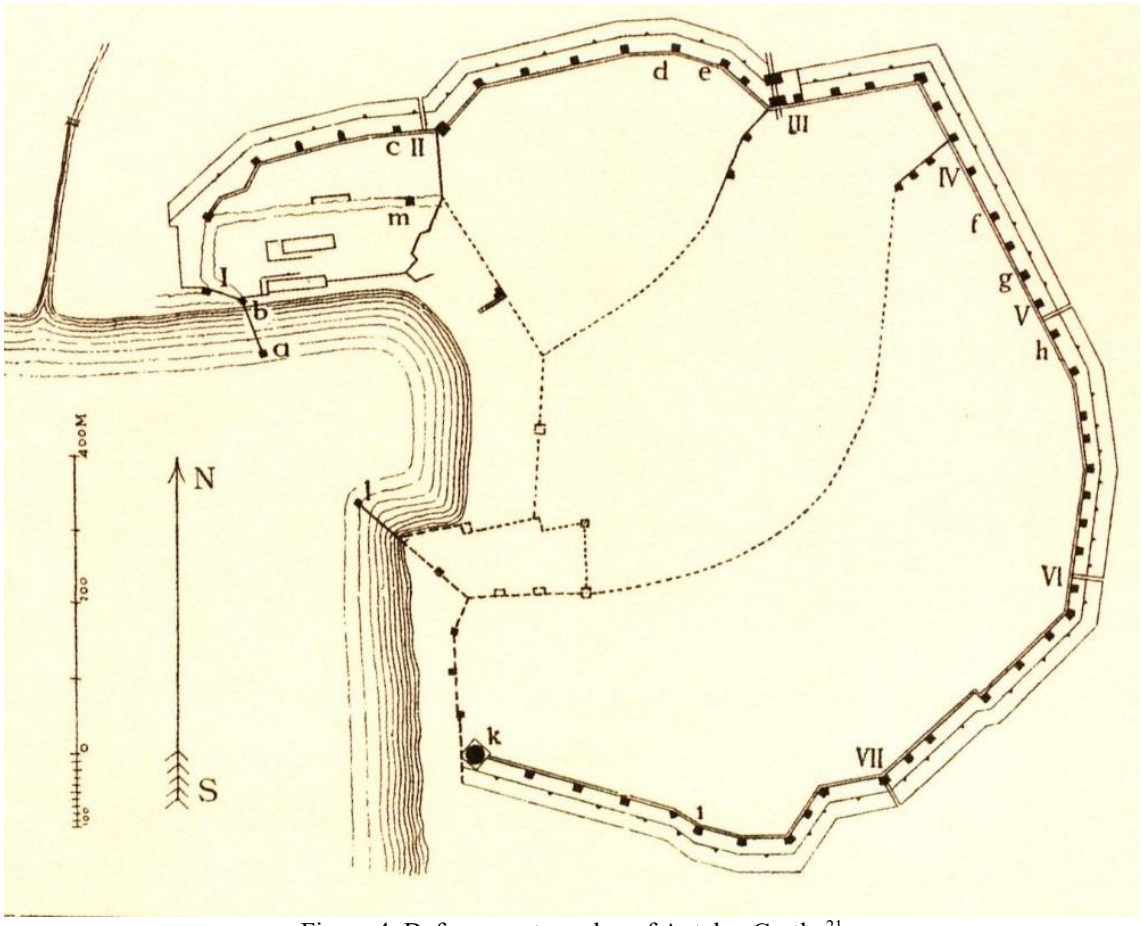

Figure 4. Defence system plan of Antalya Castle.[21]

Evliya Çelebi, who visited the city in the 17th century, mentioned that the sturdy and well-protected castle of the city had four large castle gates, indicating that there was no gate other than the gate he referred to as the main Castle Gate *Kale Kapısı / Kebir Kapı* from which one could enter the land. He also mentioned the presence of twenty-two small and large inner gateways and eighty bastions within the neighborhoods.[22] Dayar, states that there are thirty-one gates located in various places described as outer walls, curtain walls, inner walls, and earth strips based on Mustafa Raşid Efendi's map.[23] Lanckoronski, on the other hand, only marked seven gates on the outer walls in his map.[24]

In Sönmez's study, thirty-seven gates are described on the outer walls, curtain walls, and inner walls, with some gates located on the outer walls named western, northern, eastern, and

[20] Lanckoronski, Pamphylia ve Pisidia Kentleri. 1. Cilt, 8-12.
[21] Lanckoronski, Pamphylia ve Pisidia Kentleri. 1. Cilt Pamphylia, 8-12.
[22] Kahraman, Günümüz Türkçesiyle Evliya Çelebi Seyahatnamesi: Kütahya, Manisa, İzmir, Antalya, Karaman, Adana, Halep, şam, Kudüs, Mekke, Medine, 309-315.
[23] Dayar, "1815 Haritası'nda Antalya Kalesi: Surlar, Kapılar ve Burçlar", 706.
[24] Lanckoronski, Pamphylia ve Pisidia Kentleri. 1. Cilt Pamphylia, 8.

southern gates, and others within the inner walls named Customs gates, Tophane gate, and Fish Market gate[25] (Figure 5).

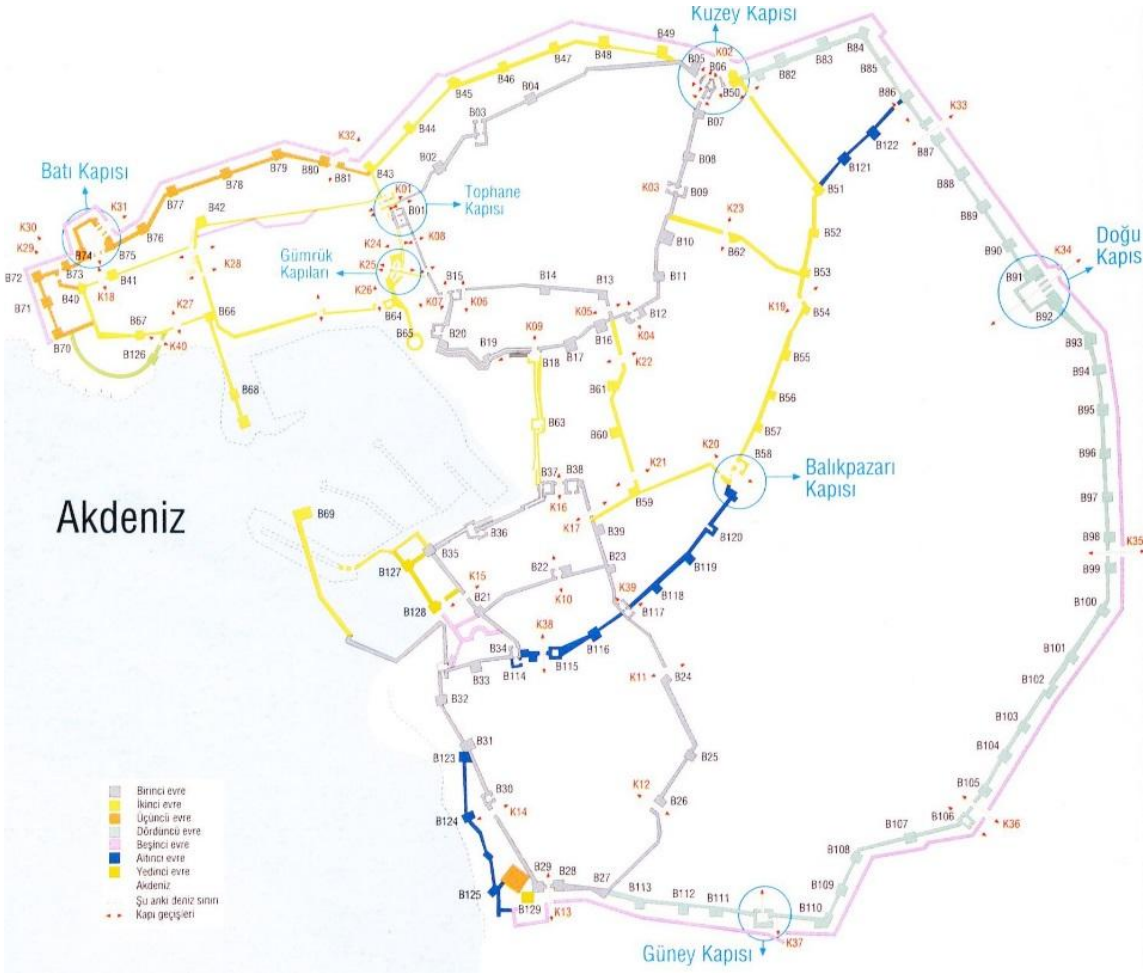

Figure 5. Antalya Castle plan, walls, Gates, and numbered bastions.[26]

