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The Hammams of Cairo: Glorious Past and Endangered Present

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The *Hammams* of Cairo: Glorious Past and Endangered Present

A Thesis Submitted to

The Department of Arab and Islamic Civilizations

In Partial Fulfillment of the Requirements

For the Degree of Master of Arts

By

Salma Kassem

Under the Supervision of **Dr. Bernard O'Kane**

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Dedication

To my beloved parents, for their endless love and support

To my loving husband, for supporting and encouraging me all the way

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Abstract

The "Moroccan *hammam*" or "*hammam maghribi*" is quite famous nowadays amongst the middle and high class of the Cairene society. We have many luxurious spas throughout the city including those within hotels that offer the joyful experience of the Moroccan *hammam*. Unfortunately the culture of the *hammam* and memories linked to it by Cairenes is fading away with time. It is certainly a shame that most of the new generation especially the higher and middle classes of our society think that it is a culture and practice associated primarily with the Moroccans.

As one walks through the streets of Islamic Cairo among its remaining historical monuments, one can imagine how glorious this part of greater Cairo once was. Amongst these monuments is the public bathhouse (*hammam*) which has always been an important structure in any great Muslim city. This was the case to the extent that the importance and prosperity of a city were determined by the number of *hammam*s in its neighborhoods. Travellers and geographers used their number as an index of the relative importance and richness of cities they described as well as their population.[1]

This type of monument has been known and used for a long time before Islam came to this world. The public bathhouse was first introduced by Greeks then used by the Romans and after them the Byzantines. Muslims continued the tradition and adjusted it to their own needs. It became associated with the Muslim traditions for so long mainly – but not only – due to the Islamic religious requirement of cleaning with water for ablutions five times a day prior to prayers and for *ghusl* after sexual intercourse.

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[1] Pauty, *Les Hammams du Caire*, 6.

Although Cairo through the years was described as having numerous glorious *hammam*s, nowadays only a few remain, either left in decay, or recently restored but closed for public. Unfortunately even those remaining are located within neglected poor districts and since the mid-20th century no popular *hammam*s have been built in Cairo.[2]

The purpose of this thesis is to study the tangible and intangible aspects of Cairene *hammam*s and the conservation methods to safeguard them.

This thesis will include a brief study of the origins of the *hammam*, a study of early Islamic *hammam*s, and a detailed study of Cairene *hammam*s in addition to a comparison between them and *hammam*s from other Islamic cities. It will be concluded with a chapter on the current status of Cairene *hammam*s and conservation alternatives to safeguard and revive the *hammam* culture and monuments to their original glory once more.

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[2] El Kerdany, "Hammam Folklore Dynamics in Cairo," 31.

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Chapter 1
HISTORICAL INTRODUCTION

General History of Cairene *Hammam*s

" In a word, when one enters, one wishes never to leave," said the famous traveller 'Abd al-Latif al-Baghdadi about the *hammam*s of Egypt in 1231 CE[3] He admired the architecture of these Cairene monuments and said: "I have never seen better constructed or better positioned, nor more excellent for beauty and wisdom."[4] 'Abd al-Latif is only one among many historians and travellers who described the splendor of Egyptian *hammam*s throughout the years.

Egypt has a long history with public baths, as the country was part of the Greek, Roman, Byzantine, and Islamic Empires. "From the III rd. century B. C. until the Arab conquest of Egypt, public baths existed throughout Egypt, even in the smallest village."[5] When 'Amr Ibn al-'As conquered Egypt in the 7th century CE, he reported back to the Caliph Omar that he had taken a city with "four thousand palaces, four thousand baths, and four thousand theaters."[6] When he arrived in Egypt, the Egyptians were already accustomed to bathing in monumental baths of the Greeks, Romans and Byzantines. Therefore when he built his first *hammam*, it was so small in comparison to earlier baths that they called it a bath fit for a mouse or the "Bath of the Mouse".[7] According to Ibn Duqmaq, this *hammam* was the first *hammam* erected by Muslims in Egypt and it was located in the area around the mosque of 'Amr.[8] It no longer exists.[9] In the 15th century CE al-Maqrizi attributed the first *hammam* built by

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[3] Al-Baghdadi, *The Eastern Key*, 185.
[4] Ibid., 184.
[5] Al- Khashshab, *Ptolemaic and Roman Baths of Kōm El-Ahmar*, 22.
[6] Stephens, *Incidents of Travel in Egypt, Arabia Petræa and the Holy Land*, 19.
[7] Pauty, *Les Hammams du Caire*, 1.
[8] Ibn Duqmaq was an Egyptian historian (1349 - 1407 CE)
[9] Ibid., 2.

Muslims in the city of Cairo to the Fatimid Caliph al-'Aziz Billah Nizar ibn al-Mu'izz,[10] distinguishing between Cairo and Fustat. The Muslims in the Hijaz were not used to building monuments for bathing to compete with the earlier great ones of Egypt. In recognition of their Greek, Roman, and Byzantine backgrounds, Egyptians described the *hammam*s with the adjective *rumiyya* even after centuries of the Arab conquest.[11] Although Muslims were new to this public bathing tradition, they built many public baths and used them so intensively that they continued to play a major role in the Egyptian cities even after the Roman and Byzantine periods. [12]

Throughout the years many historians listed the *hammam*s that existed in Cairo in their times; al-Maqrizi in the 15th century CE named forty-seven *hammam*s counting paired *hammam*s for men and women as separate ones,[13] Evliya Çelebi in mid 17th century made an estimate of fifty-five *hammam*s,[14] surveyors for the *Description de l'Egypte* in the 18th century identified seventy-two *hammam*s,[15] André Raymond based on his research listed seventy-seven at the end of the 18th century,[16] Ali Mubarak Pasha in mid 19th century named fifty-five in Cairo, six in Bulaq and one in old Cairo,[17] and finally Edmond Pauty in the 20th century listed forty-two *hammam*s in Cairo and five in Bulaq.[18]

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[10] Ibid., 2.
[11] Warner, "Taking the Plunge," 50.
[12] *Hammam*s were built in many Egyptians cities, ones existing until today include the *hammam* 'Azuz in Rashid, a *hammam* in Qena, the *hammam*s al-Dhahab, Ibrahim al-Shaykh, Ali al-Masri, and Hasan 'Abd-Allah in Alexandria and others.
[13] Raymond, "Les Bains Publics au Caire," 16.
[14] Ibid., 15.
[15] Ibid., 16.
[16] Ibid., 16.
[17] Ibid., 16.
[18] Ibid., 16.

Origin of the bathhouse tradition

Throughout the years many people have praised Islamic bathhouses and described their delightful experiences within them. *Hammam*s were found in great numbers in all major Islamic cities.

Based on historical and archeological sources, the earliest people who built and used such monuments were the Greeks. Afterwards came the Romans who used the bathhouses extensively succeeded by the Byzantines. Fortunately Egypt has been part of these three empires: the Roman, Greek, and Byzantine, consequently Egyptians were accustomed to the public bathhouse culture that became their own. Nonetheless it would be illogical not to wonder if public baths ever existed in Pharaonic Egypt. According to 'Abd al-Muhsin al-Khashshab, we don't have evidence of their existence during this period.[19] However, private baths did exist since they were considered to the ancient Egyptians a way of cleanliness and purification.[20] Al-Khashshab explained that the hot climate of Egypt with its dust and sand made the purification required of Kings, priest and priestesses prior to praying in the temples.[21] These simple small baths existed in almost every temple, but they lacked the tanks, and any sequence for heating water that those of the Greco-Roman period featured.[22]

There were two types of bathing institutions in Ancient Greece; mainly baths attached to gymnasiums (fig. 1) that were not intended for public use since their usage was strictly reserved to athletes, and the *balaneia*, a stand alone building used for communal bathing. These gymnasiums were first intended for physical activities

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[19] Al-Khashshab, *Ptolemaic and Roman Baths of Kōm El-Ahmar*, 1.
[20] Ibid., 2.
[21] Ibid., 3.
[22] Ibid., 2.

but through the course of the Hellenistic period they acquired intellectual activities as well. A Greek gymnasium generally consisted of a *palaestra*[23] (fig. 2) surrounded by different rooms including a changing room (*apodyterium*), cold water washing room (*loutrons*) for athletes' hygiene, a sweat chamber (*laconicum*), a room for wrestling and boxing, a library, lecture halls, and sometimes a simply heated room (*aleipterion*) for warm oil massage. Not all of the above-mentioned rooms around the *palaestra* had to be present in every gymnasium except for the changing room and the *loutron.* Early *loutrons* (fig. 3) were located in the open-air, which later on acquired one of the corner rooms surrounding the *palaestra*. These cold-water washing rooms were furnished with elevated basins or showers.[24] Moreover sometimes a swimming pool (*kolymbethia*) was located in the vicinity of the *loutron* on account of the water supply but normally not in the *palaestra* itself.[25]

By the mid 4th century BCE, the intellectual and educational function in the gymnasiums increased radically making these institutions more dedicated to mental education than athletic activities as they were intended in the beginning. Yegül noted that due to this change and especially after the renovation of gymnasiums, people could call the same building *balaneia* or gymnasium. He suggests that this synthesis occurred due to the decline of the athletic use of gymnasiums and the increasing appreciation of hot baths.[26]

The second type of bathing establishment; the *balaneia*, was a stand-alone monument found in urban centers. This kind of bath was developed in the 5th century BCE or perhaps a bit earlier, before that Greeks had to use public basins and

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[23] The *palaestra* is a major component of the gymnasium, which was basically a sports ground consisting of a rectangular court bordered by colonnades with attached rooms for various purposes.
[24] Yegül, *Baths and Bathing in Classical Antiquity*, 17.
[25] Nielsen, *Thermae et Balnea*, 11.
[26] Yegül, *Baths and Bathing in Classical Antiquity*, 23.

fountains.[27] They also bathed in rivers and the sea.[28] The *balaneion* were never so widespread as the gymnasium in Hellenistic times since they never had the public status of the former and were looked upon suspiciously in the early phase (5^{th}-4^{th} centuries BCE)[29] They were considered places of immoral acts and were not publicly approved of. It was not until late classical and Hellenistic times that these public baths become truly accepted and many were built in large towns.

