

REPRESENTATION OF HISTORICAL STRATIFICATION IN A CHURCH CONVERTED INTO A MOSQUE

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ABSTRACT

Most of the settlements in Anatolia possess physical traces of different periods because the land has been inhabited continuously since the early ages. Rural settlements on Karaburun peninsula of İzmir in Western Anatolia also exhibit such multi-layered structures. In order to conserve this multi-layered character of the peninsula, the traces of the historical stratification should be documented. In this study, one of the historical churches converted into a mosque is focused on. This is Agios Georgios Church / Gülbahçe Mosque. Hence, an architectural conservation supporting study, in which GID is considered the main tool, has been accomplished. In this paper, the main phases of the study are introduced. Sketch drawings are made and measurements are taken with total station at the site. Traces of spatial transformation have been marked on the sketch drawings and also photographed. Literature survey and archive research have carried out. The data related with architectural alterations have been classified and the restitution phases are defined. Thereupon, for this study, the phases determined are late Ottoman, early Republican and current. Then, modeling based studies are evaluated. Three dimensional models have been accepted as contemporary representation tools of cultural heritage documentation. When working at building scale, analytic documentation is indispensable for a sound conservation project. This includes both architectural alterations and material aspects. Consequently, the measurements taken with total station at the site have been evaluated in the academic version of GID 7.2. A 3D model of the building has been produced. Presentation opportunities of the architectural alterations on the building model are searched. In conclusion, illustration of the restitution phases of the transformed building via 3D model has provided ease in the conception of the historical background of the building. Consequently, design ideas for the conservation project have become easier to develop.

1. INTRODUCTION

This study focuses on the presentation of transformations of a monument. The case study is Agios Georgios Church that was converted into Gülbahçe Mosque in a historical village of Urla, İzmir. The aim is to provide restitution data for further studies that are to be carried out on the monument, using the opportunities of the contemporary presentation technique 3D modeling. Testing of the suitability of GID 7.2 for restitutive modeling is also aimed. The methodology involves the documentation of the building through measured and photographic surveys, historical research of the region and the monument itself, comparative study with similar churches, evaluation of the traces coming from the building together with historical research and comparative study results, proposal of a restitution hypothesis involving the building phases, and presentation of this hypothesis using the opportunities of 3D modeling.

2. HISTORICAL RESEARCH

The monument subjected to study is in Gülbahçe village. Therefore, it is considered relevant to search the social, cultural and economic developments in the region so that the transformation of the monument can be better deciphered.

Gülbahçe possesses a multi-layered character as a result of the continuous occupancy since early ages onwards. Gülbahçe village is positioned at the junction of Karaburun highway and old Çeşme highway, 15 km to the center of Urla, which is one of the administrative districts of İzmir – the third largest city of Turkey on the western coast of Anatolia. It juxtaposes Gülbahçe Bay which is between Karaburun and Urla peninsulas (www.izmir.bel.tr). It is between the antique settlements Erythrai and Clazomenai.



Figure 1. Map of Gülbahçe region

An important settlement neighboring Gülbahçe at its west is the antique Erythrai or today's Ildırı. It is one of the twelve Ionian cities. Karaburun peninsula was within the borders of Erythrai in twelfth and eleventh centuries BC. It became a Roman city in the second century BC. It was captured by Turks during Aydın Principality period. A Byzantine church has been documented here (www.kulturturizm.gov.tr).

Another important settlement neighboring Gülbahçe at its east is antique Clazomenai or today's Urla. The earliest settlement in Urla was around the harbor, nearly 4 km to today's center of Urla. The oldest ruins documented here date back to 8000 BC, the Neolithic period. There were agricultural developments achieved in this period. In 2500 BC, the settlement became a city as understood from the citadel ruins. The city was exporting and importing goods via its harbor. The antique Clazomenai is one of the twelve Ionian cities. Olive oil and wine were exported to various Mediterranean and Black sea cities.

Clazomenai continued its presence during Byzantine period, as understood from the presence of a bishopric with the same name in the historical texts. Because of the attacks of pirates in the eleventh century, Clazomenaiens left the harbor and began to

live in more secure areas away from the sea. It is thought that today's Kilizman (Güzelbahçe) at the further east was the center during the Byzantine period.

Merchants originating Genoese played important role in the commercial life of İzmir, Focaei and Chios in the late Byzantine period. Urla peninsula is on the transition line connecting İzmir and Chios. Therefore, it is obvious to expect Urla region to become a part of this commercial network.