The examined maps generally show the gates in a schematic approach without going into detail. In Sönmez's study, however, a plan restitution proposal for the Kale Gate *Kale Kapısı*, located west of the tower numbered 50 and converted into a clock tower in the 20th century, was developed (Figure 6). Evliya Çelebi referred to this gate as the only entrance to the inner city area. The name of the gate was recorded as Kebir Kapı on Mustafa Raşid Efendi's map, as III on Lanckoronski's plan, and as Kale Kapısı on Erten's map[27] (Figure 7).

[25] Sönmez,. Antalya Kenti Kalesi'nin Tarihi: Burçlar Kapılar ve Sur Duvarları, 125-167.
[26] Sönmez, Antalya Kenti Kalesi'nin Tarihi: Burçlar Kapılar ve Sur Duvarları, 89.
[27] S. Fikri Erten, Antalya Livası Tarihi, Ciltlenmiş Daktilo Yazısı (fotokopi) Akmed, Antalya, (1338-1340) (1922-1924).

Austrian scientists employed Ernst Krickl as a survey officer to conduct examinations, sketches, and map drawings in the Lycia region under the Commission for Archaeological Research in Asia Minor between 1891 and 1899. The officer's daily journal and photographs provide information about the condition of historical centre and castle in Antalya in the late 19th century.[28]

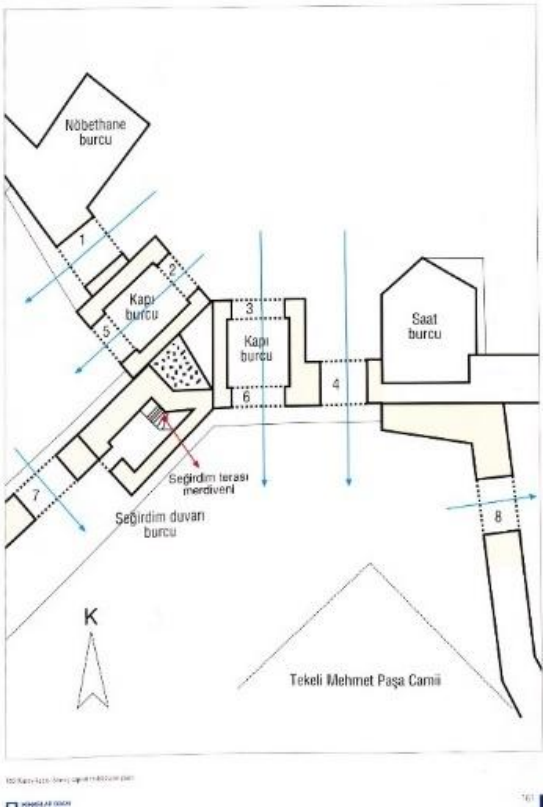

Figure 6. Castle Gate *Kale Kapısı / Kebir Kapı* restitution proposal.[29]

[28] Ernst Krickl, 1892 Lykia Günlüğü, İstanbul: Suna ve İnan Kıraç Vakfı, Arkeoloji ve Sanat Yayınları, Mas Matbaacılık, (2005): 9-10.
[29] Sönmez, Antalya Kenti Kalesi'nin Tarihi: Burçlar Kapılar ve Sur Duvarları, 161.

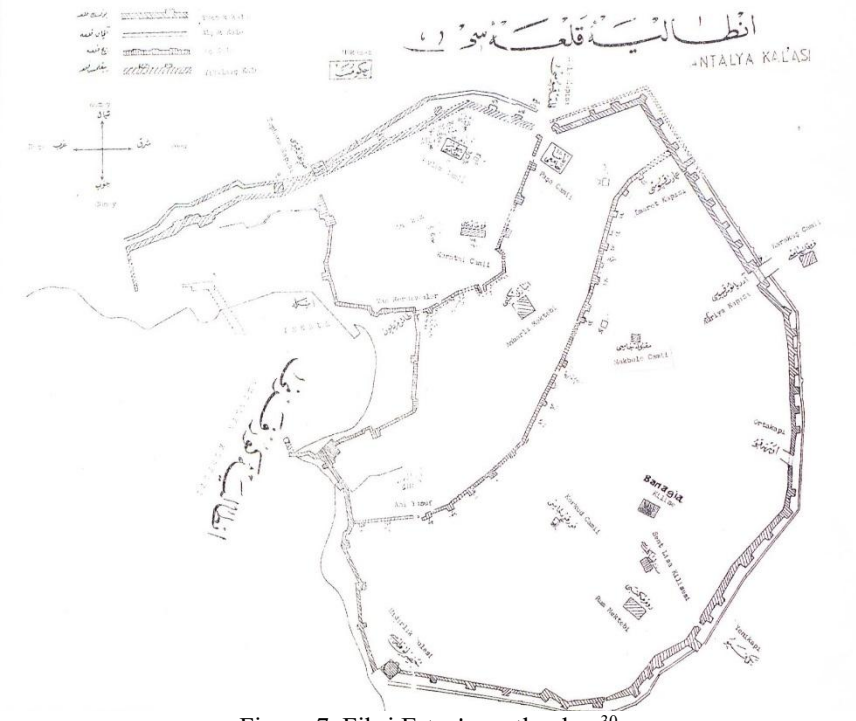

Figure 7. Fikri Erten's castle plan.[30]

Due to threats from the east emerging after the Late Antique Period, the defence system of Attaleia was renewed and strengthened to ensure its existence. This situation significantly affected the entrances to the city, which were structurally and strategically the weakest points, and most of the gates of the Roman Imperial Period were closed. The practice of closing the city entrances in the early Byzantine Period caused the entrances to be damaged and partially or completely destroyed. In addition, this practice led to the changes in the urban texture adjacent to the walls. Today, the original remnants of the castle can only be seen in a few bastions and walls, with the most extensive damage to the walls occurring during systematic demolitions in the early 20th century.[31] The first comprehensive demolition in 1911 was justified by claiming that the walls were depriving the city of air and threatening health. The walls around the Kale Gate were largely demolished in subsequent years by the Municipality.[32]

The walls surrounding the city since the late Ottoman period had not been comprehensively repaired due to their cost. Therefore, it is occasionally complained that these walls pose threats to public safety and also hinder the development and ventilation of the city. Erten, who researched the history of Antalya, stated in his book "History of Antalya Province," that the demolition of the walls began in 1914 from the Government House, but he does not mention the vicinity of the clock tower. This suggests that the demolition process had not reached that area until the date of Erten's book.[33] According to Güçlü's research, in the following period, correspondence was made between the Ministry of Education, the Governorate, and the Municipality regarding the demolition of the walls around the Castle Gate. When the Municipality insisted on its decision, the Ministry of Education requested the appointment of an Ancient Monuments Inspector with its official letter dated October 20,

[30] Erten, Antalya Livası Tarihi.
[31] Varkıvanç and Atila, "A New Monumental Gate from the Roman Imperial Period on the Attaleia City Walls". 249-268.
[32] Dayar, "1815 Haritası'nda Antalya Kalesi: Surlar, Kapılar ve Burçlar", 674.
[33] Erten, Antalya Livası Tarihi.

