THE STILL EXISTING OTTOMAN HAMAMS IN THE GREEK TERRITORY

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OTTOMAN BUILDINGS IN GREECE

Ottomans marked their passage by the Balkan cities with the offprint of their culture. Although they brought many of their cultural features from Anatolia, they assimilated many of those found in the conquered lands and developed a multi-cultural character. This noticeable architectural 'Ottoman' expression included many building types, that were formed within this cultural mix.

Islam prescribes ablution before prayer; this was a great encouragement to the construction of fountains, public baths and water supplies. Similarly, its insistence on education and study from childhood to old age gave a great impulse to the building of medreses, and since social and medical assistance are among the basic principles of religion, hospices and hospitals were required to be built. Finally the importance attached in Islam to commerce created a demand for hostelries and caravanserais (Ünsal 1959, 11).

Ottoman buildings which are found in Greece belong to three basic categories:

1. Religious buildings, such as cami, mescit, tekke, türbe, zaviye, medrese;

2. Secular buildings, as social-public and domestic buildings (including commercial ones, such as bedesters, social buildings, as hamams (1), imarets, markets, caravanserais, libraries, etc. and houses, mansions, etc.);

3. Works of military architecture, such as fortresses, castles, towers.

In Greece, unfortunately, there has been no thorough registration of the existing Ottoman buildings. They are legally protected by the Ministry of Culture, supervised by the thirteen Eforeie of Byzantine and post-Byzantine Monuments Department, to which most of them belong. On the

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1. Hamam, as a Turkish word, is also used in Greek, to refer to the Ottoman bath, which is a civic building for public collective use.
Figure 1. Typology of Ottoman Baths according to K. Klinghardt (sketches: E. Kanetaki).

Apart from these, we must acknowledge the recent rising effort of Greek researchers in regard to cataloguing archival material, as is done in the National Hellenic Foundation for Scientific Research (Athens) and the Mediterranean Studies Foundation (Rethymno) (Balta 2003, 20). What is still missing is the necessary collaboration between scientists in different fields, especially between architects and historians and wishfully, a collaboration between Greece and Turkey, that could enlighten important aspects on the preservation of these monuments (2).

**HAMAMS IN GREECE**

Hamams were regarded as a major Islamic building type, since the fulfillment of rules concerning hygiene were interwoven within the Muslim religious regulations, according to which only running water was used for ablution and in bathing. Thus, *hamams* form a unique building type, that varies from the other kind of baths called ‘kaplaca’ (thermal baths). Hamams were among the first buildings to be constructed in a newly conquered city, just like *Bey Hamam*, built at Thessaloniki in 1444 by Murat II.

A number of preliminary monographs on the subject of Ottoman baths is rather insufficient and they usually refer to *hamams* located in certain regions or cities of the Islamic world (Dow 1996; Aru 1949; Lane 1890, 308-314; Kreševlija 1952; Ecchard, Le Cour 1942, Önge 1995). Greek bibliographical references are poor, since very few elements are mentioned. Unfortunately no comparison or grouping has been attempted and issues such as their restoration are rarely discussed. Meanwhile, a comparative juxtaposition is offered about the grouping made by certain foreign scholars, such as M. Kiel (1976, 87-96), K. Klinghardt (1927), S. Eyice (1960, 99-120), H. Glück (1921) based on the typology of these buildings (in accordance to the function of the ground floor and the especially the disposition of the hot section).

The baths which were constructed in Greece during the Ottoman period, form a unique building category (Kanetaki 2001, 16). They vary in size, quality of construction, as well as with their decorative elements, while the interior space still shows signs of excellent aesthetic expression. The existing *hamams* (which amount to sixty buildings) are widespread in all the Greek territory, while it is very difficult to specify their exact dates of construction, since no epigraphs are to be found on each, and in most cases, the buildings are in a state of decay (Kanetaki 2000, 67-68, Aslanapa 1971, 253). Their origin stems from former building types and they continue the ritual of the Roman and Byzantine baths.
Figure 2. Typology of Ottoman Baths according to H. Glück (sketches: E. Kanetaki)
THE FUNCTIONAL LAYOUT OF HAMAMS

The typical sequence of rooms (the disrobing room, tepid and the hot section), whose existence was dictated by the rigid order in which the ritual operations in the hamams were performed, has remained practically the same everywhere and no evolution is traced – the pattern in layout of baths remains unaltered throughout the Islamic world.

The disrobing room (soyunmalık or camekân) was entered from the street and people would sit on low wooden or stone benches (traces of them are found in some hamams) around the walls. It was often provided with a central fountain (sadırvan), while the women’s section included a depilatory. The next room was the tepid section (soğukluk or ılıklık), where the bather would get used to the rising temperature inside the hamam and prepare himself for the hot part (sıcaklık), that was situated adjoining to it. On the center of the sıcaklık was the göbektaşı, the navel stone or marble slab, on which the bather was to recline to be massaged. Basins (kurnas) with taps were around on the walls of this section, used by bathers for washing (they would scoop the water from the basins using tas, a brass or copper bowl, and pour it over themselves). The sıcaklık was a domed area in the center, that included private corner cells (halvet). The furnace (külhan) was built against one wall of the hot room and the fire was lit under a copper cauldron (copper warms up very rapidly, so the heat is transferred easily) built into the furnace, while the whole of its upper part served as a water reservoir. Smoke from the fire and hot air passed along a duct and circulated under the floor of the hot and tepid room, the hypocaust (cehennemlık), before rising up the vertical, ceramic smoke pipes (tüteklik) that were built in the wall during construction.

Hamams left the architect little scope for variation, who was obliged to follow the accepted norms, arranging the various sections in accordance with a pre-conceived plan. In spite of this, Turkish architects managed to create original forms by finding diverse solutions to the perennial problems (Demetriades 1973; Moschopoulos 1959, 486-514; Mpiris 1959, 44; Celebi 1991; Celebi 1999).