These simple baths were small and heated with no defined order of use or temperature in their different rooms. However some of these buildings could have a simple hypocaust system as in the Greek baths of Gortys, or more likely could be heated by steam produced by hot water or braziers.[30] This type of bath was characterized by one or several circular rooms (*tholos*) grouped together. Some of these rooms include an arrangement of individual hipbaths inside them as seen in Greek sites such as Piraeus (fig. 4) and Gortys (figs. 5-6). These hipbaths were "partially carved into the soft rock and roofed over by a relatively small amount of upper construction and conical domes,"[31] and were mainly reserved for hot bathing. Moreover another type of bathing in the *balaneia* was using an "immersion tub", which was less common except in Egypt.[32] Furthermore, some *balaneion* had a sweat chamber heated from below by a simple hypocaust like the case in Gortys.[33] The plan of the *balaneia* was usually a random one with no fixed bathing routine, and it was the *tholos* that mostly characterized its architecture.[34] Although the gymnasium included only a cold-water bath and the *balaneia* was a hot-water bathhouse, these

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[27] Nielsen, *Thermae et Balnea*, 6.
[28] Al-Khashshab, *Ptolemaic and Roman Baths of Kōm El-Ahmar*, 5.
[29] Nielsen, *Thermae et Balnea*, 7.
[30] Yegül, *Baths and Bathing in Classical Antiquity*, 24.
[31] Ibid,. 25.
[32] Nielsen, *Thermae et Balnea*, 8. This immersion tub feature continued in Egypt even in the Islamic period when most Islamic cities don't have it.
[33] Ibid., 8.
[34] Ibid., 9.

two types of bathing structures indicate the first known communal bathing in the classical world that lead to a more developed tradition with the Roman baths.

The ancient Romans' fascination with Ancient Greek bathing traditions led to the huge bathhouse development of their time. There were two types of bathing monuments for public use in ancient Rome: the "*balnea*" and "*thermae*". One can see that Romans modeled their *balnea* on the Greek *balaneia* and their *thermae* on the Greek gymnasium. However the Romans introduced a very important element that changed the whole bathing experience, that of "the developed hypocaust system".[35] This system allowed the maintenance of graduated temperatures in bathing rooms, which led to the development of a bathing sequence with rooms of varying temperatures: the *frigidarium* or cold room, *tepidarium* or warm room, and *calidarium* or hot room. The system mainly consisted of a hollow floor (*suspensura*), hollow walls (*tabulation*), and a hollow vault, which were all heated by means of a furnace (fig. 7).[36] The principle was that the heat of the fire in the furnace would travel along the hollow floor then up the walls and vaults until it got out of the chimney.

The *balnea* was basically a small (relative to size of the *thermae*) privately owned bathhouse while the *thermae* was a rather large bathhouse-complex containing at the least a sports area. The Romans were the first to build bathing facilities on this magnificence scale; their *thermae*s included many facilities including art galleries, and libraries. Moreover one of the developments of the Romans was their *thermae*s, where they combined the sports area of the Greek gymnasium with a hot bathing

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[35] This system was borrowed and used in most *hammam*s of the Islamic cities except Cairo especially after the Tulunids.
[36] Ibid., 10.

section. This combination did not exist earlier since the gymnasium only had a cold water-bathing chamber.

A Roman bath – the *balnea* or the *thermae*'s bathing section – typically included a room for changing clothes (the *apodyterium*) or several ones including a heated one for winter in the case of larger baths.[37] From this room one could pass to the *tepidarium* where one could wash oneself and enjoy a pleasant temperature, then pass to the *calidarium* where there was at least one large public hot water plunging pool (*alveus*) and sometimes an elevated basin for cold water (*labrum*). Following a stopover in this moist room, one went again to the *tepidarium*, and onward to the *frigidarium* with one or more public cold water plunging pools (*picinae*) and a swimming pool (*natatio*).[38] "The principle of the Roman baths thus rests on graduated temperature and gradual transitions: cold, warm, hot, warm, and cold."[39]

Moreover amongst the different rooms of the Roman bath, there would be a sweating chamber (*laconicum* or *sudatorium*);[40] a room for warm oil massages (*unctorium*), and sometimes a room with a heated swimming pool (*calida piscine*). One can see the size and different rooms of the Roman bath in the example of the Roman baths of Caracalla (fig. 8).

Although bathing in these public bathhouses became part of the Roman culture and daily routine, the bathhouse culture flourished in the Roman Empire until it was divided into west and east. The Roman Empire merged into another empire, that of the Byzantines. During the early period of this new empire that lasted roughly until the middle of the 7th century of this empire, its capital Constantine was said to

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[37] Ibid., 34.
[38] These *natationes* were normally found only in the *thermae*. Nielsen, *Thermae et Balnea*, 3.
[39] Ibid., 3.
[40] The sweat chamber was called "*laconicum*" if it was heated with hot stones or open fire, and "*sudatorium*" if heated by a hypocaust. These rooms were attached to the *tepidarium* or lay between the *calidarium* and *tepidarium*. Ibid.

have the biggest number of public baths in the region.[41] The bathing culture prevailed in Constantinople more than other parts of the empire. Eight *thermae* and 153 small baths were recorded by the early 5th century Census *Notitia Urbis Constantinopolitanae.*[42]

Nonetheless after the fourth century, the exercises linked to bathing were discarded and none of the newly established baths joined a bath with a *palaestra* or a gymnasium.[43] Byzantine bathhouses were large highly decorated monuments on the same scale of those of ancient Rome. Unfortunately during the middle age of the empire, the bathing culture and bathhouses declined tremendously due to three main reasons: diminishing population, economic reasons that made it too expensive to maintain these large baths, and the early church discouragement of bathing as non-Christian conduct.[44]

At the same time as the bathing culture was diminishing in this part of the world, it was booming in another. With the rise of Islam and its conquests, this bathing culture not only survived but developed and became stronger than ever. The bathhouses of the Islamic countries, called *hammam*s, became part of the Muslim traditions in many different countries. It became linked with their daily life, their festivities and much more.

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[41] Yegül, *Baths and Bathing in Classical Antiquity*, 323.
[42] Ibid., 324.
[43] Ibid., 313.
[44] Ibid., 315. Since the beginning of *hammam*s, Islamic scholars and *shaykh*s also opposed bathing in these hot bathhouses to the extent that some forbade them. For example Al Minawi in his book Kitab al-Nuzha recommended that a bather pay to have the bathhouse emptied for just himself or at least do a great effort to visit it only at times when it is likely to be empty. Moreover in the last decade they've been considered immoral places.

Early Islamic Baths of the Umayyads and the Influence of the Late Antique Style

Among the earliest *hammam*s known to us are those of the Umayyads like Qusayr 'Amra and al-Sarakh in Jordan, Jabal Says in Syria, and Khirbat al-Mafjar in Palestine. Most architectural historians agree that these *hammam*s were developed from the Roman and Byzantine bathhouses and they were even decorated with frescoes in late Antique style. The plans of these *hammam*s are slightly different from the Byzantine ones in the Levant region but still have some of their components if not all although they are separated by three or four centuries.[45]

In order to effectively demonstrate that the Umayyad bathing traditions are developed from those of their Roman-Byzantine predecessors, one can examine the Roman bath at Serjilla (fig. 9) in northern Syria where both bathing traditions existed.[46] A wealthy Christian citizen built this bath in 473 CE. A rectangular hall with an interior balcony occupies a large space of almost half the total area of the building or more (fig.10). Yegül explains that this space was probably used as a social hall attached to an ensemble of small heated bathing rooms, and that close to it there was a building recognized as an inn. A paved open courtyard separated these two buildings. A development of the late antique and Byzantine era found in Syria is the replacement of the functions of the *palaestra* by a paved courtyard like the one in Serjilla. "These baths were probably serving the town's modest population as well as itinerant travelers and merchants who were using the baths upon arrival at the city after their long and dusty journey and were also staying at the annexed inn."[47] Hence

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[45] Yegül, "Bathing Culture of Anatolia," 26.
[46] Ibid., 24.
[47] Ibid., 26.

one can see that the early *hammam*s of the Muslims and their tradition developed from these smaller baths and not the large *thermae*.

Before discussing the Umayyad *hammam*s, one should introduce their patrons. After the death of Ali, Mu'awiya who had been the governor of Syria became the first Umayyad Caliph. The Umayyads ruled from Damascus in Syria. Almost every existing Umayyad monument is in Greater Syria, which includes modern-day Syria, Lebanon, Palestine (including Israeli-occupied land), and Jordan. Since the Arabs did not have many architectural traditions, they mostly embraced those of the Byzantine Empire. Although they expanded their empire to include many great cities, most of the knowledge we have of Umayyad secular architecture comes from their palaces outside the urban cities.[48] These palaces were earlier widely described as "Umayyad Desert Palaces" as they were earlier thought to be built in the desert by the Umayyad Caliphs who had a nomadic taste.