1929.[34] It is understood that the demolition process was started by the Municipality and that most of the walls at the location of the Kale Gate were demolished in subsequent years. The condition of the Castle Gate before it was demolished and its connection with the adjacent bastions is shown in the restitution drawing produced by Sönmez[35]as a result of restitution studies (Figure 6).

2. Current Situation of 50th Bastion of Castle and Antalya Clock Tower

The Antalya Clock Tower, located within the urban and 3rd Degree Archaeological Site of Kaleiçi in the Muratpaşa District of Antalya Province, is considered a cultural asset.

2.1. Plan Features of the Building (Figures 1a, 1b, 10, 11, 12)

The construction of the bastion, which has a pentagonal plan, involved the use of rough-hewn stone. When the decision was made to convert it into a clock tower, the bastion essentially became the basement for the clock tower. When considering the bastion and the clock tower on top of it as a whole, the height of the pentagonal tower from the road level to the highest point varies depending on the slope of the road, with an approximate height of about 13.00 meters from the road level to the top of the bastion. The upper square-shaped clock tower's height is around 9.00 meters.

It is not possible to enter to the inside of the bastion in the lower levels and it can be understood from section drawings that the bastion's center is filled. Access to the interior can be achieved through a simple modern iron staircase on the northeast facade and there is an iron gate on the southeast facade. The interior of the clock tower consists of four floors at different heights. Access between the floors, which are separated by reinforced concrete slabs, is provided by an iron spiral staircase (Figure 8). Entry to the tower can be accessed through the added door at an elevation of +7.31, which is the lowest walkable level within the tower. A circular iron staircase is placed in the western corner of the rectangular interior space (200x340 cm). The wall thickness of the tower at this level has been measured at 270-280 cm, with a distinctive original arrow slit window also drawing attention.

Figure 8. Reinforced concrete slabs and iron staircase.

The square-planned body of the clock tower sits on top of the pentagonal base of the bastion. The walls of the clock tower have been planned to rise by converting the rectangular interior space into a square form. For this purpose, the wall of the clock tower has been built as an overlay on the inner surface of the tower wall, with a thickness of 55-60 cm. Thus, the

[34] Muhammed Güçlü, "Antalya Saat Kulesinin İnşası", Taç Mimarlık Arkeoloji Kültür Sanat Dergisi. Sayı: 1: 38- 41, (2013): 38-41.
[35] Sönmez, Antalya Kenti Kalesi'nin Tarihi: Burçlar Kapılar ve Sur Duvarları.

interior space of the clock tower's main structure measures approximately 240x240 cm. Consequently, the clock tower's main structure is thinner than the tower and is designed to have a terrace around it. The width of the terrace varies depending on the direction and is surrounded by a parapet wall approximately 1.00 meters in height, built with cut stone.

One of the bells is mounted on the reinforced concrete slab at the top of the tower (Figure 9), and the other is placed inside one of the arched openings at the same level. There are twelve window openings in the top floor in total.

Figure 9. One of the bells with a lamp is mounted on the reinforced concrete slab in the clock pavillion section.[36]

The clock mechanism is located on the third floor. The clock dials and mechanisms in use at the same level are later additions and are not original. During the repair works in past, a layout reminiscent of embrasure loophole parapet was created in the top section of the tower (Figure 1).

[36] According to Çimrin, the old clock mechanism was replaced with electronic devices in 1974. Therefore, since the bell was no longer needed in the clock system after that date, it appears that a lamp was installed inside the bell and used for illumination purposes.

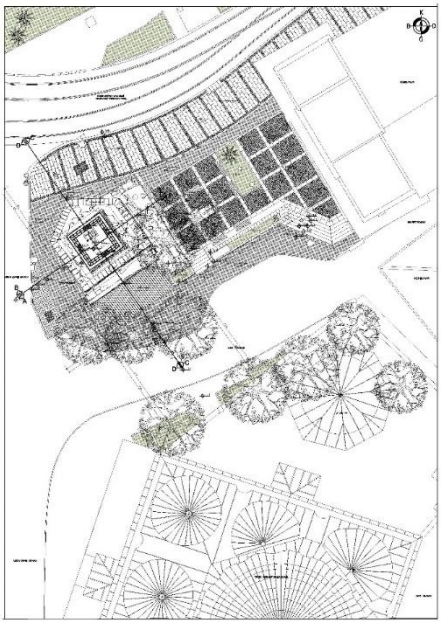

Figure 10. Antalya Clock Tower layout plan.

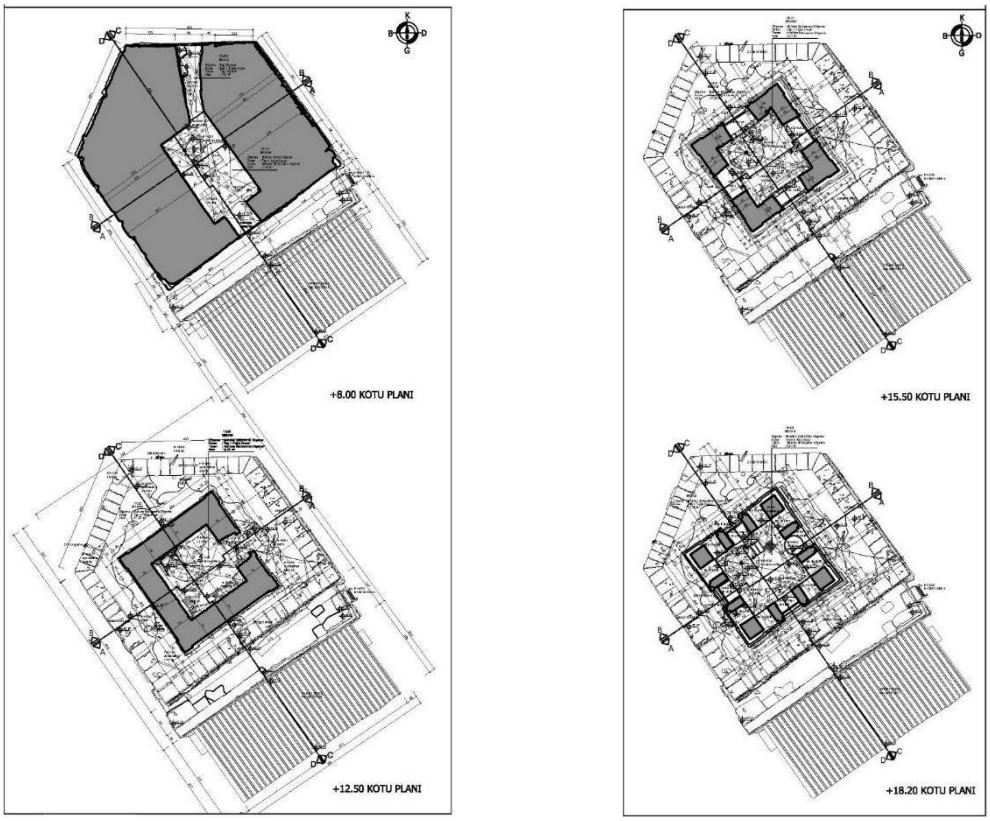

Figure 11. Clock Tower +8.00, +12.50, +15.50, and +18.20 elevation plans.