HAMAMS AND THEIR PRESENT STATE

Greek Ottoman baths are found widespread in the Greek territory. Evliya Çelebi’s Seyahâtname, written during his visits to many places, give us a lot of information on the historic existence of Ottoman buildings (Kiel 1971, 300-329). Other travellers have left narrations, which helps us now trace the site where important buildings were constructed.

This study presents for the first time, a well documented list of all the still existing hamams that are now found in the Greek territory, according to its geographical division, many of which still remained unknown (Figure 1). A few of these were constructed during the last decades of 1300s, such as the Gazi Evrenos Hamam, Giannitsa in 1392 (Kiel 1981, 127-146), and the Oruç Paşa Hamam, Didymoteichon, in 1398 (Demetriades 1983, 416-417).

Most of these buildings were constructed during the 15th, 16th and 17th century, according to the information given by historians, basically people who had the possibility to check the Ottoman Archives. Inscriptions are unfortunately present in rare cases, just like in the Bey Hamam, Thessaloniki, where the year and the building’s donator are mentioned on the main façade (Kanetaki 2003, 136-137).
Figure 3. Typology of Ottoman Baths according to S. Eyice (sketches: E. Kanetaki)
Some of the baths are half-demolished, in a bad state of decay, while a few have been restored and had the luck to be inserted into the modern urban tissue, as a new use has been introduced. Two of them are still functioning as hamams. We should at this point mention the rising interest for such buildings, which led to the following, but quite recent, restoration projects (Balducci 1932, 31-58):

*Bey Hamam*, Thessaloniki, was partially restored and housed in the 1997 exhibition of *Secular Medieval Architecture in the Balkans, 1300-1500 and its Preservation*. The bath was endowed with a new function, as few modifications were necessary in order to re-arrange it for cultural purposes, while the building itself ‘behaves’ also as a ‘living monument’ exhibit.

*Pazar Hamam* (known also as *Louloudadika, Kadinlar* and *Yahudi hamam*), Thessaloniki, was also partially restored as it was included in the works made for the city’s celebration of Europe’s cultural capital (1997). While many researches have been done on this building (like thesis for graduate and post-graduate studies, scientific research programmes and even publications), unfortunately it remains closed to the public.

A thesis on the restoration project of the *Apollonia Hamam* (Pazargâh), Lake Volvi, was presented at the *Postgraduate School for the Protection, Rehabilitation and Research of Architectural Heritage* at the Architectural School of Beograd (1986) and the *Specialization Course Protection, Conservation and Restoration of Architectural Monuments* at Aristoteleio Panepistimio Thessaloniki (1998-99). Similar interest has been shown for the *Zambeliou and Douka Str. Hamam*, Chania, whose restoration project and adaptation to the city’s Historic Museum was presented as a graduate thesis at the Architectural School of National Technical University Athens (1994); the *Niceforo Foca Str. Hamam*, at Rethymno, whose restoration and rehabilitation into a gallery was prepared as a project and was presented as a postgraduate thesis at the *Corso di Specializzazione in Restauro dei Monumenti*, Universitá di Roma La Sapienza, (1997); the *Salt Warehouse*, at Kos, was studied as a postgraduate thesis at the *Specialization Course Protection of Monuments* of the National Technical University Athens, 2000.

There are also renewed and restored cases. The *Abid Efendi Hamam* (or the ‘Hamam of the Winds’) in Athens, was allocated to the Greek Folk Art in 1984, and during the 1990s its restoration and reuse project was presented, where the *hamam* is now housing the Center of Documentation for Body Embellishment (2000). The *Yeni Hamam* in Thessaloniki, a double bath, which is partially preserved (the hot sections were destroyed in 1917), was formerly used as an open cinema and is now converted into a cultural center and musical stage. The *Çarşý Hamam*, Mytilene, is currently restored (2003) and will be open to public soon. The *Yeni Hamam* in Rhodes, which is a double bath, was restored in 1992-95, financed by the European project *Rebuild*, which sustained the use of renewable energy sources in historic buildings. It is one of the two still functioning *hamams* in Greece, as the *Mpoukaouri Str. Hamam*, Patra. The *Halidwn Hamam*, Chania, has been restored and re-arranged for commercial use, while a restoration project is under preparation for the *Glykidwn Square Bath* in Ioannina.
Figure 4. Suggested Typology of Greek Ottoman Baths (according to E. Kanetaki)
A few historians and archaeologists have dealt in the past years with the study of baths. K. Klinghardt (1921), H. Glück (1927), S. Eyice (1962), M. Kiel (1981) offered a grouping based on the typology of these buildings, in accordance to the function of the ground floor and especially the disposition of the hot section. They base their conclusions on a study of baths found either in Istanbul or in other areas of the Ottoman Empire, such as Asia Minor (i.e. Konya, Bursa), while H. Balducci (1932) mentions the basic typological groups of Ottoman hamams, in an article on the Turkish Architecture in Rhodes (Eyice 1960, 120). All of them describe the building types, referring to some well-known buildings in big Ottoman centers, such as Istanbul (namely the Mahmut Paşa, 1466, Bayazid, 1501, Haseki Hürrem, 1556, Çemberliças, 1584, Çağaloğlu Hamam, 1741), Bursa, Konya and others. None of them, except S. Eyice (Kanetaki 2003, 98-103), referred to the necessary design layout, which would give the reader sufficient details in order to fully understand the basic typology each one suggests and belongs to. Our first contribution will be a thorough examination of the grouping proposed by each scholar (Figures 1, 2, 3) and at the end, a comparative confrontation of their basic points (Ünsal 1970, 73). According to K. Klinghardt (Figure 1), H. Glück (Figure 2) and M. Kiel, baths are categorized under five groups, while S. Eyice (Figure 3) presents six categories.

In Greece we find small, medium-sized and big Ottoman baths. Some of them are single and some others double (çifte), with separate accommodation for men and women. The two sections show signs of symmetry, since one is placed with its big axis parallel to the other, but they present and share a common water reservoir and furnace. We do not notice mirror symmetry (symmetrically designed about the longitudinal axis) (Kanetaki 2003, 388-390), just like in the Haseki Hürrem (Roxalane) Hamam (1556) in Istanbul.