Most of these palaces were in fact built among extensive irrigated land.[49] These agriculture settlements, including hydraulic works in the Levant, were developed in the Roman and early Byzantine period.[50] "Often, the Muslims took over the rich agriculture estates thus created and continued to work them; in others they built palaces at sites which could be serviced by already existing hydraulic installations."[51] Ettinghausen noted that these palaces had different functions in a new environment. Qasr al-Hayr al-Sharqi had one of the earliest caravanserais known in Islam, a walled enclosure for animals and agriculture, and a bath, a mosque, large

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[48] Ettinghausen and Grabar, *Art and Architecture of Islam*, 45.
[49] Hillenbrand, "La Dolce Vita in Early Islamic Syria," 3.
[50] Ibid.,3.
[51] Ibid., 3-4.

living units and an olive press.[52] Although Umayyad palaces might have different functions, Hillenbrand explained:

> The Umayyad desert palaces tend to conform to a single type. Their central feature was an enclosure roughly 70m. per side— a common Umayyad unit, based on a multiple of the Roman foot — fortified by bastions set at intervals and with a projecting entrance gateway in the centre of one side. This led into a long hall which opened into a courtyard surrounded by arcades on two tiers. Behind these lay a warren of small, pokey, ill-lit rooms. In many palaces which had two storeys, the ground floor probably served for the ruler's retinue and the upper apartments principally for himself and his family.[53]

These palaces often included a *hammam*, a mosque, and a number of *bayts*[54] for the ruler's family. Unfortunately, after the fall of the Umayyad Empire these grandiose palaces were abandoned and left to decay, and were also damaged by an earthquake in 749 CE.

*Hammam*s in the Umayyad Empire were not only found in the desert palaces but they were prevalent in cities in greater Syria.[55] Unfortunately the only *hammam*s that survived from this period are those existing in the desert as part of the desert palaces. "It may be argued that the inclusion of the *hammam* in the architectural repertoire of these later Islamic traditions owes much to the Umayyad adoption of the bath from preceding traditions."[56] No one can deny that the Umayyads were the first Muslims to built *hammam*s on this grand scale and to spread this architectural type in their vast empire but one should realize that this does not mean they were the first Muslims to build a *hammam*. Although the Umayyad *hammam*s are the earliest

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[52] Ettinghausen and Grabar, *The Art and Architecture of Islam 650-1250*, 46.
[53] Hillenbrand, "La Dolce Vita in Early Islamic Syria," 2.
[54] Each *bayt* included a group of rooms and was home to a family.
[55] Thome, "Between Balneum and Hammam," 66.
[56] Ibid., 66.

existing ones, we know from historical and archeological sources that, for example, 'Amr ibn al-'As built a small *hammam* when he conquered Egypt in 641 CE.[57]

The plans of the existing Umayyad *hammam*s are very much like the plans of Byzantine bathhouses like that we discussed earlier at Serjilla; however the main difference is the prevailing large size of their reception halls. Oleg Grabar linked these halls and their usage with the concept of *majlis al-lahwah* (pleasurable gathering of friends) mentioned by Abu Faraj al-Isfahani in his book *Kitab al-aghani*.[58] Linking this concept to this hall meant that the main activities that took place in it were "drinking, singing, listening to poetry, recitals, watching dancers, and listening to musicians."[59] Moreover the decoration of these audience halls with paintings depicting musicians, men and women dancing (fig. 11) is in favor of this link.

The *hammam*s of this period were very similar; differences appear in the size of the *hammam* and the amount of decoration in it. An example of a small one is that of Qusayr 'Amra (fig. 12) located close to Wadi Butun east of Amman and of a larger one that of Khirbat al-Mafjar (fig. 13) located near Jericho in Palestine. Both of these *hammam*s were part of a larger establishment.[60] Although there is no "precise evidence as to the patron or the date" in most Umayyad palaces, these *hammam*s were frequently attributed to the al-Walid II (as Caliph or apparent heir) who reigned from 743 to 744.[61]

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[57] This extinct *hammam* is the one called "Bath of the Mouse" referring to its small size. There is no recorded information on what it looked like.
[58] The concept of "*majlis al-lahwah*" is mentioned in the poems from "*Kitab al-Aghani*" some of which are considered to be from the Umayyad period depicting the ceremonies and entertainment of the elite. This *Book of Songs* is a poetry collection dating from the pre-Islamic period to the end of the ninth century.
[59] Grabar, *The formation of Islamic Art*, 1987.
[60] These palaces belonged to the elite of the Umayyad Dynasty: they were mainly built as residences, hunting lodges, and agriculture complexes. http://whc.unesco.org/en/list/327.
[61] Hillenbrand, "La Dolce Vita in Early Islamic Syria," 1-2.

Qusayr ʿAmra is a small bath complex consisting of a large audience hall, and a three room bath (fig. 14). The audience hall is rectangular and divided by two transverse arches into three bays of nearly equal size, which support three tunnel vaults. The three rooms of the bath are equivalent to a tunnel-vaulted *frigidarium*, a cross-vaulted *tepidarium*, and a domed *calidarium* respectively. This sequence of vaulting is like the examples of the pre-Islamic *balnea* of the 6th century.[62] The bath also included a hypocaust system (fig. 15), a furnace, a water tank, a water wheel, a stone well, and a cistern. It seems that this plan was common in Umayyad *hammam* architecture. *Hammam* al-Sarakh in Jordan (fig. 16) is another example of the same plan type.

Khirbat al-Mafjar was part of a palace complex that also included a mosque, an internal courtyard, a *hammam* with its own courtyard (figs. 17, 18, and 19), and a great forecourt with a square pool. Creswell described this *hammam* as "the largest and finest *hammam* so far discovered in Islam."[63] The bathhouse had two entrances, a private one from the palace, and the main entrance from the great forecourt. The main portal and entrance porch led to an enormous audience hall with a pool near its south wall. Scholars disagree on the function of this hall; some described it as a *frigidarium*, while others described it as a combination of *frigidarium* and *apodyterium*. Some also believe that it occasionally served as a banqueting hall[64] or audience hall.[65] Yegül believes that the best description for this hall is "a place of entertainment, whose use was primarily, though not exclusively, connected with the bath."[66] From this hall one could access a private room (the *diwan*) for the owner of the palace, and a rectangular cold room. From this cold room one could access either

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[62] Thome, "Between Balneum and Hammam," 71.
[63] Creswell, *A short account of early Muslim architecture*, 186.
[64] Yegül, *Baths and Bathing in Classical Antiquity*, 347.
[65] Hillenbrand, "La Dolce Vita in Early Islamic Syria," 5.
[66] Ibid.

another cold room or the hot room by passing through the warm room. At the corner opposite the lavishly decorated hall, a latrine is also accessible from the great audience hall.

Accordingly larger Umayyad *hammam*s such as Khirbat al Mafjar, and Qasr al-Hayr al-Sharqi follow the same arrangement as the smaller ones mentioned earlier,[67] that of a succession of rooms leading from the main room to the hottest room adjacent to the furnace but with the addition of extra rooms.

The Umayyads borrowed the architecture of their *hammam*s from the Romans and Byzantines and continued the local tradition. They gave great importance to the first room, which played a major role in the architecture of the Islamic *hammam* for centuries. This room, which was used as the audience or reception hall in the desert palace *hammam*s, was used in later *hammam*s for many years as the summer undressing room where all the main social activities took place.

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[67] *Hammam* al-Sarakh, 'Anjar, and Qusayr 'Amra.

Chapter 2
*HAMMAM*S OF CAIRO

The Bathing Culture of Egyptians

*Hammam*s flourished in Muslim cities including Cairo for many centuries. The fast spread of this type of monument happened due to several reasons. These reasons made the public *hammam* intertwine with the traditions of people living in these cities.

Muslims found the *hammam* to be extremely useful in practicing their faith, but they also found its use tremendously enjoyable. Islam mandates its followers to pray five times a day, and that prior to these prayers they should perform ablutions. Moreover all Muslims should perform specific ablutions called *ghusl* after sexual intercourse to purify themselves (*janaba*).[68] This kind of ablution requires washing the entire body and it is also performed on dead people prior to their burial, and by Muslim women after the completion of the menstrual cycle and after giving birth.

The *hammam* was used on a daily basis; the busiest day of the week was Friday. Muslims would go to the *hammam* prior to Friday prayers, and Jews would go in the evening since they were forbidden to enjoy the pleasures of the *hammam* on their Sabbath, the next day.[69] The *hammam* was linked with the daily life of Egyptians of different religions as well as with many festivities and occasions in their society. All converts to Islam would be required to go there after their conversion. Jewish women would go to the *hammam* on the day of the new moon, which was considered a holiday for them.[70] Pregnant women would go there twice, once to

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[68] Warner, "Taking the Plunge," 50.
[69] Ibid., 54.
[70] Ibid., 59.

guarantee an easier delivery and another forty days after giving birth to purify themselves. *Hammam*s were described as 'the silent doctor that cures all ailments', hence as soon as one felt sick, one would go to the *hammam* for '*ghusl al-Sihha*' or the 'washing of health'.[71] Moreover, the circumcision of boys was celebrated and as part of the celebration, the barber would take the boy to the *hammam* in a parade a week after the operation (fig. 20). These parades would typically join with bridal processions (figs. 21-22), to reduce the parade expenses if possible; the boy and his attendants would lead the procession.[72]

The greatest celebration linked to the *hammam* was the marriage celebration. The bride would visit the *hammam* on several occasions. The bathhouse itself may have been contributory in her marriage, as it was a place where mothers and matchmakers could look for potential beautiful brides. The first visit would be a week before the wedding for the "bath of cleanliness" with her female family and friends, in order to depilate, perfume and coif the bride. Subsequently, the bride would go to the *hammam* in a procession called *zaffit al-hammam* two days before the wedding. She "goes to the *hammam*, decked out in her finery with her head adorned by a crown, under an umbrella preceded by musicians, country dancers and *'almas*. In the evening she is brought back to her father's house escorted by the same procession."[73] The groom would also go there on a ceremonial trip to enjoy the day with his male family and friends.

Thereafter one could see from the study of Egyptian culture and practices and also the existence of *hammam*s for so long in Cairo since the conquest of 'Amr, that the *hammam* was very important for the Egyptians. It is also worth mentioning that

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[71] Warner, "Taking the Plunge," 56.
[72] Lane, *Manners and Customs*, 58.
[73] Lane, *Manners and Customs*, 342.

the bathing culture in Egypt was extremely similar to the bathing culture in most countries conquered and ruled by Muslims.[74]

Cairene *Hammam* Architecture

Urban Context

The *hammam*s, like other types of Islamic monuments in Cairo such as mosques and madrasas, are embedded into the urban fabric of Historic Cairo and occupy irregular areas of land (figs. 23-26).[75] They are generally difficult to date since new *hammam*s were built on the location of old ones to take advantage of their already existing sophisticated infrastructure.[76] The *hammam* structure rarely protruded on the main street and usually other buildings such as shops hid its façade except for its simple discreet entrance. At roof level, *hammam*s were more apparent through their pierced domes and vaults filled with glass insets (fig 27), which were characteristic of them and were not found in any other type of monument.