In the first half of the fourteenth century, Urla peninsula was conquered by Aydın Principality. Christians continued to live around Panagia Church at the west, while the Turks settled in the east in the fourteenth century. Panagia Metropolis Church in Urla center, reconstructed the third time in 1796, was probably Byzantine originated. The churches in Urla burned during the fire in 1922.

At the beginning of the sixteenth century, Çeşme harbor gained significance. Commercial links with Europe were established via this harbor. In 1529, Çeşme became an administrative district. The commercial routes coming from Western Anatolia passed by Urla and ended up in Çeşme at the far West. Therefore, in this period, the population, agriculture and commerce of Urla and Çeşme developed a lot. In 1523, Urla and its villages were donated to the complexes in Manisa by Süleyman the Magnificent's Mother. In turn, the amount of agricultural production increased. These products were transported to other Ottoman harbors, especially those in Rumelia, via Urla harbor. During this period, the population of Urla grew extensively. Migrants coming from Chios Island and also Greece after it's conquered by the Ottomans in 1566 increased the percentage of non-Muslims in Urla: 3500 Muslims and 1500 non-Muslims. These migrants were looking for better living conditions. In their preference of Urla, both its economical richness and also continuous settlement of Christians since Byzantine period played role. It can be stated that Çeşme on the west of Karaburun peninsula and Urla on its east became two important centers, in place of their antique precedents Erythrai and Clazomenai during the Classical Ottoman period.

At mid nineteenth century, Greeks made up the majority of the population. In the late nineteenth and first quarter of the twentieth centuries, Urla was exporting raisins to Europe via its harbor. With the migration of Greek population from Urla in early Republican years, grape production diminished. Urla harbor lost its economic importance, but became a holiday village.

Gülbağçe village was within the borders of antique Clazomenai, as well as Byzantine Clazomenai, as understood from the surface material surveys. (Caymaz and Emeç, 2003).

Gülbağçe Basilica is an important Byzantine monument in the region. The traces of Gülbağçe Basilica are in Değirmenaltıregion at the south-east of Gülbağçe village. The basilica is 42.60 by 14.80 m in dimension including the praying hall, narthex and colonnaded portico. The building is organized in a symmetrical manner. Mosaic wall and floor covering were documented at various parts. Considering the inscription panels documented at the site and the symmetrical order, the basilica dates to 7th century AD. The holly water at the site of the church was considered to cure head aches. Here, there is a hot spring and an ancient bath ruins as well.

After the conquest of the region by Turks in the 14th century, a Turkish village – Özbek – was established at the east of Gülbağçe Bay, but not in the position of today's Gülbağçe village. The migrants coming from Aegean islands worked in the agricultural lands in Gülbağçe area under the control of an Ottoman Master and stayed in his farm, starting with the 16th century onwards. There was a big rose garden in the farm. In time, the workers gained privileges on the land. Starting with

the end of the 18th century, a Greek village was established here. It was named Gülbağçe – rose garden. Grape and olive groves together with bean, anise and grain fields had economical importance. Fishing, raising animals and producing silk were also dealt with. In the 19th century, the population increased even more with the migrants coming from the islands to work in the agricultural land. An important amount of raisins were exported to Europe from this region. In 1922, before the migration of the Christians back to Greece, the population was around 3500.

There are a number of small churches in the borders of the village and the neighboring villages constructed in the 18th and 19th centuries. The central church of Gülbağçe village is named as Agios Georgios. Feasts were organized around the church at certain times of the year. There was a big stone mortar for grinding wheat at the front courtyard of the church. Then, it was sifted and cooked together with meat in big pots. So, both cooking and serving of food took place in the courtyard. During the earthquake in 1881, the church was demolished and reconstructed afterwards (Caymaz, 2002).

After the exchange of populations in 1922, Turks coming from Albania were settled in Gülbağçe. Then, Agios Georgios Church was converted into Gülbağçe Mosque.

3. DESCRIPTION OF THE BUILDING

The center of Gülbağçe village is at the top of the hill neighboring Gülbağçe Bay at the north and Karaburun-İzmir highway at the south. Around the central square of the village; there is the church converted into mosque, coffeehouse, shops and the office of the head man of the village. The houses with courtyards and gardens organized on terraces at various levels surround this central core. This terraced organization can be clearly observed, when approaching the village from the west by the highway. The historical Gülbağçe Mosque is a landmark in the village silhouette.

Underneath the terrace over which the church is situated on, there are a series of spatial units entered from the narrow path circumscribing the retaining walls of the church courtyard at the north and east. They might be shops or storage units.