As far as the men’s part is concerned, it is usually richer in decoration than the women’s part, the dome in the disrobing hall is higher that the one at the female department, just like in the Yeni Hamam, Rhodes.

One might explain this as first, a sign of social discrimination, which dictated this differentiation associated with the two sexes, and second, as due to high number of male customers using the hamams compared to the females.

As was mentioned, the typical sequence of rooms (the disrobing room, the tepid and the hot section), whose existence was dictated by the rigid order in which the ritual operations in the hamams were performed, has remained practically the same everywhere and no evolution is traced; the pattern of the bath layout remained unaltered throughout the Islamic world. The comparative study of hamams in the Greek territory leads to a grouping into five typological categories (Figure 4, 5), based on comparisons and confrontation between them, with the criteria of their size and especially the disposition of the hot section, that is regarded as the basic functional part of each building (Sezgin 1993, 298).

In the first group, the hot room is cross-shaped, forming four eyvans with four private small cells (halvet) situated in each corner. A semi-spherical dome rests on the intersection of the two axes: transition of loads from the dome to the walls is implemented through solutions such like pendentives, squinches and Turkish triangles (haçvari dört (4) eyvani ve
<table>
<thead>
<tr>
<th>A/A</th>
<th>Name</th>
<th>City</th>
<th>Date</th>
<th>Scheme</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td><strong>Bey Hamam</strong> (Paradeisos baths) - men’s section</td>
<td>Thessaloniki</td>
<td>1444, double</td>
<td>A</td>
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<tr>
<td>2</td>
<td><strong>Glykidwn square, Ioannina</strong></td>
<td>Ioannina</td>
<td>17th - 18th century</td>
<td>A</td>
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<tr>
<td>3</td>
<td><strong>Hüseyin Paşa, Castle</strong> (Figure 6)</td>
<td>Nafpakos</td>
<td>1701 - 1702</td>
<td>A</td>
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<tr>
<td>4</td>
<td><strong>Halidwn str.</strong></td>
<td>Chania</td>
<td>double</td>
<td>A</td>
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<td>5</td>
<td><strong>Bar Hamam</strong></td>
<td>Kos</td>
<td></td>
<td>A</td>
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<tr>
<td>1</td>
<td>Şeyh İlahi Efendi</td>
<td>Giannitsa</td>
<td>beginning 15th century</td>
<td>B</td>
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<tr>
<td>2</td>
<td>Mytilene Castle</td>
<td>Mytilene</td>
<td>19th century</td>
<td>B</td>
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<tr>
<td>3</td>
<td><strong>Zambeliou and Douka str.</strong> (Figure 7)</td>
<td>Chania</td>
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<td>B</td>
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<tr>
<td>4</td>
<td><strong>Yeni Hamam</strong></td>
<td>Rhodes</td>
<td>~1500, initial ground floor</td>
<td>B</td>
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<tr>
<td>1</td>
<td><strong>Bey Hamam</strong> (Paradeisos baths) - women’s section</td>
<td>Thessaloniki</td>
<td>1444, double</td>
<td>C</td>
</tr>
<tr>
<td>2</td>
<td><strong>Pazar Hamam</strong> (Louloudadika, Yahudi, Kadinlar)</td>
<td>Thessaloniki</td>
<td>1500, double</td>
<td>C</td>
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<tr>
<td>3</td>
<td><strong>Paşa Hamam</strong> (Phoenix) (Figure 8)</td>
<td>Thessaloniki</td>
<td>1520</td>
<td>C</td>
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<tr>
<td>4</td>
<td>Emm. Pappa str.</td>
<td>Serres</td>
<td></td>
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<tr>
<td>5</td>
<td>Mpoukaouri str.</td>
<td>Patra</td>
<td></td>
<td>C</td>
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<td>6</td>
<td><strong>Çarsi Hamam</strong></td>
<td>Mytilene</td>
<td>1800 - 1825</td>
<td>C</td>
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<td>7</td>
<td>New bath, Chios castle</td>
<td>Chios</td>
<td></td>
<td>C</td>
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<tr>
<td>1</td>
<td><strong>Oruç Paşa Hamam (Fisilî)</strong> (Figure 10)</td>
<td>Didymoteicho</td>
<td>1398 - 1399</td>
<td>D</td>
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<td>2</td>
<td>Ferres</td>
<td>Ferres</td>
<td>before 1455</td>
<td>D</td>
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<td>3</td>
<td><strong>Makri</strong></td>
<td>Aleksandroupoli</td>
<td>16th-17th century</td>
<td>D</td>
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<tr>
<td>4</td>
<td><strong>Kilkis Hamam</strong></td>
<td>Kilkis</td>
<td>18th - beginning 19th century</td>
<td>D</td>
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<tr>
<td>5</td>
<td><strong>Gazi Evrenos</strong></td>
<td>Giannitsa</td>
<td>1385 - 1395</td>
<td>D</td>
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<tr>
<td>6</td>
<td>Stageira bath (Sidirokausia)</td>
<td>Stageira</td>
<td>early Ottoman</td>
<td>D</td>
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<tr>
<td>7</td>
<td><strong>Yeni Hamam</strong> (Aigli)</td>
<td>Thessaloniki</td>
<td>1575 - 1600, double end 14th century, double</td>
<td>D</td>
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<tr>
<td>8</td>
<td><strong>Tuzci Hamam</strong></td>
<td>Veroia</td>
<td></td>
<td>D</td>
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<tr>
<td>9</td>
<td>Zixni</td>
<td>Zixni</td>
<td>15th-16th century</td>
<td>D</td>
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<td>10</td>
<td><strong>İç-Kale Hamam</strong></td>
<td>Ioannina</td>
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<td>D</td>
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<td>11</td>
<td>Platykampos</td>
<td>Platykampos</td>
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<td>D</td>
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<tr>
<td>12</td>
<td>Tyrnavos</td>
<td>Tyrnavos</td>
<td>18th - beginning 19th century</td>
<td>D</td>
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<tr>
<td>13</td>
<td><strong>Abid Efendi</strong> (Hamam of the Winds)</td>
<td>Athens</td>
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<tr>
<td>14</td>
<td>Nafplio</td>
<td>Nafplio</td>
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<td>15</td>
<td>Castle, A’ bath</td>
<td>Methoni</td>
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<tr>
<td>16</td>
<td>Castle, B’ bath</td>
<td>Methoni</td>
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<tr>
<td>17</td>
<td>Monemvasia</td>
<td>Monemvasia</td>
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<tr>
<td>18</td>
<td><strong>Hrakleias and Karavangeli str.</strong></td>
<td>Mytilene</td>
<td>19th century</td>
<td>D</td>
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<td>19</td>
<td>Parakoila</td>
<td>Lesvos</td>
<td></td>
<td>D</td>
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Figure 6. Hüseyin Paşa Hamam, Naflaktos, plan (drawing: E. Kanetaki). Kanetaki (2000, 60).