The location of *hammam*s within the urban fabric of the city was bound by their proximity to the urban water distribution system, to major transportation streets and their accessibility from the city's different neighborhoods.[77] For example Nelly Hanna describes the location of the *hammam*s in the district of Bulaq in Cairo as follows: "The location of the public baths was similar in pattern to that of the *sabils* (water fountains). A major criterion for their pattern of location was accessibility to

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[74] Countries including Palestine, Syria, Jordan, Lebanon, Israel, Iraq, Morocco, Tunisia, Algeria, Spain, Turkey, Iran, Pakistan and India.
[75] Examples of historic Islamic monuments occupying irregular plots of land include the mosque of Qijmas al-Ishaqi, the mausoleum and *madrasa* of al-Salih Najm al-Din Ayyub, and the *sabil-kuttab* of Tusun Basha.
[76] Behrens-Abouseif, Islamic Architecture in Cairo, 42.
[77] Fadli and Sibley, "The Historic Hammams of Cairo," 62.

the inhabitants from all sections of town. That was why the *hammam*s were situated along the main roads in such a way that a bath could be reached within a short walking distance from any part of Bulaq."[78]

The majority of *hammam*s were built in the proximity of mosques, *madrasa*s, *khanqa*s, *bimaristan*s and caravanserais. For example *hammam* Sa'id al-Su'ada or al-Gamaliya was built next to Sa'id al-Su'ada *Khanqah*, *hammam* Darb al-Husr or Kushqadam al-Ahmadi was built adjacent to the mosque of Kushqadam al-Ahmadi, and more examples are highlighted in the attached maps (figs. 28). Based on earlier maps[79] of *hammam*s in Cairo (fig. 29-31), one can see that Cairene bathhouses were spread around the historic city of Cairo. Many were found around the *Qasaba*, the major commercial road, also known as al-Mu'izz street that runs from Bab al-Futuh to Bab Zuwayla, and around the citadel. They also existed around major *suq*s or markets such as *Suq* al-Silah, and near the mosque of Ibn Tulun. They were strongly present in rich districts of high density while absent in the suburbs of Cairo of modest population and means.

With the advent of internal plumbing the number of *hammam*s declined sharply. The remaining ones are in neglected poor areas and no new *hammam*s have been built in a very long time.[80]

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[78] Hanna, *An Urban History of Būlaq in the Mamluk and Ottoman Periods*, 76.
[79] Earlier maps by al-Maqrizi, Pauty and Raymond.
[80] Based on Pauty, we only know of one new *hammam*, *Hammam al-Hindi,* built in the 20th century (now demolished). Pauty, *Les Hammams du Caire*, 3.

Architectural Characteristics

In Cairo there existed two kinds of public *hammam*: the single and the twin. The twin *hammam*s are basically formed of two identical single *hammam*s adjoined with a common furnace to save fuel. These were considered as two different buildings with no access from one *hammam* to the other. One was intended for women and the other for men. On the other hand, single *hammam*s operated in shifts. Men usually went to the *hammam* in the mornings while women used it in the afternoons; a piece of cloth was hung on the door to differentiate the two shifts. Of course the workers would also change from male attendants to female attendants at the same time. There is only one entirely surviving twin *hammam* in Cairo today, that of al-Malatili (fig. 32), although this type was formerly frequent.[81] Other former twin *hammam*s still exist but they were remodeled and reduced in size losing part of their original structure. [82]

A typical *hammam* in Cairo would have a hidden façade – usually behind shops – with a modestly decorated portal on the street (figs. 33-35). Since their interior lacked windows, it made sense to combine their façade with space for shops. Most of the remaining Cairene *hammam*s had modestly decorated portals except for the *hammam* of Bashtak dated 1341 CE, which is highly decorated in *ablaq* style with inlaid marble and a fluted keel-arched niche similar in shape to those over the windows of Shaykh Zayn al-Din Yusuf's *zawiyya* (fig. 36). Moreover some of the decoration on portals included calligraphy such as the *hammam*s of Qalawun, Inal, and Bashtak.

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[81] Warner, "Taking the Plunge," 51.
[82] Examples of twin *hammam*s known to us include *hammam* al-Sukkariyya (12th century, remodeled in the 18th century), al-Malatyli, and Shaykhu (circa 1355).

In order to get inside, one had to pass through a bent entrance or *dihliz* that obstructed the view of the inside from passersby. This entrance led to the first room of the *hammam* (the *maslakh*) or the old *apodyterium* where people got undressed and relaxed before or after the bath (fig. 37). This room was where most activities took place: people relaxed after the bath and socialized with others while drinking and eating and sometimes listening to music. The design of this room was very much similar to the design of residential reception halls.[83] It was usually rectangular in shape with a cold water fountain or *fasqiyya* in its center, and surrounded by two to four raised *iwan*s or *mastaba*s (fig. 38). The *iwan*s were either furnished with mats or mattresses and cushions. The middle and high-class people got the mattresses and cushions while the low-class people got only the mats to sit and lay on. Underneath the raised *iwan*s there were niches to put away shoes and slippers (fig. 39). There were also "special cabinets for persons of distinction so that they do not mix with common persons, and do not appear naked in public".[84] The newly restored *hammam* Inal has cabinets similar to the description of 'Abd al-Latif but it is not certain that they existed earlier in the original layout (fig. 40). The *maslakh* floor was usually paved with marble mosaics in intricate geometrical forms (fig. 41), and near the entrance of this room there was a vestibule for the manager or *mu'allim* of the *hammam* who took the valuables and belongings of clients to safeguard while they were in the bath. The *maslakh* was covered by a flat roof with a wooden sky lantern or *shukhshaikha*. Sometimes the fountain in the middle was surrounded by columns, which supported the lantern in the ceiling (fig. 42).[85] Towels were dried on the roof and hung up on the beams inside the *maslakh* for usage (fig. 43). Although this

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[83] Behrens-Abouseif, *Islamic Architecture in Cairo*, 43.
[84] Zand and Videan, *The Eastern Key*, 183.
[85] Al- Khashshāb, *Ptolemaic and Roman Baths of Kōm El-Ahmar*, 26.

ceiling system was specific to *hammam*s of Egypt and was not found in other countries, the *maslakh* of *hammam* al-Mu'ayyad (dated 1420 CE) was covered with a large dome supported on elaborate stalactites (fig. 44).

After a client changed into the towels and *mahzam* (a piece of cloth concealing his body down to his knees) an assistant called "*lawingī*"[86] was assigned to help him. He was then ready to enjoy the bathing experience. From the *maslakh*, one took a corridor to the latrines in order to reach the second room (*bayt awwal* or *bab awwal*) or the winter undressing room also known as the warm room.[87] This room was the old *tepidarium* of warm temperature which usually had two *iwan*s and was covered by a vault (figs. 45) or dome pierced by glass insets of different shapes and colors, called in Cairo *qamariyyat* (fig. 46).[88] Sometimes it was also covered by several domes as in *hammam* al-'Adawi (fig. 47). This room was used as the undressing room in cold weather and it was also furnished with mats and mattresses as in the *maslakh* for clients to relax and socialize. Lane stated that once the bather was ready and prepared for bathing, a *lawingi* would then open the door of the *harrara* to him.[89] This would indicate that there would have been a door between the *bayt-awwal* and the *bayt al-harrara*, described next.

The following room including its smaller branching-off rooms was the area where the bathing activities took place. This room was the *bayt al-harrara* or the old heated *calidarium*. It usually had a cruciform plan with an octagonal *sahn* or central

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[86] The word "*lawingi*" was originally "*liwangi*", which means the attendant of the *liwan*. On the other hand, the "*Ballana*" is the assistant for women.
[87] Lane states that it was called "*bayt awwal*" meaning first chamber, as it was the first of the warm rooms.
[88] This type of pierced dome is specific to Islamic *hammam*s. Before that Romans and Byzantines lit their bathhouses using a dome with windows through its drum and a central lantern at its top. Although the *bayt al-awwal* was covered by a dome or vault in Cairo, the dome was more dominant.
[89] Lane, *Manners and Customs*, 338.

area surrounded by three to four *iwan*s. Less commonly, the *sahn* was rectangular or square like the case in the *hammam*s of al-'Adawi and al-Mu'ayyad Shaykh (figs. 47-48). Although a couple of scholars claimed that the shape of the *sahn* was originally octagonal in the Fatimid and Ayyubid periods, then transformed into a square during the Ottoman period,[90] I find this hard to acknowledge without more evidence as even the Ottoman *hammam* of Sinan has an octagonal *sahn* (fig. 49) and not a rectangular one like almost all the *hammam*s of Cairo. In the center of the *sahn* there would always be a raised octagonal platform with a hot water fountain in its center (fig. 50). This platform would be covered with marble, on which massages and exfoliation were carried out by the *mikayisati*. This central area was roofed by a large dome with glass insets similar to that of the *bayt awwal* but on a larger scale. Moreover, from the center of the *bayt al-harrara* one could access a number of rooms that surrounded it: the *bayt-awwal*, the *khilwa*s (fig. 51) and the *maghtas* (fig. 52) or the old *laconicum*. There were usually two to three *khilwa*s and two *maghtas* in each *hammam*. The *khilwa* was a more private space with two marble basins with taps or *hanafiyya*s – one for cold water and the other for hot – where a client would soap and wash himself out of people's sight. The *maghtas*[91] was usually a few steps higher than the *calidarium* and contained one or two plunge tanks of hot water. The tanks would contain water of different temperatures ranging from warm to extremely hot.[92] The tanks with warm water were used for complete immersion. The *maghtas* was usually framed within four columns and topped with a cupola (figs. 53-54). "Some rooms of the *maghtas* have a cupola, others have elegant architecture with voulette, columns,

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[90] Fadli and Sibley, "The Historic Hammams of Cairo," 67.
[91] S.M. Mohamed argued in his unpublished thesis that the *maghtas* appeared in the Mamluk period.
[92] Zand and Videan, *The Eastern Key*, 183.

and the floor is always decorated with a mosaic of marble".[93] The different rooms of the *harrara* such as the *iwan*s around the central area, the *khilwa*s, and the *maghtas* were usually topped again by domes with glass insets. These, along with the dome over the *harrara's sahn* and the sky lantern of the *maslakh* made the *hammam*'s skyline more distinguishable (fig. 27). It was said that marble was used for the flooring as it reflects the steam and gives pleasure to the observer.[94]

The last area of the *hammam* consisted of a three-storey structure (*al-dabkuniyya*, *mustawqid* or furnace), which was located behind the wall of the *maslakh* with no access from inside the bath.[95] This structure provided the bath with hot water and it consisted of a *bayt al-nar* or boiler room, usually with three water boilers, and an area for the collection of ashes.