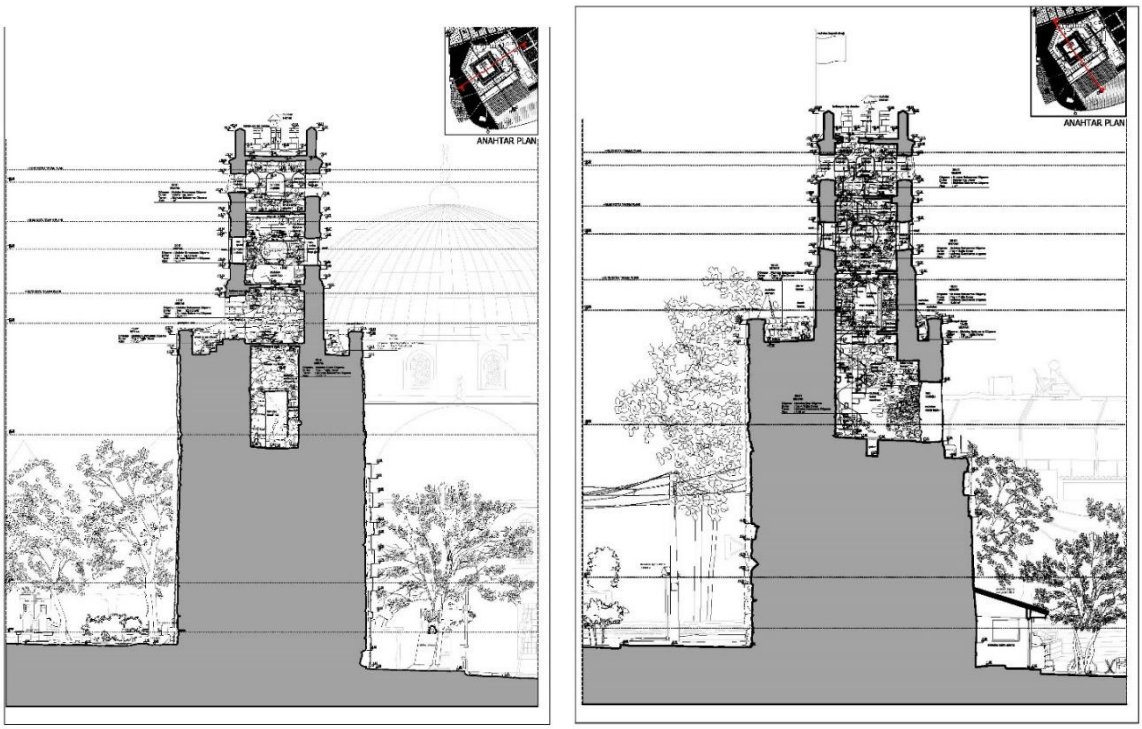

Figure 12. A-A and C-C Section of the Clock Tower (From left to right).

2.2. Identification of Facades

The pentagonal-shaped bastion forming the basement of the clock tower is constructed using rough-hewn stone and occasionally rubble stone, while the clock tower itself is built using cut stone (Figure 1a, 1b, 13, 14). The lower levels of the base have regular rows of rough-hewn stones in the wall structure, while the use of spolia stones is noticeable towards the upper levels. On the southwest facade, it is observed that spolia stones are present in the 17th row from the road level, and below these stones, there is the use of irregularly arranged, thin, long bricks, presumably for leveling the ground. In the upper part of the structure, smaller stones were used with irregular joints filled with various types of binding mortar such as lime and cement above the spolia stones. The wall continues up to the level where the clock tower terrace is located.

Access to the interior part coded as ZK-01, is provided through a stone flat-arched door on the southeast facade. On the southwest facade, stone material is predominant, with occasional use of bricks. At the top of the brick section, there are rows of spoliated stones and the original window space above them. A window is located on the upper levels of the north facade, and a regular row of stone masonry is observed, which becomes irregular from the lower edge of the window from the road level upwards. Reused *spolia* stone blocks are also used on the north facade. The remnants of the wall roots, belonging to the collapsed sections of the wall that connected this tower to other elements of the castle, are noticeable at both corners of the tower's southeast facade. These sections are crucial as they provide important information regarding the context of the tower and the castle system to which it belongs.

At the upper level of the tower, a section built with cut stone surrounds the facade, forming the parapet wall of the clock tower. Small rectangular channels are designed in the terrace section surrounded by the parapet to drain rainwater.

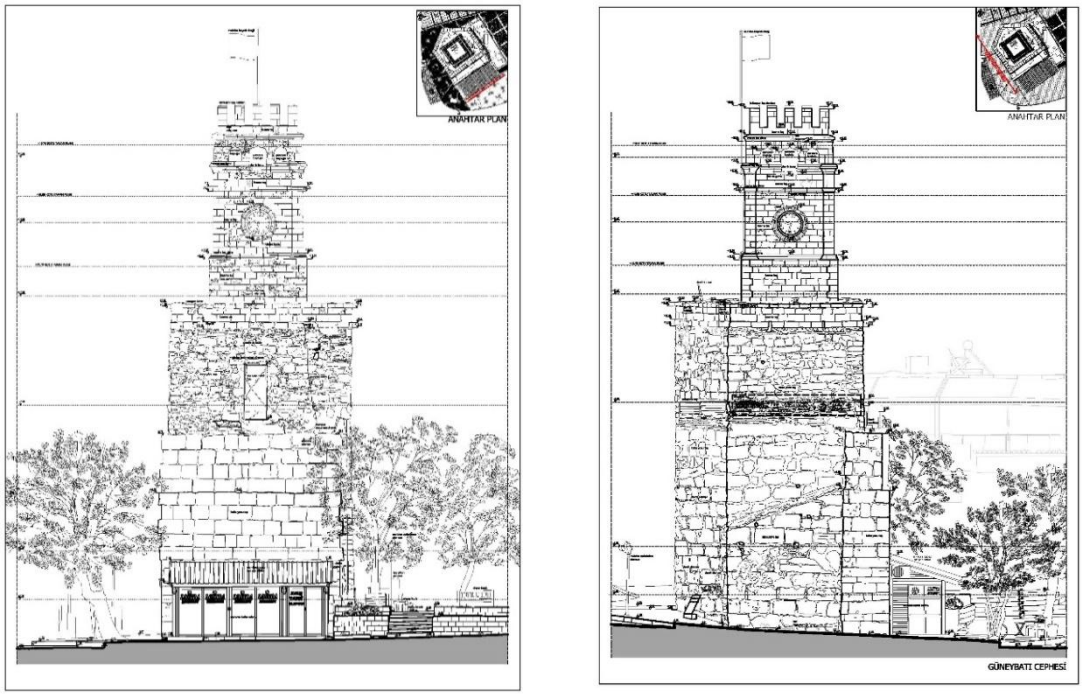

Figure 13. Southeast and Southwest Facades of the Clock Tower (From left to right).

All four facades of the clock tower have the same decoration program. Horizontal molded profiles at four different levels are used on all sides of the square-planned body. A clock face has been placed within the circular stone-profiled opening located on the axis of the stone-clad surface between the first and second profiles on each facade. On the axis of the opening between the third and fourth profiles, there is a large central pointed-arched window, flanked by smaller, narrow pointed-arched window openings on either side. This section is referred to as the clock pavilion *Saat Köşkü* in the terminology of clock tower architecture. An arrangement resembling loopholes/ battlement, using imitation stone material, is made above the fourth profile. The stone flat-arched door provides access to room 1K-01 on the northeast facade.