Figure 7. Zambeliou and Douka str. Hamam, Chania, plan (drawing: E. Kanetaki). Kanetaki (1997, 87).
köşe hücreli tip). There is a hypothesis that this type originates from the dwelling model found in Central Asia (four eyvan and four halvet plan) (Moutsopoulos 1990, 124).

The four eyvan scheme is found in many building types, such as dwellings, hospitals even medreses. They look very much like traditional (vernacular) houses at Kastoria, in Central Macedonia and Mount Pelio (Kuban 1976, 447-459, fig. 11). The doors in the corner rooms are placed at 45° degrees cutoff walls, just like in many other places of in the Balkans, like Bosnia, Bulgaria and Kosovo.

The scheme A is traced at Bey Hamam, Thessaloniki (the men’s section), at Hüseyin Paşa in Naupaktos (Figure 6), at Ioannina Hamam, Halidw str., Chania and at the Bar Hamam, Kos.

The next group includes baths, where the hot part forms an inverted T plan, with three eyvans and two private hot rooms (halvet), situated at the end of the bath against the wall of the water container. This plan has been used in other Ottoman buildings such as mosques, just like in the Alaca İmaret Cami, Thessaloniki and the Mehmet Bey Cami, Serres. The scheme B is recognizable in the Şeyh İlâhi Hamam at Giannitsa; the A’ Hamam at Methoni castle; the Zambeliou and Douka str. Hamam, in Chania (Figure 7) and was applied to the initial phase of the Yeni Hamam, Rhodes (before the addition of the women’s section).

In the third group, the sicakhk still gives the impression of a two-eyvan room, but the third one between the two halvet areas has been omitted and rooms have been placed directly against each other. The first rectangular room is covered by a dome, which rests partly on the transversal walls, partly on the two arches (ortası kubbeli, enine sicaklık ve çifte halvetli tip). This type is found in many hamams, such as the Paşa (Phoenix) (Figure 8), Pazar (Louloudadika, Yahudi or Kadınlar Hamam), the women’s section of Bey Hamam, all of them at Thessaloniki, the Emm. Papa str. Hamam at Serres, the Çarşı at Mytilene, the Old and the New Hamams within the Chios castle.

The fourth type is very wide-spread throughout the Greek territory and is characterized by a square-shaped domed hot room, that is surrounded by small hot rooms (kare bir sicaklık etrafında sıralanan halvet hücreli tip). Many buildings can be grouped under this typological unity, such as hamams found in Kilkis, Veroia (the Tuzci Hamam, a double bath in an L
shaped plan), Tyrnavos, Larissa and Nafplio (in both cases partially demolished), Methoni (two baths in the castle), Monemvasia, Mytilene (Hrakleias and Karavangeli str. Hamam), Kos (the former Salt warehouse), Niceforo Foca str. (Figure 9) and Radamanthysos str. Bath, both in Rethymno. Two of the oldest Ottoman hamams, the Oruç Paşa (Pisiltı) at Didymoteichon (Figure 10) and the Gazi Evrenos Bey at Giannitsa, follow this scheme. The first is characterized by a special constructional system in the disrobing hall, that resembles the dome in the soğukluk (iğlik) of the female section at the Gazi Mihal Hamam in Edirne (Figure 11) (Eyice 1991, 48-49). The semispherical dome is decorated by an impressive rhombic pattern, that is very likely to be playing a structural role. The Gazi Evrenos Bey presents a dome ornamented on the inside with spiral lobes, a feature also found at the İsmail Bey Hamam, İznil, a building of the early 15th century (Kiel 1981, 127-146).

The last group shows a polygonal hot part with niches (alcoves, maksuras), a feature that refers to the octagonal sıcaklık found in Bursa (yıldızvari sıcaklık tip), such as the Eski Kaplıca (1389-1511) and the Yeni Kaplıca (1520-1566). Buildings of this type show morphologic similarities also with the Mahmut Paşa Hamam (1466), the oldest Ottoman bath in Istanbul, and the Sokollu Mehmet Paşa Hamam (1574) at Lüleburgaz. Scheme E applies to the Feridun Ahmet Hamam, Didymoteichon (1571-2) (Eldem 1987, 206 and Cerasi 1989, 89), a double bath partially demolished in 1970s, the Apollonia Hamam, at Lake Volvi (Figure 12) and the Mythimna Bath (Molyvos), Lesvos.

CONCLUSIONS REGARDING THE TYPOLOGY

General remarks that can be made, resting on the comparisons of the main typological groups suggested by scholars such as Kiel, Klinghardt, Glück and Eyice are:

a. Baths in the Greek territory do not form original prototypes, since their architectural characteristics match the rhythmological and structural features found in all the Ottoman Empire. Ottoman architects based their plans on a code of constructional techniques and rules of proportion. Greece at that time, was a province of the Empire and if we recognize this fact, we shall understand the reason of this homogeneity, as the process of a building’s construction there did not differ from the one in the Asiatic region.
b. The ground floor of the buildings was adopted by a certain model. The state architect plainly concerned himself with establishing the main structures of buildings under his supervision, after which they were left in the hands of master craftsmen, occasionally overseen by him. It was traditional materials and building techniques which decided the eventual structure of the building, beyond the architect’s very basic plan. The officially appointed architects that supervised the construction and guided the workers, followed the formal design (Moutsopoulos 1967, 51).

c. Craftsmen bore a common vocabulary, which was used for all aspects of buildings. This is also supported by the following facts that, as builders’ corporations, the esnaf (συντεχνίες) (Goodwin 1971, 22), were moving from one place to the other. They applied their construction techniques, in accordance to the site, regional materials and the financial aid of each donator.