Design Elements

There are major requirements in the design of a *hammam*. The design should ensure a high level of thermal mass to keep the heat within the building as long as possible and decrease fuel cost. At the same time it should also allow for proper ventilation and lighting.

Heating of the *hammam* and its water was done through *al-dabkuniyya* behind the *bayt al-harrara* (fig. 55). Water used in the *hammam* was brought from the Nile and distributed in residential quarters of Cairo. Levanoni explained:

> The Nile water was safely conveyed inland in canals, dammed by dikes at their mouths on the Nile before the inundation, and opened when the water level reached sixteen arms. Aqueducts

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[93] Al- Khashshab, *Ptolemaic and Roman Baths of Kōm El-Ahmar*, 27.
[94] Al-Minawi, *Kitab al-Nuzha*, 49.
[95] Lotfy, "Public Bathhouse," 58-63.

> and conduits carried the water from the canals to inland open reservoirs, or artificial lakes, around all of which grew residential quarters. The lake waters were transferred to cisterns and above ground tanks that were used as closed water reservoirs before distribution in the residential quarters of Cairo. Scattered in central sites within the quarters, there were the big wells and basins that received water from outside the quarter for distribution to the wells located near the houses, baths and mosque courtyards.[96]

After the *hammam* cistern was filled, water was then pumped up to the reservoir located at roof level by means of a waterwheel operated by an animal (fig. 56). The water was channeled through a series of pipes on top of the roof of the building. Some pipes led directly into the *hammam* through cold-water taps and water fountains. Other pipes directed the flow of water to the water boilers on the top floor of the furnace to be heated by the boiler on the second floor and distributed within the bath again through pipes. The boilers were connected and filled consecutively, i.e. the water coming from the reservoir filled the first boiler and after it was full, the water within it overflowed into the second then the third and so on. 'Abd al-Latif stated that there were four water boilers containing water of gradually higher temperature and compared them with four stomachs that would ensure great digestion thus better heat.[97] It seems that spreading the furnace floor with salt was common to ensure maximum heat retention.[98] Moreover the fumes and smoke from the fireplace that heated the boilers were allowed to escape the furnace through clay pipes directing it up into the open air. The lower floor of the furnace was where ashes from the fire were collected. This ash was also used in the mortar mixtures for building, helping to make it waterproof.[99] It is also worth mentioning that the furnace was not only useful

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[96] Levanoni, "Water Supply in Medieval Middle Eastern Cities," 179.
[97] Zand and Videan, *The Eastern Key*, 185.
[98] Zand and Videan, *The Eastern Key*, 187.
[99] Warner, "Taking the Plunge," 68.

for getting rid of some of the neighborhood's waste but was also used for cooking fava beans that consisted of a major component of the daily Egyptian diet. The fava beans pots (*al-qidra*) (fig. 57) were inserted into the ashes of the furnace overnight, as the beans needed to be cooked over low heat for a long period of time.

The hot water was directed to hot water taps in the *khilwa*s and to the *maghtas* or the hot water plunge tank from pipes through a hole near the cupola's center. The *maghtas* in Egypt had a very significant value, as they were the main source of heating the *hammam* unlike the old Roman baths and Islamic *hammam*s in other countries where they use the hypocaust system. The temperature of the *maghtas*'s water was made extremely high so that it filled the room with vapor and damp heat. The heat spread from this room and gradually decreased through all the rooms until the *bayt awwal* or the winter undressing room that should be warm and not hot.[100] It is said that the existence of these hot water plunge pools and the absence of the hypocaust system in Cairene *hammam*s is because Muslims in Egypt were fond of the steam bath and they preferred the damp heat and vapor generated from the hot water pools to the dry heat of the hypocaust system. But the archeology of the earliest excavated *hammam* in Cairo dated to the Tulunid period (fig. 58) makes it evident that in the early period of Muslim rule over Egypt, the *hammam*s were heated by use of the hypocaust system, the very same system that had been in use during the previous Greco-Roman period in Egypt. This Tulunid *hammam* contained two furnaces; one that heated the water and the other that generated the hot air that traveled through the hypocaust system under the floor and through the walls. The hypocaust heated two rooms that consisted of a *bayt al-harrara*. Unlike in later *hammam*s that are known to us, the *bayt al-harrara* here consisted of a dry heat room

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[100] Al- Khashshab, *Ptolemaic and Roman Baths of Kōm El-Ahmar*, 27.

(*bayt harr gaff*) and a steam heat room (*bayt harr ratib*). The absence of the dry heat room from the later *hammam*s proves the claim that Egyptians favored the steam bath. In this Tulunid *hammam* the *bayt harr ratib* gets its damp heat and vapor from an inclined marble slab (*salsabil*)[101] (fig. 59) that led the hot water flow from the boiler into the *maghtas*. Most probably this later developed into the hot water stream falling from the cupola at roof level into the *maghtas*. Apparently the dominance of the hot water pool as means of heating and the final shape of the Cairene *hammam* did not take place in the early period of Muslim rule of Egypt. "As for the hypocaust system, it seems it has entirely disappeared after Tulunid/Fatimid times, perhaps of the favor in which the sweat room was held."[102]

In order for this produced heat not to disperse easily and save fuel and money, the building should be designed to maintain a high level of thermal mass. This was implemented in the design of the *hammam* as follows: the bent entrance that did not allow direct air circulation from outside to the inside, and the windowless walls of the building that were much thicker than structurally needed. The walls were built of a base of thick stone rubble topped by fired brick and then the roofing system such as domes and vaults were also built of brick.[103] There would not be any windows or openings in the domes and vaults in the bathing area to help retain heat as well.

The bathhouse building "is sunken into the ground to increase the inertia of the building and its capacity to store energy as it takes advantage of the ground insulation. Throughout the year, the thermal mass of the building helps store heat inside the structures; this helps to keep the spaces warm during the winter. In the

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[101] *Salsabils* are found in most sabils. For example *sabil* Qaytbay in Cairo.
[102] Warner, "Taking the Plunge," 72.
[103] Fadli, "Retrofitting Heritage Buildings in the Middle East and North Africa", 8.

summer season, night ventilation allows storing cool air in the dressing room."[104] Moreover, the flat ceiling with a wooden lantern prevented heat radiation during summer (fig. 60). "If the roof is too hot, it radiates inside the attic volume but this hot air is immediately evacuated outside via the open lantern. This ventilated attic is considered as a cooling device working with the help of the drying towels. The heavier cool air moves down inside the lobby during summer periods, while in the winter the towel dryer works only because of the warm air stratification." [105]

This windowless structure is lit only by the wooden lantern of the summer undressing room and the glass insets in the domes of the bathing area. The domes are built with several pottery tubes into them that are closed with glass covers. These glass covers are found in several colors and shapes that are arranged in decorative designs. In Egypt, star-shaped, cross-shaped and interlaced openings were found. According Nicholas Warner, the ratio of glass in the domes or vaults seems to increase in later period baths.[106]

The design of the Cairene *hammam* was very similar to Islamic *hammam*s in other cities with a few distinctive design elements mentioned above such as the plunge pool and the *maslakh*'s lantern ceiling. The *hammam* design was very efficient in terms of heat production and retention, air circulation, and lighting. It was also environmentally friendly as it got rid of the neighborhood's waste and was also used for cooking fava beans.

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[104] Bouillot, "The Physical and Climatic Dimensions of the Mediterranean Hammams," 126.
[105] Ibid.,132.
[106] Warner, "Taking the Plunge," 63.

Architecture Compared

Architectural Characteristics

Although the Islamic bathhouse developed from its precedent, the Roman bathhouse, the *hammam* design was not identical in all Islamic cities, even though "most plans of *hammam*s present certain similarities through different periods, which are due to similar functional requirements, with little variations from one country to another."[107] These design variations are due to climatic differences and cultural factors. In this section, I will be discussing the major design differences between pre-Ottoman *hammam*s in mostly Egypt, Morocco, and *Bilad al-Sham* or Greater Syria. I will be using examples from Cairo, Fez, Damascus, Aleppo, Tripoli, Jerusalem and Acre.

Although twin *hammam*s are found in Cairo, they are not present in all other discussed cities. The majority of *hammam*s of different cities have a bent or L-shaped entrance. The portals are modestly decorated as in Cairo. In Fez we see a difference in the arched shape of the portal rather than its decoration (fig. 61). Additionally in the Levant, a few *hammam* portals dating from the Mamluk period such as the *hammam*s of Yalbugha in Aleppo (fig. 62), and of al-Tayruzi in Damascus (figs. 63-64) are more elaborately decorated, like the Mamluk portal of *hammam* Bashtak in Cairo mentioned earlier.