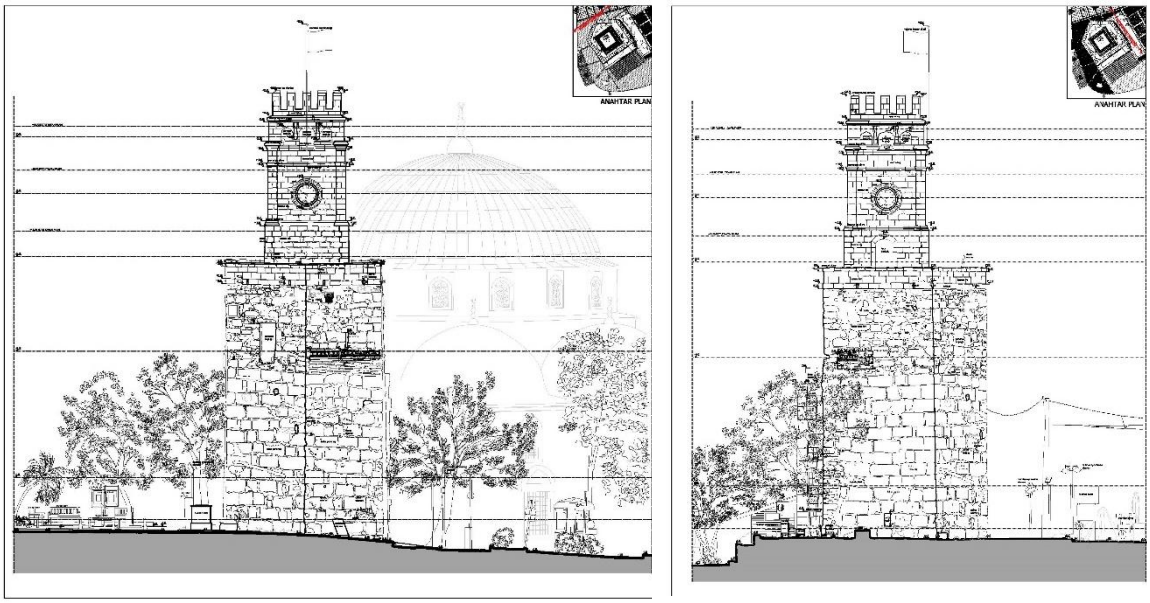

Figure 14. Northwest and Northeast Facades of the Clock Tower (From left to right).

The structure was neglected for years, and it had significant decay problems. The facade surfaces of the pentagonal body exhibit some deterioration problems such as surface losses, fragmentations, salt deposits, darkening, and accumulations. Additionally, hairy cracks, voids in joints, and the use of incompatible repair mortars and materials are notable. The presence of biological growth on the surfaces is also observed.

In the ZK-01, 1K-01, 2K-01, and 3K-01 spaces, damages such as material losses on the stone surfaces and joints, salt deposits, and the occasional use of incompatible repair materials can be observed. Biological growth is also visible on the sills of the arched windows.

The sheet metals, iron profiles, iron doors, and imitation stone materials found inside and on the facades of the structure are considered non-original, modern elements.

3. From Bastion B50 to Antalya Clock Tower

Bastion B50 converted into a clock tower during the early 20th century, has transformed into one of the prominent landmark structures of the cities[37] as Lynch explained.

3.1. Construction of Clock Towers in The Ottoman Period

The Ottoman architecture was shaped by the political, social, and administrative changes brought by the Tanzimat period. Unlike the classical era, which had the construction of complexes, caravanserais, baths, and monumental mosques, buildings such as town halls, courthouses, provincial palaces, hospitals, etc., primarily aimed at public and civilian use began to be constructed.[38]

The construction of clock towers in cities was initially realized by Westerners, with the first examples dating back to the 13th century in England and Italy. The construction of clock towers in Ottoman geography began towards the end of the 16th century. The Clock Tower of Ferhat Pasha Mosque built in Sarajevo in 1577 and the Clock Tower of Skopje are among the earliest examples of the 16th century. The expansion of relations with Europe and the increase

[37] Kevin Lynch, Kent İmgesi, Çeviren: İrem Başaran, İstanbul: Türkiye İş Bankası Kültür Yayınları, (2010): 1-11.
[38] Harun Tuncer, "Sultan II. Abdülhamit Dönemi Saat Kuleleri". Din ve Hayat Dergisi. Sayı: 32: 109- 119, İstanbul: (2017): 111.

in economic, commercial, and cultural exchanges during the 18th and 19th centuries led to a period of change in Ottoman society. However, the real proliferation occurred in the 19th century, especially during the reign of Sultan Abdulhamid II (1876-1909). In 1901, during his 25th year of reign, Sultan Abdulhamid II received 25 clocks as gifts from the German Emperor Wilhelm II and distributed them to cities Sultan deemed appropriate. The construction dates of these clock towers are close to each other, indicating an acceleration in the construction of clock towers during the Westernization process of the Ottoman Empire.[39]

During this period, the clock towers not only indicated the time but also served as observation towers for fires and as direction indicators during meteorological events. Many clock towers, strategically located to demonstrate the authority of the emperor over the city, were built in a quite magnificent manner, reflecting the architectural tradition and taste of the period.

The clock towers that became widespread in Istanbul and Anatolia during the reign of Abdulhamid II generally consisted of sections such as the basement, body, pavilion, and roof. Typically, there is a room in the basement part and spiral stairs leading to the upper levels inside the tower.[40] At the top, there is a pavilion where the clock mechanism is mounted, and a bell is hung from the pavilion's ceiling, covered with a dome-shaped roof. In the section where the bell is located, as seen in the Antalya clock tower, windows are designed in various shapes, sometimes pointed arches and sometimes straight openings, to allow the sound to spread over a wide area. In some clock towers, sirens, also known as monster whistles, were later installed to announce fires and emergencies.[41]

The Clock Towers of Dolmabahçe Palace and İzmir are prominent examples of their clock tower architecture in late Ottoman period. The Clock Tower located at the entrance of Dolmabahçe Palace was built by the palace architect Sarkis Balyan, combines Neo-Baroque, Empire, and Rococo decorative elements. The facades are enlivened with columns, and balconies with railings are included on the third floor. The Clock Tower of İzmir, one of the symbols of the city, stands out with its intricate decorations on the facade surfaces. The tower, built in 1901 is 25 meters height. Horseshoe-arched canopies resembling baldachins are placed on the narrow edges of the octagonal pedestal, and small balconies resembling horse-shoe-arched windows are created on the four sides of the body. At the top of the body, there is a pavilion section where the clocks, embellished with decorations, are located. The clock used in the tower is one of the clocks gifted by Kaiser Wilhelm.[42]

The structure of Antalya Clock Tower is relatively plain compared to other clock towers of the late Ottoman period. This tower, located at the Castle Gate *Kale Kapısı* position on the outer walls, resembles the Ankara Clock Tower built on the gate of the castle's outer wall in 1884.[43] It is also similar to the Sinop clock tower, which is considered a tower on the city walls rather than an independent structure.

3.2. Antalya Clock Tower

[39] Harun Tuncer,. "Sultan II. Abdülhamit Dönemi Saat Kuleleri". *Din ve Hayat Dergisi*. Sayı: 32, (2017): 109- 119; Acun, 2014, 5-6.

[40] Hicran Halaç and Sibel İlhan. "Kentsel İmge Olarak Saat Kuleleri; Iı. Abdülhamit Han Dönemi Saat Kulelerinin İstanbul Dışı Türkiye Coğrafyasında Dağılımları Ve Bir Tipoloji Denemesi". Humanities Sciences 9, sy. 4 (Ekim 2014): 192.

[41] Hakkı Acun, Anadolu Saat Kuleleri, Ankara: Atatürk Kültür Merkezi, (2014): 7-8.

[42] Acun, Anadolu Saat Kuleleri, 57-59.

[43] Çağrı Güntan, II. Abdülhamid Dönemi İmparatorluk İmajının Kamu Yapıları Aracılığı ile Osmanlı Kentine Yansıtılması, Yıldız Teknik Üniversitesi, Unpublished Master Thesis, İstanbul: (2007): 58.

The Antalya Clock Tower is situated on the top of the bastion B50, which is part of the historical city walls, rather than being independently located in the city square (Figure 15).

Figure 15. Antalya Clock Tower and Tekeli Mehmet Pasha Mosque.[44]

When examining the dome topped by an alam and facade features reflecting the characteristics of the Baroque period in the clock tower, it is estimated that it might have been designed during the reign of Sultan Abdulhamid II.[45]

The construction date of the clock tower is not definitively known. Güçlü, suggest that the tower must have been built in 1921. He refers to a news article titled "Meclis-i İdare" (Administrative Council) published in the Antalya newspaper in Antalya on January 9, 1921. According to this article, although the construction of the Antalya Clock Tower had begun at that time, there was a general discussion about the construction issue, so the decision was postponed to a later meeting. Güçlü reports that, based on another article titled "The Incidents Concerning the Clock Tower" published in the same newspaper on January 17, 1921, it can be understood that the disputes had ended and the construction had been carried out. The author, having examined another news article titled "Auction" Müzayede published in the Antalya newspaper on July 6, 1921, concludes that since there was an auction for the repair of the clock to be installed on the completed tower and for the completion of missing tools, this clock must have been an old one.[46] From the analysis of these news articles, it is understood that the construction of the Antalya Clock Tower on bastion number 50 was completed around 1921.