The verticality of the historical building is emphasized with the rhythmic plasters projecting approximately 5 cm from the surface on the exterior sides of the long walls. Horizontal plaster bands between the eaves and top windows finish the vertical ones. Top and bottom opening pairs with arched windows and doors are placed at the recessed parts of these long walls. Each opening axis, which includes a top and a bottom window, is finished with an arched plaster. There are five opening axis on the long walls, but the bottom window of the east end of the south elevation is missing. At the west elevation, there are two bottom windows on the two sides of the minaret flanking the building at its center. The smallness of the openings increases the strong massive effect of the facades.

The courtyard of the church flanks the village square at its north. Two steps lead down to the courtyard. The mosque is at the east of the entrance. At the west, there are washbasins for cleaning before prayer and also toilets. A garden with monumental pine trees neighbors the courtyard at its north east. The north side of the courtyard is bordered by a retaining wall. The courtyard has a general view of the village over this retaining wall.



Figure 2. The monument viewed from the north (2005)

The mosque is flanked by the minaret at its west, the entrance porch at its north, the house of the imam and the office of the head man at its east, and a narrow garden, approximately 3.5 m in width, at its south. The minaret has an octagonal base, each side 85 cm, a cylindrical shaft, a balcony and a conical finishing. The entrance porch, 3 m in width, functions both as a foyer and as a secondary praying space for the late comers. Here, there are two doors leading to the main praying hall. Men's door is close to the center, 1.35 m in width and 2.65 m in height, and the women's door is close to the east corner, 85 cm in width and 3 m in height.



Figure 3. The entrance porch viewed from west to east (2005)

The longitudinal praying hall (7.70 x 14.90 m), covered with a single barrel vault, is oriented to the 'mihrap' niche at the center of the south wall. The keyline of the vault is 8.30 m from the ground level. The timber pulpit is placed at the south west corner. The half storey, 2.75 m in width, added to provide privacy for women prayers creates a low entrance zone, 1.85 m in height, at the north side of the ground level. A small door at the center of the west side leads to the staircase in the minaret. At the east side, trace of a central wide arch can be observed underneath the plaster. Here, there is a cupboard close to the south corner. The small windows placed in two series at the bottom and at the top along the long walls, and two bottom windows at the west wall provide low intensity of daylight in the praying hall. All of the openings are wider and higher at the interior compared to the exterior. The bottom windows of long

walls are approximately 1.35 m in width by 1.85 m in height at the interior, and 90 cm by 1.35 m at the exterior. The top windows of long walls are 90 cm by 2.10 m at the interior, and 65 cm by 1 m at the exterior. However, the top windows at the east end of long walls are narrower at the interior: 85 cm by 2.10 m. The two bottom windows at the west are 1.35 m by 2.10 m at the interior, and 90 cm by 1.40 m at the exterior. Besides the additional electrical lighting elements; iron rings that seem to support oil lamps are observed at the key line of the vault. The masonry historical walls, 80 cm in thickness, and the vault are constructed with rubble stone, brick and mortar; supported with timber beams at various levels; covered with cement plastering, and painted at the exterior and white washed at the interior. The ground floor which is slightly elevated with respect to the entrance porch and courtyard, 45 cm, is timber covered at present, and reached by three timber steps. The half storey is constructed in skeleton system with reinforced concrete.



Figure 4. The praying hall viewed from east to west (2005)

After the earthquake in 2002, diagonal cracks 0.5 to 1 cm in width were observed, mostly on the narrow east and west facades. During the strengthening (Turan, 2003), the plastering on the exterior walls were taken off. Timber beams, posts and diagonals supporting the narrow walls, and filled in arches were documented at the west wall. During the partial cleaning of the plaster around the cracks at the interior, the trace of a large central arch out of stone was observed at the east wall. The cracks were filled in with cement mortar. In order to reduce seismic load on the East and West side walls, two reinforced concrete columns were erected along each of the long walls. Additionally, the east and west side walls were confined with corner columns. The West wall, which is thicker at the bottom and thinner at the top, was filled in with brick and mortar addition. Window and door openings that are close to the corners were proposed to be filled in, but they were left as they are. The present plaster on the historical walls was taken off and was redone with reinforced cement plaster.