*Hammam*s can all be divided into two zones: the passive/reception zone and the active/bathing zone. Names of the different *hammam* areas vary from one country to another (Table 1). The first room is the undressing room, called *maslakh* in Egypt,

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[107] Aboukhater, "Analysis of Spatial Structure and Social Significance of a Sample Hammam in Mediterranean Cities," 110.

mashlah in Greater Syria,[108] *mashlah sayfi* or *mashlah barid* in Palestine, [109] and *gulssa* in Morocco.[110] This room was usually the most important room of all *hammam*s in terms of size, decoration and time spent in it. Its decoration was usually concentrated in the marble geometric pattern of the floors and wall dados, the fountain and the dome in Egypt and the Levant (fig. 65). In Morocco the top of the walls were also decorated with carved stucco[111] and tile mosaic also covered part of the walls, as in *hammam* Seffarine in Fez (fig. 66).[112] Although it was not common to see wall decoration in *hammam*s in the Levant and Egypt, "the walls of *hammam* al-Baydara in Nabuls are painted with simple outline drawings on the plaster."[113] The layout of this room is similar in all countries; it is rectangular, consisting of a square or rectangular central area with a water fountain in the middle surrounded by raised side *iwan*s or *mastaba*s. In Fez, water fountains are found in the middle of the undressing room as in *hammam* Mukhfiyya (fig. 67) and also against the walls as it shows in the plan of *hammam* Seffarine (fig. 68).[114] Although the layout is similar, the roofing system is not. In Cairo, this room is covered by a flat wooden lantern ceiling while in all other cities a high dome is covers it. In Fez *hammam*s, the domes are pierced with windows as in *hammam* Seffarine (fig. 69), while in the Levant this dome has an oculus in its center usually covered with a lantern and windows at its base around the drum (figs. 70). Some of these Levantine *hammam*s also have side windows in their undressing room like the *hammam*s of al-Bazuriyi, al-Malik al-Zahir,

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[108] *Mashlah* comes from the Arabic word *yashlah*, which means take off.
[109] Dow, *The Islamic Bath of Palestine*, 2.
[110] Raftani and Radoine, "The Architecture of the Hammams of Fez, Morocco," 63-64.
[111] A craft that survives greatly in modern-day Morocco and is used in the decoration of houses and different building types.
[112] Sibley, "The Historic Hammams of Damascus and Fez," 3.
[113] Dow, *The Islamic Bath of Palestine*, 5. "Burgoyne has dated the bath (i.e. hammam al-Baydara) to A.D. 1273/4, although the source is not quoted in his report.
[114] Sibley, "The Historic Hammams of Damascus and Fez," 2-3.

Ammuna, al-'Umari, Qaymariyya and al-Hajib (figs. 71-76).[115] It is worth mentioning that although these *hammam*s include this feature of side windows in the undressing room, it is not widely common in Islamic *hammam*s in general including Cairo where it existed in only two *hammam*s, that of al-Malatili and al-Qirabiyya (figs. 77-78). Moreover, some undressing rooms except in Cairo contain a mezzanine level, a feature very common in Ottoman *hammam*s in Turkey, usually for rich customers.[116]

Following the ancient Roman bath sequence, the next room would be the cold washing room or the *frigidarium* containing a cold-water plunge pool. This pool was a major feature of Roman baths, which disappeared in the majority of Islamic bathhouses. Bathing by immersion is allowed in Islam only if the pool or tank of water is sufficiently large. Dow explained:

> The Muslim religious requirement to wash the whole body on particular occasions can be carried out either in running water, or by complete immersion in a pool of water if this is large enough. The minimum quantity of water which would be made unclean by a person's washing in it was reckoned to be two qullah by both the Shafi'i and Hanafi legalists. A qullah, literally an earthenware storage jar, is equal to the contents of a cubic tank which is one and a quarter cubits long, broad and deep, using an average person's arm to define the cubit. Two qullah therefore is just under 1,000 litres.[117]

Although hot plunge pools existed in the hot washing rooms of Islamic *hammam*s, they were not common in all countries except in Cairo where it was an important feature throughout the centuries. They were an essential feature of the heating system

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[115] I disagree with Ecochard and Le Coeur with stating that windows in the *mashlah* is not commonly found in Damascus *hammam*s.
[116] Raftani and Radoine, "The Architecture of the Hammams of Fez, Morocco," 63. Magda Sibley, "The Pre-Ottoman Baths of Damascus and their Survival into the 21st Century," 282.
[117] Dow, *The Islamic Bath of Palestine*, 16.

in Cairene *hammam*s as they were used to disperse the heat and steam through the bathing areas. Pools found in countries other than Egypt such as Palestine were never the size of the Egyptian ones. For example the pool at *hammam* Bashtak in Cairo could hold nearly 3,000 litres of water while *hammam* al-Samarra in Gaza only held 800 liters.[118] The cold room was sometimes considered part of the washing area containing cold-water basins like the case in Fez[119], while in most other cities it was considered the winter undressing room with seating arrangements similar to the main changing room as in *hammam* al-'Ayn in Jerusalem (fig. 79). It is worth mentioning that in Fez, the cold washing room of *hammam* Mukhfiyya was covered with a cross vault (fig. 80), a feature not found in *hammam*s of other cities.

The warm room (the Roman *tepidarium*) and the hot rooms (the Roman *caldarium*) make up the main washing area. The warm room is not present in all Islamic *hammam*s. For example, they always existed in Fez but never in Cairo, while in other cities it could vary. In Fez, the warm room or *al-wasti* was the largest room of the washing area. Its typical layout comprised a central square area flanked by two smaller vaulted bays (fig. 81) on opposite sides that were sometimes equipped with even smaller rooms called *mtahra* for individual washing out of people's sight. This Moroccan *hammam* layout was found with slight differences in *hammam*s Mukhfiyya (fig. 67), al-Kaddan, Ibn Abbad, Ain Allu and Guerniz.[120] The layout of the hot room or *al-dakhli* in Fez comprised a rectangular area roofed by a barrel vault, one or several *mtahra*s, and a wall basin for hot water flowing from the furnace located behind the wall.[121]

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[118] Dow, *The Islamic Bath of Palestine*, 15.
[119] Raftani and Radoine, "The Architecture of the Hammams of Fez, Morocco," 64.
[120] Ibid., 64.
[121] Ibid., 64.

Raftani and Radoine stated that the typical linear layout of Fez *hammam*s was characteristic of the North African *hammam*s (Morocco, Tunisia, Algeria and Libya) and different than the central organization layout typical of Middle Eastern *hammam*s. They believe that this layout was inherited from the Roman style and that it did not change because Morocco remained out of the influence of the Ottoman Empire.[122]

Regarding the bathing area of *hammam*s in the Levant, we can use examples from Damascus as Ecochard and Le Coeur have produced the most comprehensive record of its public bathhouses. They also produced an analysis of their layout and its evolution from the 12th century until the 20th century (fig. 82). A comparison was carried out between of six *hammam*s of different periods: al-Bazuriyi (1180), Ez-Zen(1348), al-Tayruzi (1444), Maliki (2nd half of 16th century), Fethi (1745), and Mezze (1933).[123] In Damascus, we could find in the pre-14th century *hammam*s two layouts concurrently: the simple linear layout (bathing spaces arranged along an axis) common in Moroccan *hammam*s and the central layout (bathing spaces arranged around a central octagonal room) common in Egyptian *hammam*s, after which the central layout became dominant until the18th century when it reversed to linear.[124] From the 12th century to the 13th century (the Ayyubid and Mamluk periods), the main washing room was the warm room (*wastani juwwani*) although it was nearly the same size as the hot room (*juwwani harrara*). This is shown in the two 12/13th century *hammam*s of al-Bazuriyi and al-Saruji (figs. 83-84), which also happened to be of a different type of layout. *Hammam* al-Bazuriyi has a central layout with an octagonal warm room in the center with side chambers while *hammam* al-Saruji has a linear layout. Sibley believes this coexistence within the same city between the 12th

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[122] Ibid., 63.
[123] Magda Sibley, "The Pre-Ottoman Baths of Damascus and their Survival into the 21st Century," 278.
[124] Sibley, "The Historic Hammams of Damascus and Fez," 4-5.

and 13th centuries is due to the continuation of two sources of influence in antiquity (the linear layout of Umayyad architectural influence and the central layout of Byzantine architecture influence).[125] One can see in *hammam*s al-Ward and al-Qaymariya (figs. 85-86) that in the 14th century both layouts still coexisted and the warm rooms became more dominant with more side chambers or *maqsura*s attached to them. In the 15th century example of *hammam* al-Tayruzi (fig. 87) it is evident that the hot room became as important as the warm room, if not more with its additional *maqsura*s. Later in the 16th century, *hammam*s al-Rifa'i and Fethi (figs. 88-89) demonstrate that the hot room became larger with additional *maqsura*s and more important than the warm room. From the 16th century until 20th century, the hot room became more and more important until the warm room disappeared all together from their layout.[126] Dow mentioned that this layout was mostly the same in Palestine although the two *hammam*s al-Basha and al-Sha'bi (figs. 90-91) in Acre had warm rooms when it was disappearing elsewhere (18th century).[127] Nonetheless we have a few examples not following the analysis of Ecochard and le Coeur, like the Ayyubid or Mamluk *hammam*s al-Maji and al-Bayyada in Aleppo, that did not include a warm room. The same applies to the Mamluk *hammam* Ibrahim al-Khalil in Hebron (fig. 92).[128]

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[125] Magda Sibley, "The Pre-Ottoman Baths of Damascus and their Survival into the 21st Century," 280.
[126] Ecochard and Le Coeur, *Les Bains de Damas*, 12-13
[127] Dow, *The Islamic Bath of Palestine*, 17.
[128] Ibid., 16.