In his research, where he examined the 1905 map prepared by Ali Rıza Efendi, Dayar reports that an earlier clock tower is shown on a different bastion from the current location of the clock towe.[47] In this context, it is understood that Dayar's determination that the clock tower was initially constructed on the bastion to the west of the Castle Gate, as depicted on Ali Rıza Efendi's 1905 map, is accurate (Figure 3). When examining the details provided in the photograph showing the bastion from the south, it is evident that the bastion was used as the base for the clock tower. The body section, which appears to be made of stone material at the

[44] Antalya Metropolitan Municipality Archive, 2018.
[45] Acun, Anadolu Saat Kuleleri, 18.
[46] Güçlü, "Antalya Saat Kulesinin İnşası".
[47] Dayar, "1905 Haritalarında Antalya Kaleiçi ve Çevresi.", 256.

upper level, is accessed from the place *seğirdim yeri* in the southern side. The body narrows in two stages. Surrounding the circular clock face, where the clock dials are placed, has a profiled stone frame. There is a section arranged as a pointed-arched clock pavilion above the horizontal stone slab. The roof of the pavilion section is observed to be covered with a lead-coated dome (Figure 16). Unfortunately, this structure no longer exists today.

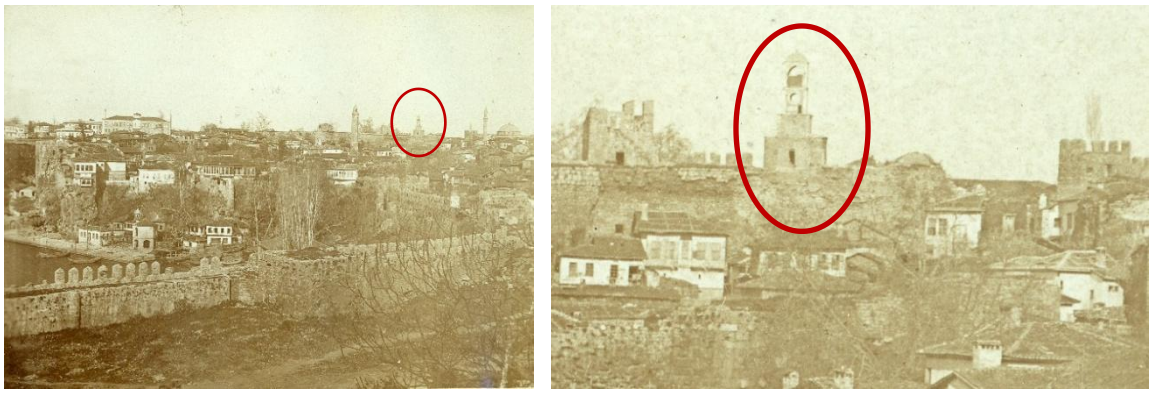

Figure 16. The situation of the earlier period clock tower on a different bastion and its state before demolition.[48]

Hakkı Acun explains the working system of the clocks used in clock towers during the Ottoman period. According to Acun, the clock mechanism is connected to a shaft, which both moves the hands on the clock faces outside the tower - the hour and minute hands - and operates the bell's hammer. Ropes wound around two pulleys among the gears of the clock mechanism, with weights at their ends, controlling the operation of the clock. The weight wound around the first pulley regulates the clock's movement, while the weight wound around the second pulley controls the hammer striking the bell. These clocks can be set up to run weekly, every fifteen days, or monthly, depending on their specifications (Figure 17).[49] While the original clock of the Antalya clock tower, believed to have a similar mechanism, is no longer in place, the mechanism's bell has survived to the present day. Çimrin mentions that the clock mechanism was entirely made of handmade forged iron, installed and the clocks in the Antalya clock tower were replaced with electronic devices by the famous clockmaker of Antalya, Ali Rıza Suduran, in 1974.[50]

There are partially discernible figurative decorations on the hanging bell at the top of the clock tower. According to Acun, the bell features "a relief of Jesus on the cross, an orant position of Mary, and a depiction of a Saint".[51] The decorations on the surface of the bell, which is 71 cm in diameter and 71 cm in height, are worn, and the graffiti on the surface is notable. At the bottom of the bell's surface, there is an inscription in Greek that reads, 'In the name of the church of the Virgin in Attaleia'.[52] This inscription informs us that the bell was made for the

[48] Melike Gül Personal Archive.
[49] Acun, Anadolu Saat Kuleleri, 7-8.
[50] Çimrin, 2014.
[51] Acun, Anadolu Saat Kuleleri, 18.
[52] Alex Rodriguez Suarez, "Two Church Bells from Antalya: Traces of the Religious Soundscape of the Late Ottoman Period". 518- Hellenkemper and Hild, 2004..

church of the Virgin in Antalya (Figure 18a, 18b) and this church, located within the Kaleiçi, is now used as the Alaaddin Mosque. On the surface of the smaller bell, no decoration is observed (Figure 19). In an old photograph, another bell, which was likely rung manually and is no longer present in the structure, is seen hanging from a wooden supporting system in the terrace section of the tower. (Figure 20, 24).

Research conducted by Suarez on the bell in the clock tower; he suggests that the bell may have been taken from the church where it was located after the population exchange and reused for the clock tower, which supports a construction date probably around 1921. However, another hypothesis is that the bell might have been taken from its place in the church before the population exchange due to some necessity. The reuse of bells is a practice commonly encountered in the Ottoman Empire.[53]

[53] Suarez, "Two Church Bells from Antalya:", 519-521.

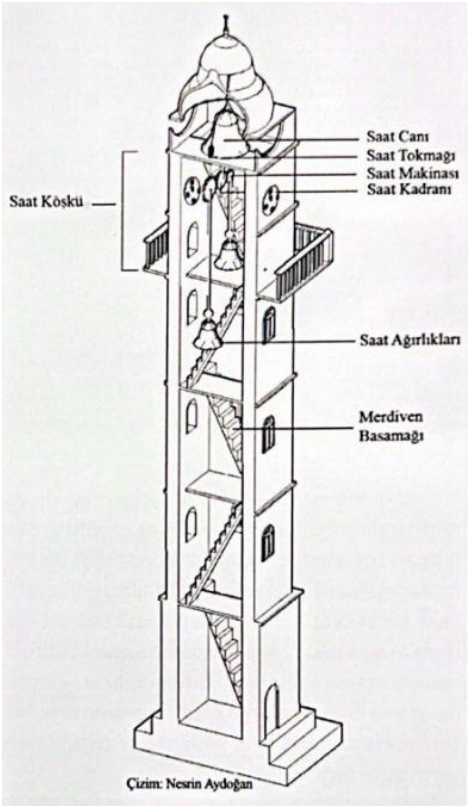

Figure 17. The working system of clocks used in Clock Towers (left).[54]

Figure 18a. Bell hanging on top of clock tower 18b. Decorations and the graffiti on the surface.

[54] Acun, Anadolu Saat Kuleleri, 18.

Figure 19 Other bell, smaller in size and undecorated.

Figure 20 Another bell seen in the terrace section of the tower in an old photograph.

When examining the examples of clocks gifted to Sultan Abdulhamid that have reached our times, it is observed that Eastern Arabic numerals were used on the dials of these clocks. Eastern Arabic numerals, also known as Indo-Arabic numerals, are variations of these numerals used in the Mashriq (the eastern part of the Arab world), in the Arabian Peninsula, and in other countries that use Persian numerals on the Iranian Plateau and in Asia (Figure 21).