CONSTRUCTION OF GREEK BATHS

Their analysis offers information as far as the construction methods, the materials in use and their morphology are concerned (masonry, domes, architectural elements such as functional and technical equipment, ornamentation). Small private baths are found in houses or monasteries, while the public hamams, single or double, are of middle or larger size and present similar rhythmological and constructional features with the other Ottoman buildings.

MASONRY

Masonry in hamams did not differ one from the other in Ottoman buildings which were built in Greece. Their thickness varies from 0,60 m to 1,20 m., while both surfaces of walls (external - internal) were usually plastered. Turks used local Byzantine construction methods for everyday architecture, but in order to create monumental expression, they returned to stone and continued to embellish their buildings in the Muslim expression. Walls were constructed according to local techniques and consisted of:

a. Alternate brick and stone layers: The geometrically designed brick courses in wall-faces have the function of reinforcing the rubble masonry. This type of masonry is found in the four Thessaloniki hamams, Bey (1444), Pazar (Louloudadika, Kadınlar, Yahudi), Paşa (Phoenix) and Yeni (Aigli), (1575-1600); at Oruç Paşa, Didymoteichon (Figure 13); A’ bath at Stageira; Gazi Evrenos at Giannitsa; Apollonia at Lake Volvi, Langadas; Tuzci Hamam at Veroia (Figure 14).

b. Hard-hewn cut and rubble stone: Examples can be traced at the A’ bath, Ancient Corinth; B’ bath, Methoni castle; the Platykampos Hamam (Figure 15); Hr. Karavangeli str. at Mytilene; Pyli at Kos.

c. Ashlars: Masonry, in which all stones are squared, giving a uniform pattern of vertical and horizontal joints. We can mention Yeni Hamam, Rhodes and Feridun Ahmet Hamam at Didymoteichon.

DOMES – VAULTING

a. Construction of domes-vaults:

Domes (kubbes) were constructed either by bricks or close-fitting ashlar stone (although small stone pieces and rubble were sometimes used, set in mortar) or rough-hewn stone.
a.1. Construction by bricks is found in the Glykidwn Square Hamam, Ioannina; Hüseyin Paşa Hamam at Nafpaktos (Figure 16); Platykampos and Apollonia Hamam at Lake Volvi, Langadas (Figure 17); Tuzci Hamam, Veroia (Figure 14): Pisiona at Vasilika; Seyh İlahi Hamam at Giannitsa; Oruç Paşa in Didymoteichon (Figure 13); Abid Efendi Hamam in Athens; Pazar (Louloudadika, Kadınlar, Yahudi) and Yeni (Aigli), both in Thessaloniki.

a.2. Construction by rough-hewn stone can be traced at Pyli and Kos at Monemvasia; A’ bath at Methoni castle; Lalakia in Syros; Old bath in Chios castle.

b. Form of domes-vaults:

We notice semispherical domes, lowered semispherical domes, barrel vaults (continuous vaults of semicircular section = semicylindrical ones) and in some cases also cloister vaults.
b.1. Semispherical domes are evident in *hamam* buildings, such as in the Larissa Hamam (*Figure 18*) at Kilkis or Glykidwn Square Hamam at Ioannina (*Figure 19*); Zambeliou and Douka str. at Chania; Lalakia Hamam in Syros. The disrobing hall (*soyunmâlî köşk* or *camekân*) was always a domed room, while in a few cases, just like in Hüseyin Paşa Hamam, Nafpaktos, we have indications that it must have had a timber roof.

b. 2. Lowered Semispherical domes are found in baths such as the Tuzci Hamam at Veroia (*Figure 14*); Katre str. Chania; B’ bath, Methoni castle, Platykampos (*Figure 15*).

b. 3. Semispherical domes are sometimes equipped with a lantern (*aydînlîk feneri*), such as the Çarşî Hamam, Mytilene (*Figure 20*) or the Hr. Karavangeli str. Hamam at Mytilene.

b. 4. Domes with a hyperboloidal profile, like in the Old Bath in Chios castle, (disrobing hall).

b. 5. Barrel vaults, usually found in the *ülük*, like in the Abid Efendi Hamam, Athens, or barrel vaults with a lantern, such as in the Çarşî Hamam, Mytilene.

b. 6. Cloister vaults are noticed among others in baths such as Kilkis, Yeni Hamam (Aigli), Thessaloniki; Oruç Paşa Hamam, Didymoteichon.

c. Transitional elements:

The vertical loads of domes were transferred through an externally octagonal drum, to the square-plan space. The corners of the drum that was employed, were filled internally with transitional elements, such as with,

a. Turkish triangles (triangular prismatic elements),

b. squinches (*tromp, ημχώνια*) = (an arch, or corbeling, at the base of a dome or cloister vault used for transition from a round to a square-planned space below), and

c. pendentives (*λοφία*) = (triangular segment of vaulting at the base of a dome used for transition from a round to a square-planned space).