Design Elements

The main differences in design elements between *hammam*s of Cairo and ones from different cities are the devices used in passive areas to maintain a comfortable environment within it for the bather and the system used to heat the water and atmosphere of the bathing areas. The different climates of these cities and the difference in temperature between the summer and winter seasons give us an idea why some design elements might be present in some examples and absent in others. For example in Damascus, the summer is very hot like Cairo but the winter is far colder. Therefore, the design of the *hammam* had to change in order to maintain a comfortable environment. In this case the flat lantern ceiling of the *maslakh* that worked perfectly in Cairo would not be convenient in Damascus particularly in the winter season. Nevertheless some design elements might be present in cities due to their cultural heritage or architectural influence from antiquity rather than their climate.

Although *hammam*s of Cairo were partly covered with a flat lantern ceiling, the dome structure is the dominant device used in all *hammam*s of different cities. Bouillot explains how the dome works in reserving heat and getting rid of it (fig. 93):

> In summer, the height of the dome allows stack effect[129] to take place and the central fountain provides evaporative cooling of the undressing room. During the day, the lighter hot air can be eliminated through the oculus and the lantern windows, while the heavier cool air accumulated in the lower parts of the changing room during the night remains during most of the day as is the case in the courtyards of the neighboring houses. In winter times, all the openings are closed and the water stopped from the fountain. Hence the heat from the bathing

[129] Stack effect is the movement of air into and out of the monument driven by buoyancy.

spaces is stored in the heavy mass of the building and participates to convection air movements inside the volume.[130]

Moreover, although a mezzanine floor is typical in the undressing room of Turkish *hammam*s, some Levantine and Moroccan *hammam*s also have them. These floors are used either for drying the towels or as warm resting areas in the winter.[131]

The system used for heating the *hammam*s in Egypt was different than those used in Morocco and the Levant. As mentioned earlier, the *hammam*s of Cairo were heated by hot water pools that dispersed the heat and steam in the hot bathing room. In the case of Morocco, the Roman hypocaust system that was used earlier by the Umayyads was used to heat the warm and hot rooms. The hot smoke of the furnace was conveyed under the floors of the rooms before rising up in a chimney inside the walls (fig. 94). In North African cities such as Libya, Tunisia and Morocco the hypocaust remained in use while in Egypt, as mentioned above, it disappeared after the Tulunid/Fatimid periods.[132] In the Levant it was used until it was abandoned after the 10th century in favor of the duct system.[133] The duct system conducted the smoke and heat from the furnace under the floor of heated rooms ending at a chimney in one of the cold rooms (fig. 95). This duct was visible in the hot room as *bilat al-nar* or the fire slab, marked with a black stone tiling.[134]

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[130] Bouillot, "The Physical and Climatic Dimensions of the Mediterranean Hammams," 126.
[131] Ibid.,128. The upper mezzanine floor is warmer in winter as hot air moves upwards based on natural air stratification.
[132] Warner, "Taking the Plunge," 72.
[133] Dow, *The Baths of Palestine*, 26.
[134] Sibley, "The Historic Hammams of Damascus and Fez," 5.

Chapter 3
SAFEGUARDING A VANISHING BUILT HERITAGE

Hammams of Cairo through the years

In the first half of the 15th century during the Mamluk period, Maqrizi listed in the 2nd volume of his *Khitat* fifty-two *hammams* of which nineteen were in ruins, three not functioning and only thirty were functioning.[135] The number of *hammams* increased and reached eighty in 1755 as noted by the traveler Fourmont, and at the beginning of the 18th century the French Expedition counted seventy-two *hammams* in the *Description de l'Egypte*.[136] In 1870 'Ali Pasha Mubarak recorded in his *al-Khitat al-tawfiqiyya* sixty-two *hammams*, six of which are in Bulaq. In 1933, the architect Edmond Pauty listed in his book 'les *Hammams* du Caire' forty-seven *hammams* of which five were in Bulaq.[137] André Raymond recorded thirty-three *hammams* in 1969 while Su'ad Mohamed recorded twenty-two in 1983.[138] Nicholas Warner in his great book *The Monuments of Historic Cairo* recorded only sixteen existing *hammams*, excluding the area of Bulaq that he did not cover.[139] Based on my fieldwork in 2013, I was able to locate twenty-one *hammams* in different states of deterioration. Six *hammams* out of the twenty-one are operating now versus fifteen operating *hammams* in the first half of the 20th century. Even these six *hammams* are operating under advanced conditions of deterioration. One can clearly see now that the Cairene *hammams* are on the verge of extinction.

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[135] Raymond, "La Localisation des bains publics au Caire au quiziéme siècle d'aprés les Khitat de Maqrizi", 1.
[136] Raymond, "Les Bains Publics au Caire," 15.
[137] Ibid., 16.
[138] Su'ad Mohammed recorded fifteen operating *hammams* in 1983. Fadli and Sibley, "The Historic Hammams of Cairo," 70.
[139] Warner, "The Monuments of Historic Cairo".

Out of the twenty-one existing *hammam*s, six were operational: *hammam*s Bab al-Bahr, al-Maltili, al-Husayniyya, al-Barudiyya, al-Talaat and al-Arbaa; ten were closed including *hammam* al-Sinaniya that was recently restored in 2008, and five *hammam*s were used for other purposes including *hammam* Inal that was also restored in 2008. It is disastrous that fifteen *hammam*s were operational in 1983 while only six are operational at the time of writing this thesis. Only three were closed then versus eleven closed now. It is worth mentioning that in 2007, five *hammam*s were being restored. The restoration works in *hammam*s al-Sinaniya and Inal were completed in 2008 however al-Sinaniya is still closed until today while the latter was just opened for public as a *mazar*.[140] The other three *hammam*s (al-Sukkariya, al-Gamaliyya and al-Mu'ayyad) that were supposed to undergo restoration works are still closed. Upon asking the people from the neighborhoods, I came to know that no actual restoration works have been done yet. *Hammam*s used for purposes other than their original function are *hammam*s Shayku, al-masbagha and al-Darb al-Ahmar that are divided and used as workshops and *hammam* Darb al-Husr or Kushqadam al-Ahmadi, inside which people are living.

[140] Fadli and Sibley, "The Historic Hammams of Cairo," 72.

Threats and Reasons for Decline

Cairo *hammam*s are deteriorating at such an extremely fast rate that we could lose this type of architectural heritage forever. The reasons for their decline are the physical threats they are facing as well as other factors affecting their reputation. It is a shame that people consider going to the *hammam* an old-fashioned practice or consider them immoral places. This is due to the location of these *hammam*s within poor neglected neighborhoods, and the resulting poor quality and low level of cleanliness in them. It was also a consequence of religious fundamentalism, which prohibited their usage. El Kerdany explains that "fundamental religious streams that have connection to Wahabi's ideologies" attempted to resist folklore for example by prohibiting Sham al-Nassim and Mulid al-Nabi and "in opposition to popular *hammam*s claimed that it is forbidden to be nude even in front of people of the same gender".[141] Other important contributing factors are that no new *hammam*s were built in Cairo in modern times and that running water and private baths became available in houses. In cities like Morocco[142], Turkey and Algeria where the bathing traditions are still alive, one can see that new *hammam*s are still being built. For example in Turkey, a contemporary *hammam* was designed and built in Bodrum to "serve tourists during the summer holiday season and residents of the region in the off-season periods".[143] This bath was designed to accommodate new facilities and services required in contemporary society such as a yoga lounge, a restaurant and a swimming pool. Moreover, *hammam*s in Algeria are designed and built in the middle of new residential developments just as mosques and shopping malls are.[144] On the other hand, no *hammam*s were built in Cairo since the 19th century (with the sole

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[141] El Kerdany, "Hammam Folklore Dynamics in Cairo," 30.
[142] Dumreicher, "The Hammam," 235.
[143] Ğdirdligil, "A Contemporary Hammam," 150.
[144] El Kerdany, "Hammam Folklore Dynamics in Cairo," 31.

exception of *hammam* al-Hindi in 1925 CE)[145]. El Kerdany believes this started when Isma'il Pasha built downtown Cairo in a western style and limited the types of monuments.[146] Out of all the different types of Islamic monuments, only the mosque was maintained.

The physical threats facing Cairo *hammam*s are the rise in the groundwater level, the increase in pollution (dust, exhaust and garbage), the lack of maintenance, the inappropriate repairs, and the deficiency in protection and security. The ground water level is rising and as it does, affects the stone walls with salts. These soluble salt gets absorbed by the porous stone and when in contact with air, they crystallize and may cause flaking. Furthermore in many cases the underground water is mixed with sewage, which is further harmful as it includes bacteria, fungi and chemicals.[147] Air pollution like dust and exhaust fumes cause discoloration to monument surfaces that requires an excessive amount of work, time and money to fix (fig. 96). It is not uncommon to find a pile of possibly harmful garbage next to a monument and even inside it. It is not a nice view and adding to that, garbage includes chemicals that can also affect the monuments.