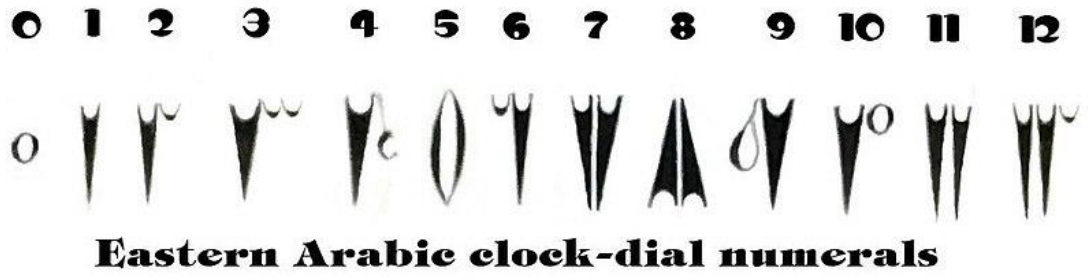

Figure 21. Stylized Eastern Arabic Numerals.[55]

According to the information obtained from research and photographs, it is evident that Eastern Arabic numerals were used on the clock dial of the Antalya Clock Tower. However, it has been determined that in later years, the original clock dial (Figure 22) and mechanism were replaced, and a new clock dial with Roman numerals was first installed, followed by a dial prepared with numerals compatible with the numbers used in our country today.[56]

[55] Wikipedia, 2024.
[56] Çimrin, 2014.

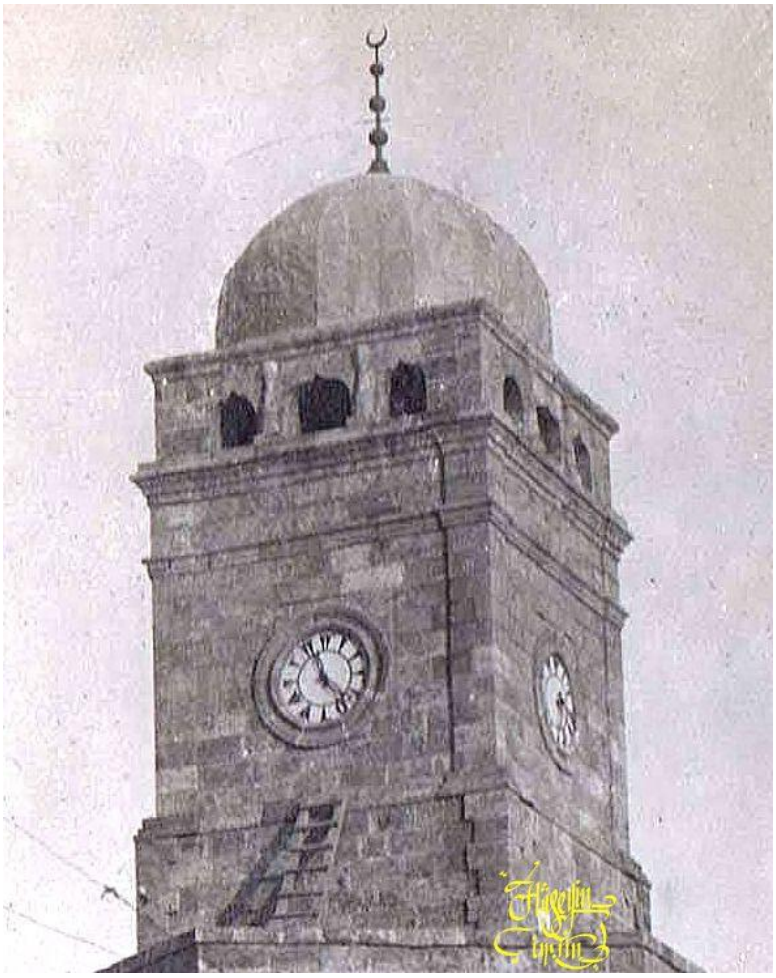

Figure 22. Photo of the Clock Tower from 1926 with an Eastern Arabic, Arabic-Indian/ Indo-Arabic numeral dial (Original clock dial).[57]

The interior of the square-plan clock tower, constructed onto the pentagonal tower is organized into four stories tall in connection with the tower. At the top level, the roof of the pavilion was covered with an onion shaped dome. The form of the dome was created with a wooden structure, supported by baghdadi laths. It can be understood from examining old photographs (Figure 23) that the dome was damaged in a storm, causing the lead coverings to be damaged and the Baghdadi laths to be exposed.

There are four profiled stone elements used horizontally on the facade of the square-plan body. Between the first and second elements from the bottom, there is a clock dial, and between the upper two elements, there are pointed-arched windows. Originally, while the height of these

[57] Hüseyin Çimrin Personal Archive.

windows were the same on all sides, for unknown reasons, in subsequent periods, the height of the central arched window was increased by removing the lower stone element. From examining old photographs, it can be understood that in the 1930s, the stone elements continued horizontally as a whole, and the height of the central pointed arched window was at the same level as the other windows (Figure 24).

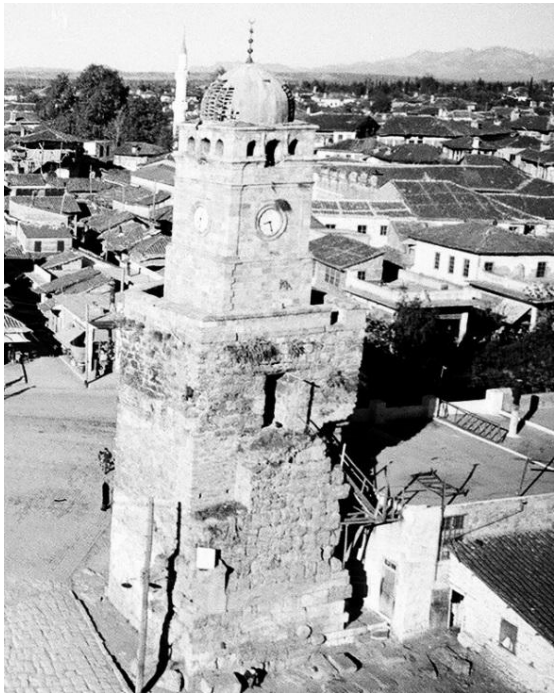

Figure 23. Photograph after the storm[58] (left).

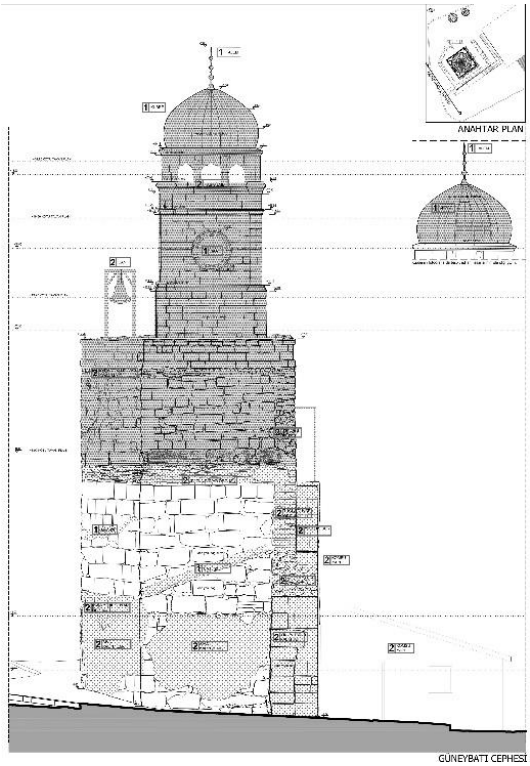

Figure 24. Restitution drawing of the tower (right).