Most of the domes and vaults were decorated in stucco with *mukarnas*, that followed the Seljukid tradition, but unfortunately a few examples have been preserved. They can still be noticed at the Bey Hamam, Thessaloniki (*halvets* in the men’s section), while a similar solution is found at Istanbul Mahmut Paşa and Gedik Paşa Hamams; the Şeyh İlâhi Hamam at Giannitsa, where the dome in the hot section rests on a cantilevered ring, adorned with *mukarnas* just like in the *Mahmut Paşa*
Hamam, İstanbul; the Glykidwn Square Hamam, Ioannina, at the hot part of the bath; in the Feridun Ahmet Hamam, Didymoteichon, where muqarnas are found at the four angles of the disrobing room.

c. 1. Turkish triangles: They are found in hamams such like Oruç Paşa, Didymoteichon, (tiği) of Tuzci, Veroia, (sıcaklık or halvet, women’s section) of Bey Hamam at Thessaloniki (Figure 21).

c. 2. Squinches: It is a very common solution, distinguishable in A’ bath, Methoni castle; Tuzci at Veroia; Hr. Karavangeli str. in Mytilene; Old bath in the Chios castle; Kilkis, Paşa (Phoenix) at Thessaloniki; Yeni at Rhodes, (Figure 22), decorated with plaster stalactite in forms of shells, as well as in Pazar (Kadinlar) at Thessaloniki; Niceforo Foca str., Radamanthysos str. at Rethymno; Çarsi in Mytilene; Feridun Ahmet in Didymoteichon; Glykidwn Square at Ioannina.

c.3. Pendentives: This solution is applied among others to Oruç Paşa, Didymoteichon, (disrobing hall) (Figure 23), Platykampos (Figure 15), Zambeliou and Douka str., Chania; Abid Efendi Hamam in Athens; Paşa (Phoenix), Thessaloniki (two halvet); New bath in Chios castle; Old Bath in the Chios castle; A’ bath in Methoni castle, (in halvet).

d. Coating of Domes:

At first buildings were roofed in tile, as in Byzantine times, but then Ottomans designed special ceramic tiles to fit the curvature of their domes instead of chipping them to size. Once lead became available, it was preferred (kursunlu=leaded) (Önge 1978, 121-136). In Greece most of the still existing hamam tiles are used on top of the vaults, while in a few cases horasan is used (3). This waterproof plaster coating was also required for the inside surfaces of cisterns. Unfortunately the bad situation in which many of these monuments are found doesn’t allow us to come to conclusions about this.

d. 1. Coating with tiles: Bey Hamam, Pazar (Louloudadika, Kadinlar, Yahudi); Paşa (Phoenix) at Thessaloniki; Hüseyin Paşa at Nafpaktos; Tuzci at Veroia (Figure 14); Çarsi in Mytilene (Figure 19); Parakoila at Lesvos; Yeni at Rhodes.

d. 2. Coating by horasan (khorasan): Larissa (Figure 18); Kilkis and B’ Bath in Methoni castle, Monemvasia; Lalakia at Syros; Old Bath at the Chios castle; Zambeliou and Douka str., Chalidwn str. and Katre str. at Chania; Radamanthysos str. and Niceforo Foca str. at Rethymno; Salt Warehouse and ‚Bar‘ Hamam in Kos.

e. Lighting in the hamam:

Lighting was obtained from the top of domes and vaults. Numerous pottery tubes (either cylindrical, conical or pyramidal), specially prepared, were built into the dome overhead to allow daylight into the room below. These tubes were closed by bottle-glass covers with a typical raised profile, in different patterns (fil gözü = elephant’s eyes) (Aslanapa 1971, 113), that were inlaid in the thickness of the dome during construction. They gave the impression of “glass eyes” and it is very likely that they were coloured, imported from Venice (Kiel 1976, 94). These openings often form interesting decorative motifs: placed according to a geometrical design, these light-channels caused a diffused light fall into the room below, in an ever-changing direction (The Encyclopaedia of Islam 1986, Hamam, 141). They are round, square, polygonal (pentagonal, hexagonal, octagonal) or star-shaped and are distributed in concentric circles.
We have tried to establish a certain rule, if it exists, regarding the disposition of these “elephant’s eyes” in the domes: these studies and their results are shown in the diagrams that follow (Figure 27, 28, 29, 30).

e. 1. Round openings: They are noticed in baths such as the Abid Efendi Hamam, Athens; Salt Warehouse, Kos; Zambeliou and Douka str. at Chania; Mythimna (Molyvos) in Lesvos; Platykampos (Figure 15), Oruç Paşa in Didymoteicho (Figure 21); Bey Hamam at Thessaloniki; Makri and Tuzci at Veroia (Figure 20); Pylί at Kos, and Tymnavos.

e. 2. Square-shaped openings: Zambeliou and Douka str., Chania; B’ bath at Methoni castle.

e. 3. Pentagonal shaped openings: Hüseyin Paşa Hamam, Nafpaktos (Figure 16), Nafplio, Monemvasia.

e. 4. Hexagonal shaped openings: Pisiona at Vasilika; Mytilene castle and Çarşı, Mytilene; Apollonia, Lake Volvi (Figure 17); Old bath in the Chios Castle; Zixni, Lalakia Syros, Niceforo str. at Rethymno; Radamanthysos str. at Rethymno; Zambeliou and Douka str. at Chania; Pazar Hamam in Thessaloniki.

e. 5. Octagonal shaped openings: Kilkis hamam.

e. 6. Star-shaped openings: Pazar Hamam (Louloudadika) Thessaloniki; Yeni (Aigli) Thessaloniki; Hüseyin Paşa, Nafpaktos (Figure 16), Çarşı in Mytilene, Pisiona in Vasilika, Platykampos, Radamanthysos str. in Rethymno; Old bath in the Chios Castle; Mythimna (Molyvos) in Lesvos; Yeni in Rhodes. Bottle-glassed covers still exist at Radamanthysos str. in Rethymno (Figure 24) and Mythimna (Molyvos) in Lesvos.