4. COMPARATIVE STUDY WITH SIMILAR CHURCHES

It is known that the basilical type of church was extensively experienced in Anatolia during early Byzantine period (4-9th centuries AD). Although Greek cross plan was more popular in the succeeding eras, single aisled basilical plan was continued to be preferred in small scale churches. Since Agios Georgios Church subjected to study is a small scale, single aisled basilical

church; the historical research has been concentrated on this specific typology in Anatolia.

In principle, basilical churches are organized around East – West axis whose terminating points are the semi-circular apse at the East and the entrance door at the West. Narthex, the entrance foyer to which the praying hall opens to, became wide spread in late Byzantine period. The narthex could be double storied.

The elevations had a massive effect with their masonry walls and limited openings. Verticality is emphasized with various elements. Columns and blind arches were transformed into elongated plasters in time. The rectangular windows, niches and entrance door are elongated and spanned with semi-circular arches in late periods. At the east elevation, the half polygonal apse projecting out is the primary element. It may be five, six or seven sided. On the other hand, the elevation of the double storied narthex at the west could be divided into two with plaster. At the bottom zone, there is the entrance door at the center and there are circular columns and windows at its two sides. At the upper zone, there is a series of niches.

From structural characteristics point of view, the following can be stated: the basilical churches were covered with timber roofs in early examples and barrel vaults in later ones. Stone, brick and mortar were used in the masonry elements. Combined usage of brick and stone in walls without plastering had created colorful elevations with natural texture. Marble and mosaics could be used for covering interior walls. Opus sectile floor covering is common (Mango, 1976; Eyice; 1980; Tok, 1997).

It can be concluded that Agios Georgios Church was first constructed during the establishment of Gülbahçe village in 18th or 19th century, as the central church of the village at the peak point of the settlement. After the earthquake in 1881, it was reconstructed at the same position.

As concluded with respect to the historical research, the church was approached from the west. There should had been a series of stairs leading to the front courtyard of the church, in place of the present public toilets at the west of the block. So, there was a complete axial organization within the building block starting with the western courtyard entrance, reaching the main entrance of the church and terminating with the apse at the east. The courtyard surrounded the church at the north and east as well. At the south, there could have been a narrow garden, as it is at present. The present main entrance to the courtyard from the public square at the south could have been a secondary entrance.

On the basis of the comparative study, it is thought that the exterior wall surfaces could be without plastering during church period. Plasters emphasizing verticality and arched windows with semi-circular profiles observed on long elevations, double storied organization of the west façade, blind arches at its upper zone, and central entrance with windows at its sides are characteristics of this typology. The minaret, entrance porch and half storey for women were added during the mosque period. The niche indicating the direction of Mecca at the south ('mihrap') was originally a window. The apse at the east was semicircular at the interior and polygonal at the exterior. Two niches or windows were at its sides. The present main door at the north may be secondary entrance of the church's praying hall. The door of women's section was originally a window. The blind arch observed at the lower zone of the west elevation at present should be the original entrance with windows at its sides.

The studied monument was built as a small scaled village church. Therefore; single aisled, basilical plan covered with a vault in east-west axis was preferred. The presence of an apse at the east and narthex at the west should be questioned through the future excavations in the related areas. Similarly, the

presence of a bottom window at the east end of the south wall should be questioned as well. In fact, it could have been filled in, after the addition of the office building. The original wall and floor covering of the interior cannot be observed. But no traces of mosaics or paintings were deciphered, when the plaster of the east and west walls were taken off.



Figure 5. The trace of the central arch of the apse observed at the east wall (2004)



Figure 6. The traces of the church's entrance behind the minaret, documented during the strengthening in 2004.

5. IDENTIFICATION OF LAYERS

First of all, the alterations, which the building have been subjected through out its life span, have been listed and classified. There are three main groups: additions, modifications and removals.

The building elements and furniture that have been added are entrance porch, reinforced concrete columns to support the long walls of the building, timber skeleton floor system covered with timber and then carpets to elevate the original ground level, half storey for women's section, minaret, pulpit, electrical lighting system, and concrete covering of the courtyard.

Modifications are iron joinery in place of timber one, niche ('mihrap') in place of the window at the central part of the south wall, door in place of the window at the east end of the north wall, narrow minaret door in place of the main entrance door of the church, cement plastering in place of lime plastering, white wash in place of mural painting at the interior, and walls

covered with reinforced cement plastering and paint in place of wall surfaces exposed at the exterior.

The removals are the apse, Christian liturgical elements, decorative elements such as statues, and oil lamps.