Although the structure was originally covered with an onion-shaped dome (Figure 19, 23, 24), as seen in Sultan Abdulhamid period structures, due to damage caused by a storm in 1942 (Figure 25a, 26a, 26b), later loopholes were constructed instead of the dome (Figure 25b, 25c).

[58] Barış Eraşkın Personal Archive.

Figure 25. From left to right; 25a, 25b, 25c. View of the Antalya Clock Tower and the bastion on which it is located in 1938, 1960, and 2018. (25a, 25b[59], 25c Author's Archive).

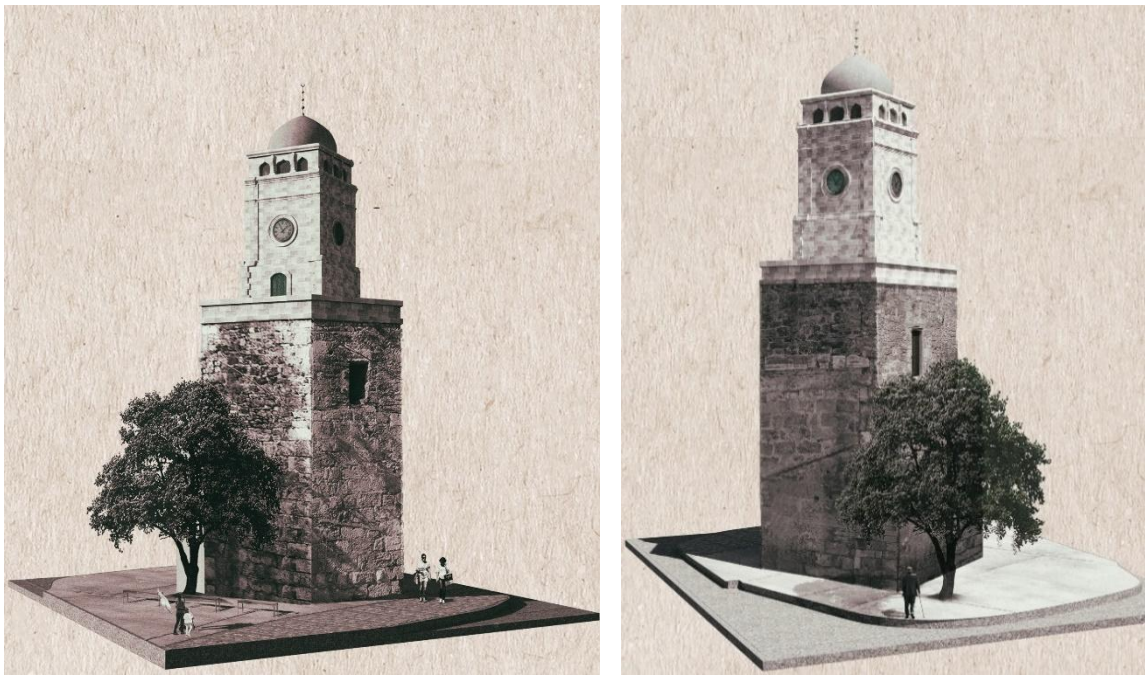

Figure 26a, 26b. Restitution research 3D Images.

The voids formed on the facades of the pentagonal planned bastion, thought to have occurred due to the collapse of the city wall and material problems on the wall surfaces, were repaired using stone, brick, and smaller stones. According to the Central Antalya Culture Inventory published in 2003, it is reported that the Clock Tower underwent partial repairs in the

[59] Hüseyin Çimrin Personal Archive.

1930s and was repaired again in 1967 due to the damages especially in the lower parts of the tower. During this process, loopholes were built instead of the dome and the southeastern facade wall was repaired, and the empty spaces on the facades were filled in.[60]

Conclusion

The city of Attaleia, whose initial construction dates back to the Hellenistic period, has had much research and many studies undertaken on its history. However, this multi-layered city still is far from being fully known or understood. Further research is needed if we are to uncover the mystery of its history and transformation over time. Attaleia Castle has undergone many changes and suffered because of significant damages since its construction to the present day. One of these changes, which is the subject of this research, is the transformation of the pentagonal bastion into the Antalya Clock Tower and the effects of this transformation process on the structure.

The exact construction date of the current clock tower is not definitively known. Based on two articles published in the Anatolia newspaper in Antalya on January 9, 1921, and January 17, 1921, Güçlü concludes that the construction was completed at a date after the publication of these news.[61]

During the research, information was discovered indicating the existence of an older clock tower in the vicinity of the current clock tower In his published research, Dayar claimed that the Antalya Clock Tower was shown as being located in a different tower on the 1905 map.[62] The examination of an old photograph reveals that there was a structure on the bastion mentioned by Dayar, featuring architecture consistent with a clock tower. In this high-resolution photograph, details such as the relationship between the clock tower and the bastion, the entrance, the tower/body section, the clock pavilion, the dome's form, and the structure's width/height ratio can be discerned. However, there is no written source in the literature regarding when that tower might have been built. Based on Dayar's information, it can be inferred that the former Clock Tower was located on the bastion marked on the 1905 map and was later demolished at an unknown date.

According to the information obtained from the 1921 newspaper reports included in Güçlü's research, the current Clock Tower must have been built later on the bastion to the east of the Castle Gate, in its present location. This finding indicates that, there were two clock towers in Antalya, positioned on different bastions of the castle at different times. The current clock tower, which is now one of the city's landmarks, was likely built in its present location due to the demolition of the earlier tower constructed before 1905.

Antalya clock tower is a registered architectural heritage. It was planned to sit on top of the pentagonal bastion and was constructed with cut stone. It can be seen that four horizontally profiled stone elements are used on the facade of the square-plan body of the tower. In the facade arrangement, which is designed similarly on all sides, there is a clock dial between the first and second elements from the bottom and pointed arched windows between the upper two elements. When the pavilion section of the tower was first built, it was covered with a dome in the form of an onion-shaped dome. It can be understood from examining an old photograph that the construction of the dome was damaged in a storm. It is understood from the examination of the mentioned photograph that the form of the dome was created using a wooden beam structure and baghdadi laths were used to create the surface.

[60] Antalya Kültür Envanteri, 2003.
[61] Güçlü, "Antalya Saat Kulesinin İnşası", 2013; Sevinç Güçlü; Muhammed Güçlü. Cumhuriyet'in 100. Yılında Antalya'nın Sosyal ve Kültürel Kurumları Hakkında Araştırmalar, Konya- İstanbul: Çizgi Kitabevi, (2023).
[62] Dayar, "1905 Haritalarında Antalya Kaleiçi ve Çevresi", 233, 252..

The dome was covered with lead plating. However, instead of repairing the damaged dome during the execution works, a structure resembling a loophole with imitation stone was made. This application, which creates the perception of a castle wall / bastion at the top of the clock tower in the recent past, is incompatible with the original architectural quality of the building. It is known that the restoration works of the Clock Tower which is an iconic building in the city, continue nowadays in a manner that respects the original values of the structure.

From the examination of old maps, photographs, and information obtained from research, it is understood that Attaleia Castle, which remained standing until the early 20th century, began to be demolished in 1914, starting around the Government House. The destruction of the walls connected to the bastion in two directions, the absence of the castle gate, and the lack of connection with the western bastion have all contributed to the detachment of the bastion from its original context. Although many tourists visiting Antalya, a city known for its tourism, see the clock tower, they do not realize that the base of the tower is actually a bastion, a part of the Attaleia Castle.

Although the elements of Attaleia Castle have largely lost their integrity and authenticity due to demolitions and serious conservation problems, this monumental structure surrounding the historic city still fascinates. Efforts should be made to preserve the integrity of this castle, which is a multi-layered heritage of different historical periods. Comprehensive conservation practices, with high-level oversight, should be implemented.

Educational packages, landscape arrangements, conservation interventions, and cultural activities, under a castle management plan should be developed. Such a comprehensive approach will contribute to conservation and will help locals and visitors understand the different layers of castle and its value as heritage.

Note: Drawings and photographs not referenced in the article belong to the author.

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