ARCHITECTURAL ELEMENTS

a. Storied suites (Attics):

Disrobing rooms often contained storied suites of changing cabins made of timber, around it in general, usually constructed at a second phase, according to the growing needs for private cubicles in the soyunmalık. We trace signs of their existence in Bey Hamam, Thessaloniki; Abid Efendi Athens (Bath of the Winds), Çarşı in Mytilene.

b. Şadırvan:

It is located at the center of the disrobing room, both in the men’s and women’s section. A fountain (şadırvan) still exists at the Yeni Hamam in Rhodes; Çarşı in Mytilene (Figure 26); Molyvos (Mythimna) at Lesvos. Its place can be traced at Glykidwn Square at Ioannina and Hüseyin Paşa, Nafpaktos.

c. Mihrab niches:

They are usually found in the disrobing hall, just like in Pazar (Louloudadika), Thessaloniki, (men’s section), Glykidwn Square, Ioannina, while in some cases also in the hot part, as in Çarşı at Mytilene (Figure 25), Agios Vasileios in Langadas.

d. Kurnas:

Hot sections in the hamams were equipped with sits (seki), marble basins (kurna), that are still existing in

a. Elliptic shape, i.e. Bey Hamam Thessaloniki, Radamanthysos str. at Rethymno.

b. Rectangular shapes, like in Bey Hamam Thessaloniki; Paşa at Thessaloniki; Tuzci in Veroia; Çarşı of Mytilene; Hr. Karavangeli str. in Mytilene.
e. Göbektaşı:

On the center of the sıcaklık was the göbektaşı, the marble slab, on which bathers used to recline and be massaged. It still exists in:

a. octagonal shape, Yeni in Rhodes (men’s section); Molyvos (Mythimna) at Lesbos.
b. hexagonal, Abid Efendi in Athens, and
c. rectangular shape, Radamanthyos str., Rethymno; Bey Hamam at Thessaloniki; men’s section, Salt Warehouse, Kos; Çarşı in Mytilene (Figure 25).

f. Floors:

Floors were paved, provided with runnels to carry off the water. These elements can still be seen at Paşa and Bey Hamam in Thessaloniki; Yeni in Rhodes.

g. Openings:

External openings: Gateways in the facades of some hamams are ornamented with “stalactite” decoration, as in Bey Hamam, Thessaloniki, (similar to the entrance of Mahmut Paşa Hamam, İstanbul). Monumental portals, such as the ones in Paşa, (Phoenix), Yeni (Aigili), both in Thessaloniki and Çarşı in Mytilene are still existing (Figure 20), while the pointed trefoil arched entrance in Oruç Paşa at Didymoteichon shows an interesting example of travertine stone.

Internal openings are usually arched. We notice cases where a semi-circular arch is used (i.e. Abid Efendi, Athens; Radamanthyos str. and Niceforo Foca str. at Rethymno), while the pointed arch is often applied (Glykidwn Square at Ioannina (Figure 19) and Hüseyin Paşa at Nafpaktos). Arches presenting a mixed curvature are also found, a combination of an ogee and ‘shouldered’ arch (flat in the middle with a quarter circle at each side), like in Yeni at Rhodes and Apollonia Hamam at Lake Volvi (Figure 17). Lintels can sometimes be with gradual heights, such as in Çarşı at Mytilene (Figure 25); Şeyh İlâhi, Giannitsa, (in the entrances of the two halvets); Apollonia at Lake Volvi (entrance to the soğukluk) (Figure 12); B’ Bath in Stageira (from which only the two portals remain, since a new construction has been added to its remains).

TECHNICAL EQUIPMENT

a. Hypocaust:

The furnace (külhan) was built against one wall of the hot room and fire was lit under a cauldron built into the furnace, while the whole of its upper part served as a water reservoir. Smoke from the fire and hot air passed along a duct and circulated under the floor of the hot and tepid room, the hypocaust (cehennemlik). It can still be seen in Hüseyin Paşa at Nafpaktos; Glykidwn Square at Ioannina; Apollonia at Volvi; B’ bath in the Methoni castle; B’ bath at Ancient Corinth.

b. Ceramic tiles:

Vertical ceramic pipes (tütelklik), embedded in the walls, warmed the hamam rooms, since smoke and hot air circumnavigated through them. They can be noticed at Bey Hamam (men’s section) Thessaloniki; B’ bath in the Methoni castle; Lalakia at Syros; B’ bath at Ancient Corinth; Hüseyin Paşa at Nafpaktos.
c. Furnace:
The furnace consisted of an upper water reservoir with a waterproof plaster lining and a fireplace below it, that was continually stoked, in order to maintain the temperature of the cauldron of boiling water (34). The original furnace of many hamams has now disappeared, but those which have remained give us the necessary information, such as Glykidwn Square Hamam at Ioannina; Old Bath in the Chios castle; Apollonia at Lake Volvi Langadas; B’ bath at Methoni castle; B’ bath at Ancient Corinth; Abid Efendi at Athens.

DEcoration

a. Decorative relief motifs:
Plasterwork and stucco elements which decorated the interior of the bath had to withstand excessive moisture and water vapor condensation, so a 2,5-3 cm layer of plaster horasan was applied. Walls are adorned with palmettes in relief (i.e. floral decoration, anthemia), noticeable today in a few monuments, like in the Pazar (Louloudadika, Kadınlar, Yahudi) and Bey Hamam in Thessaloniki, as also in Hüseyin Paşa at Nafpaktos.

b. Paintings:
Painted decoration is found in Bey Hamam at Thessaloniki (in the octagonal shaped disrobing hall of the men’s section), Tuzci Hamam of Veroia, (women’s section), Old Bath (sıcaklık) and the New Bath in the Chios castle.

CONCLUSION

This article has presented that, the Ottoman baths and hamams as buildings now in the Greek territory, were formed with features from Anatolia: they display elements of cultural mix stemming from the former plans of Roman and Byzantine baths, reflecting even the historic rituals, which constitute a multi-cultural character. Hamams, on the other hand, can be regarded as a major Islamic building type, for the Moslem concern for cleanliness and ablution created an entirely new concept that became an institution.

Scholars such as K. Klinghardt, H. Glück, E. Semavi, M. Kiel have offered a classification according to the layout of the ground floor and especially the disposition of the hot section. They have based their conclusions on the study of baths found in certain areas of the Ottoman Empire, such as İstanbul, Konya, and Bursa, although none of them proposed a comparative juxtaposition of their conclusions. In Greece, there are small, medium and big sized Ottoman hamams. Some of them are single, while some others are double, with separate accommodation for men and women. The comparative study of hamams in the Greek territory has led to a grouping into five typological categories depending on plan characteristics:

1. In the first group, the hot room is cross-shaped, forming four eyvan and has four private small cells (halvet) situated in each corner (haçvari dört (4) eyvanlı ve köşe höcreli tip).