There are three major phases of the building. The church phase, mosque phase and strengthening of the mosque phase. The architectural characteristics of each phase may be stated as follows:

In the church phase, the building was organized around the east-west axis terminated by the entrance at the west and the apse at the east. There was a large courtyard at its front. Stairs at the eastern end of the building block led to the courtyard. Statues, paintings, liturgical elements and oil lamps were part of the interior hall.

In the mosque phase, the building has been converted into a transversely planned praying hall, which was a spatial theme extensively experienced in early mosques of Anatolia. The main entrance is from the north. This positioning of the entrance makes it very difficult to observe it as approached from the courtyard. A niche ('mihrap') is established at the south wall just across the entrance. The minaret is attached to the previous main entrance. The pulpit ('minber') is at the south west corner. There is no statue or painting.

In the strengthening phase, an entrance porch running across the north wall is added. This functions as a foyer and a praying space for the late comers. The reinforced concrete columns added to support the long walls of the structure have further emphasized the verticality of the building.

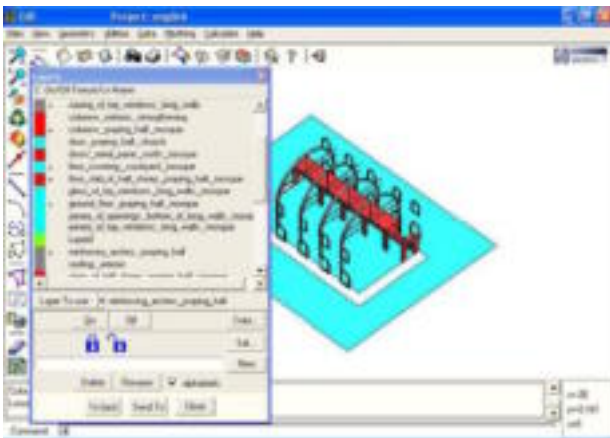


Figure 7. Organization of layers

Within this frame, the layers of the model were defined considering the building elements and their phases. For example, 'floor' is a building element. The terms such as 'exterior', 'praying hall', 'west', etc. provide information about the location of that specific building element. Consequently, the terms 'church', 'mosque' and 'strengthening' provide information about the phase of the building element. In the layer list, first the name of the building element, then its location and finally the phase are indicated. For example; 'columns: exterior: strengthening', 'columns: praying hall: mosque', 'door: praying hall: church', etc. If an element is present in all phases, then no phase name is to be stated.

In the determination of the color coding, alteration type has been the criterion. As stated in the beginning of this section, there are three types of alterations. The layers presenting added building elements were illustrated with red. The layers presenting modified building elements were illustrated with blue. The layers presenting removed building elements were illustrated with yellow. The layers presenting building elements

that have conserved their authenticity were illustrated with gray. Finally, the helping layers were illustrated with green.

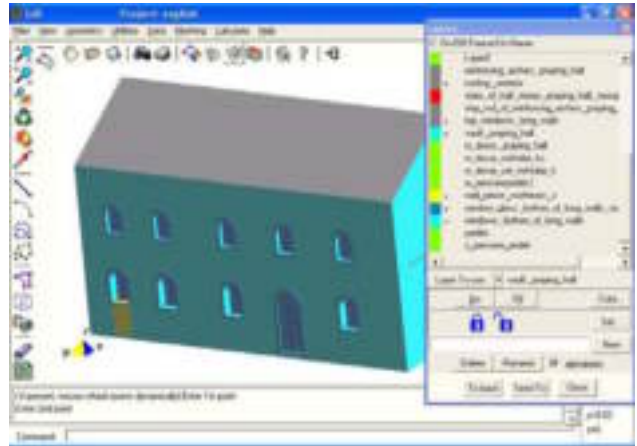


Figure 8. North view, church phase: The wall piece at the bottom of the left bottom window was removed to create women's entrance. Wall surfaces were modified via plastering. Joinery was modified. Tiles covering the roof are left authentic.

6. CONCLUSION

The study has provided written and graphical data on the transformation of Agios Georgios Church that was converted into Gülbahçe Mosque. The church was first constructed in the 18th or 19th century. It was reconstructed after the earthquake in 1881. After 1922, it was converted into Gülbahçe Mosque. In 2004, strengthening of the mosque was made after the earthquake in 2002. Each of these phases have their own sets of building elements. These elements were surveyed and grouped as authentic, added, modified and removed. The identification of the layers for model formation has been based on this grouping. The 3D model produced has provided convenience in the formation of intervention decisions for the conservation of the monument. GID 7.2. has been sufficient for the formation of the model.

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