2. The second group includes hamams, where the hot part forms an inverted T plan, with three eyvan and two private hot rooms (halvet), situated at the end of the bath against the wall of the water container.
3. In the third group, the sıcaklık still gives the impression of a two eyvan room, but the third one between the two halvet has been omitted and the rooms have been placed directly against each other. The first rectangular room is covered by a dome, which rests partly on the transversal walls, partly on the two arches (ortası kubbeli, enine sıcaklıklı ve çifte halvetli tip).

4. The fourth type, which is quite wide-spread throughout the Greek territory, is characterized by a square-shaped domed hot room, surrounded by small hot rooms (kare bir sıcaklık etrafında sıralanan halvet höcreli tip). Many buildings are grouped under this typological unity.

5. The last group shows a polygonal hot part with niches, a feature that refers to the octagonal sıcaklık, like the ones found in Bursa (yıldızvarı sıcaklıklı tip).

This paper has shown for the first time that hamams constructed in Greece during the Ottoman period vary in size, in quality of construction, in compositional components, as well as in their decorative elements. The existing hamams (sixty buildings) are widespread in the Greek territory, while it is very difficult to specify their exact dates of construction. Hamams in the Greek territory do not form original prototypes, since their architectural characteristics match the morphologic and structural features found in the other hamam buildings throughout the Empire. Ottoman architects based their building activity on a code of constructional techniques and rules of proportion and as Greece was a province of the Empire, the reasons for this homogeneity are quite apparent. The ground floor of the hamams was adopted by a certain model from the underlined typologic categories: it was traditional materials and regional building techniques (as well as the finance of each donator) that decided the eventual structure of the building. Craftsmen, the esnaf, also bore a common vocabulary, which was used for all types of buildings.

Although most of the hamams are half-demolished and only two are still functioning, there is a rising interest for the restoration and preservation of these buildings, which recently has led to several restoration projects.
Figure 27. Disposition of light openings at hamam domes in the Greek territory (1), (sketches: E. Kanetaki).
Figure 28. Disposition of light openings at hamam domes in the Greek territory (2), (sketches: E. Kanetaki).

- The placing of light openings present their actual disposition at the domes.
- The size of the openings is indicative, since diameters in the domes vary.
- The shape of the openings vary too: they are round, rectangular, 5, 6, 8 gonial and star shaped.
Figure 29. Disposition of light openings at hamam domes in the Greek territory (3), (sketches: E. Kanetaki).
Figure 30. Disposition of light openings at hamam vaults in the Greek territory (4), (sketches: E. Kanetaki)
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Hamamların çoğu kısmen tahrip olmuş ve çürütmüş durumdadır. Ancak bir kısmı, son zamanlardaki bazı restorasyon projeleriyle artan ilgiye mazhar olurken, iki tanesi de genel işlevini sürdürmektedir.

Hamam ritüelinin uygulamalarının katı bir şekilde zorunlu olduğu tipik oda düzeni (soyunmalk, iltlik, sıcaklık) pratik olarak, taşra dahil her yerde bir evrim geçirmekizin varlığını sürdürmüştür.

Yunanistan’da ufak, orta ve büyük ölçekli Osmanlı hamamları bulunmaktadır. Bazıları tekli, bazıları erkek ve kadın yerleri ayrı olarak inşa edilmişlerdir.

Yunanistan’da hamamlar üzerinde yapılacak karşılaştırmalı bir araştırmada, belirli bir tasnif sonucu verecektir:

Plan A’da görüleceği üzere, Selanik’teki Bey Hamamı’nın erkekler kısmını, Naufeptos’taki Hüseyin Paşa, İstanköy’deki ‘Barı’ Hamamı, Halidon Caddesi’nde bulunan Hanya Hamamı, Yanya Hamamı gibi her köşede dört eyvan ve dört küçük halvet bulunan haçvari sıcaklık birinci grup, (haçvari dört eyvanlı ve köşe hücreli tip);

Plan B’de görüleceği üzere, Yenice-i Vardar’da bulunan Şeyh İlahi Hamamı, Methoni Kalesi Hamamı, Yanya’da bulunan Douka caddelerinin köşesindeki hamam ve Rodostası Yeni Hamam’ın ilk döneminde uygulandığı gibi, ters T planlı; binanın sonunda ve su deposu duvarında karşılarda üç eyvan ve iki halvetli çekilde sıcaklık ikinci grup;

Selanik’teki bulunan Paşa, Pazar (Yahudi veya Kadınlar Hamami), Bey Hamamı’nın kadınlar kısmını, Serez’e E. Papa Caddesi’nde bulunan Midilli’deki Çarşı Hamamı ve Sakız Kalesi’ndeki Eski ve Yeni hamamlarında bulunduğunu üzere, dışında bırakılmış üçüncü eyvanı.
karşılıklı yerleştirilmiş iki halvetin arasında olduğu halde iki eyvank izlenimi veren dikdörtgen planlı giriş mekani kısmen iki kemere kısmen de enine duvarlara yaşılanmış ve kubbeli olan, sıcaklık üçüncü grup, (orta kubbeli, enine sıcaklık ve çifte halvet tip);

Küçük Külik, Karaferye’deki Tuzcu Hamam, Turnova, Yenişehir (Larissa), Anabolu (Nafplio), Methoni Kalesi, Monemvasia, Íraklias ve Karavangeli caddelerinde bulunan Midilli, eski tuz deposu olan İstanbul, Retimno’daki iki hamam, Dimetoka’da Oruç Paşa (Fisaltı) ve Yenice-i Vardar’da Gazi Evrenos hamamları gibi, Yunanistan’da çok yaygın, küçük halvetlerle çevrelenmiş, merkezi kubbeli, kare planlı sıcaklık dördüncü grup, (kare bir sıcaklık etrafında sıralanan halvet hücreli tip);