In addition to the above, Cairo's historic monuments suffer from lack of maintenance and unsuitable restorations. Many monuments have been lost entirely or in part because of this. Examples of *hammam*s that lost some of their elements are *hammam* al-Mu'ayyad which lost its dome over the *bayt al-harrara* (fig. 97), and *hammam* al-Sukariyya whose domes have partially collapsed (fig. 27). Moreover these monuments are threated by unsuitable repairs, lack of proper documentation and absence of strategy for future use. In the case of *hammam*s, one can see the inside

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[145] Hammam al-Hindi no longer exists.
[146] Ibid., 31-32.
[147] Orphy and Hamid, "Problems Islamic Monuments in Cairo Face," 632.

walls painted with modern paint (acrylic or oil) (fig. 98), and missing marble tiles replaced by ceramic ones (fig. 50). Sibley and Fadli stated that in the Historic Cairo Rehabilitation Project "restoration is carried mainly in order to keep the monument 'alive' and standing, however, no clear scenario for its future use is being set".[148]

Historic monuments in Cairo were not always badly maintained. They were previously managed by the Islamic endowment system called *waqf*, which has been in use in Islamic societies since the time of the Prophet. The obliteration of this system at the end of the 19th century contributed greatly in the degradation of the management of historic monuments including *hammam*s, 95 percent of which were *waqf* properties.[149]

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[148] Fadli and Sibley, "The Restoration of Hammams in Cairo," 635.
[149] This percentage is based on an interview conducted by Fadli and Sibley with Dr. Hussam al-Din Ismail in 2007. Fadli and Sibley, "The Historic Hammams of Cairo," 69

Legal Protection

The word '*waqf*' means the act of stopping and the *waqf* system mentioned earlier is basically the stopping or prohibition of selling, buying and inheriting of the endowed fixed asset such as buildings while keeping its revenue for pious charitable activities in perpetuity. There are three entities in this system: the *waqif* or the endower, the *mawquf* or the endowed property and *mawquf 'alayhi* or the beneficiaries. These endowed properties generated revenue, which was used primarily on maintenance and repair. Al-Qadi 'Abd Allah al-'Amri explained that without restoration and maintenance, the endowed properties would not endure for the people.[150] The *waqfiyya* is the deed that states everything concerning the endowed building including how exactly the revenue should be spent. Research done by El-Habashi resulted in a list of *waqf* preservation principles related to the *hammam*. These principles basically state that like all other monument types the function of the *hammam* should continue in order to keep supporting a charity, and the revenue should be used to maintain and conserve the *hammam*. It also stated that the *waqf* would be considered ruined if the *hammam* was not used even if it was in a good physical condition, as it would not generate income. Therefore it should be used continuously, preferably serving its original function. Moreover, the *hammam* could serve other functions temporarily in order to guarantee utilization or in the case where the revenues were insufficient to maintain the building. It also allowed, "appropriate development admitting technological evolution if all parties involved in the *waqf* system approved the associated changes."[151]

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[150] Bakhoum, "Issues on Conservation, Maintenance and Management of Living Heritage Sites in Egypt," 15.
[151] El-Habashi, "Monuments or Functioning Buildings," 45.

Although this system was very efficient in preserving the endowed or historic monuments, it was abolished at the end of the 19th century. El-Habashi explained that when the Islamic state was divided into different political entities, they tried to put "the *waqf* judgments into the shape of secular law" but completely failed.[152] In Egypt, the *waqf* endowment system was replaced gradually by the Supreme Council of Antiquities (now Ministry of State for Antiquity Affairs). Registered monuments in Historic Cairo are currently under the protection of the Egyptian antiquities law and the surveillance of UNESCO. The current Egyptian antiquities law issued in 1983 deals only with registered monuments (in 2005 Nicholas Warner recorded ten unregistered *hammam*s out of fifteen). Several aspects of this law need to be changed. For example, its statement that a building should be eligible for legal protection if it's 100 years old allowed the obliteration of many built heritage. What if a monument less than 100 years old displays a unique style? Another more alarming aspect in relation to registered monuments is separating a historic monument from its urban fabric thinking it will preserve the monument.[153] The laws states:

> "The competent minister in cultural affairs may issue a decree to determine the beautifying lines around public antiquities and archeological sites,… and which extend to 3 Kms distance in uninhabited areas or to the distance the Authority determines in a way to protect the environment of the antiquities."[154]

El-Habashi explains that *hammam* al-Tambali was affected by such a protection law that resulted in a large number of empty plots around it (the western and southern sides of the *hammam*).[155] It is rather a misconception that if it were really implemented Historic Cairo would be deserted and all historic monuments would

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[152] Ibid., 44.
[153] Ibid., 46.
[154] Ibid., 46.
[155] Ibid., 47.

suffer greatly. The best way to preserve a monument is to keep it in its urban fabric and use it properly, not close it like the case of many *hammam*s in Cairo. It is most probable that it is not widely implemented as Historic Cairo is listed as an international heritage city and any conservation intervention within the urban fabric is monitored. Unfortunately the monuments of Historic Cairo, including *hammam*s, are deteriorating but no action is taken by the responsible authorities.

Conservation Alternatives

*Hammam*s are considered "a living cultural heritage" meaning that not only the building is a built heritage but also the activities linked to it are intangible heritage. In addition to the architectural value of the *hammam*, social habits and activities associated with it – such as the bathing procedure, the tools used inside it, and the occasions celebrated within it – are intangible heritage. Thus we are dealing with an intangible living culture within tangible historic monuments.

Restoring *hammam*s back to their original state structurally and aesthetically is not as hard as restoring them back also to their original function. The ultimate restoration of a *hammam* is to make it function again. The *hammam* and water are inseparable although water and humidity are major factors in the high rate of deterioration of *hammam*s that requires for them a higher rate of maintenance in comparison to other monuments. I couldn't agree more with Kolb and Dumreicher who wrote: "It is important to make this cultural heritage building a contemporary place that contributes to the life and quality of its users, while respecting its historical authenticity and its traditional function as a bath."[156] Therefore, it is important that certain contemporary services should be provided in addition to the original ones (bathing, massage, and depilation) if possible. These services are the ones people usually find in a modern spa or beauty salon such as waxing, threading, nail care, facial care, new massage techniques, hair styling and cutting. They could also supply local beauty products with an authentic Egyptian taste. Additionally, old celebration of occasions within the *hammam* could be revived and new ones introduced (birthdays, couple anniversaries, and baby showers). Egyptian women of all social

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[156] Kolb and Dumreicher, "The Hammam," 18.

standards still celebrate the *henna* night prior to a wedding. They mostly celebrate at home and no longer associate this night with the *hammam*. If an old *hammam* were properly restored, and provided contemporary services, it is possible that women would love to celebrate the henna night in it. I myself had the experience of some henna nights in a small modern Moroccan spa located in a flat (figs. 99-100). If it had been in one of these large historic monuments instead it might have been more enjoyable. Such different occasions could be accompanied by traditional Egyptian food; decoration and music, which if provided by the *hammam* would increase its income. Moreover day-use for certain groups can be organized such as tourist groups, university trips and school trips as well. It is worth mentioning that an initiative by the Syrian team of HAMMAMED project and the Kibab family (owners and managers of several *hammam*s in Damascus) was taken to teach Syrian scouts aged 7-16 about the *hammam*.[157] They created an entertaining game "*hammam* al-hana" (fig. 101) to encourage children to learn about the *hammam*, its different parts and sequence of activities in it. It was a creative way to raise awareness amongst children, as they would be the future preservers of this cultural heritage. In Cairo, we are in dire need of raising people's awareness in regards to the value of their intangible heritage in addition to their built tangible heritage. I believe if people knew the real value of their heritage, they would contribute greatly in their preservation.

In order to achieve this target of a *hammam* capable of accomplishing its role in a modern society, training of the staff should be guaranteed. They should be able to provide traditional and modern services in addition to catering. Furthermore, some new technical developments must be implemented. For example, introducing electricity would extend the working hours of the *hammam* thus more profit. A very

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[157] Aboukhater, "Playing as an Innovative Tool for Raising Awarness about Cultural Heritage," 119.

creative idea was proposed in the project HAMMAMED for a way to artificially light the *hammam* at night without the disturbing view of wires and dangling bulbs. This idea was "to install a compact fluorescent or led fixture just underneath the glass dome, but not visible from inside the *hammam*" (fig. 102).[158] This idea is rather ingenious since when these fixtures are turned on at night, they would give the same feeling as if the light was coming in through the *qamariyyat* during the day. Other aspects that already changed in a couple of *hammam*s and have been observed by El-Habashi in *hammam* Bab al-Bahr are the use of an electrical boiler instead of the traditional *mustawqid*, and a new tank connected to the city water supply. The only negative effect is that electrical boiler would put an end to the traditional cooking of fava beans in the *mustawqid*. It is worth mentioning that *hammam* al-Qirabiyya is now closed and its *mustawqid* still exists but fava beans are cooked there using gas appliances since the government banned garbage burning as it pollutes the atmosphere.

In case the *hammam* could not be restored to its original function, it should be re-used following guidelines from article 5 of Venice charter, which states:

> The conservation of monuments is always facilitated by making use of them for some socially useful purpose. Such use is therefore desirable but it must not change the layout or decoration of the building. It is within these limits only that modifications demanded by a change of function should be envisaged and may be permitted.[159]

We have seen some examples of creative adaptive re-use in different cities. *Hammam* al-Basha in Acre Palestine has been re-used as a museum to commemorate the bathing experience of the *hammam* (figs. 103-105). *Hammam* Suq Al-Ghizal in

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[158] Levine, "The Once and Future Sustainability Driven Hammam," 202.
[159] Venice Charter, Wikipedia.

Algeria has been re-used as a public services center. A *hammam* was turned into a carpet bazaar in Istanbul (fig. 106), another into a cafeteria in Amasara.[160] Other possible alternatives could be an art gallery, a restaurant, a concert hall or even an exhibition hall.

[160] Ozkose, "The Bathing Tradition in Anatolia," 19.

Chapter 4
CONCLUSION

The aim of this thesis was to study the tangible and intangible aspects of historic Cairene *hammam*s as well as documenting their decline through the years and finding restoration alternatives to revive them. Unfortunately this type of Islamic monument is on the verge of extinction. The few surviving *hammam*s are either closed or are operating under dreadful deteriorating conditions. One wishes to revive the *hammam* and the traditions associated with it. Other countries that have succeeded in preserving these traditions include Morocco, Turkey, and Algeria.

In the first chapter, the origins of the bathing traditions starting from its roots with the Greeks until the Byzantine were examined. The earliest Islamic *hammam*s of the Umayyads and discussed the influence of the antique style on them were also discussed.

In the second chapter I recalled the traditions of the Egyptians in relation to *hammam*s. This included their daily usage as well as their festivities celebrated within them. Subsequently, the architecture of the Cairene *hammam*s including their plans, their design elements, and their urban context were examined. This study was followed by a comparison between the architecture of these Cairene *hammam*s and *hammam*s of other cities such as Fez, Damascus, Aleppo, and Jerusalem. This comparison highlighted the two main layouts that existed in the design of *hammam*s: the simple linear layout and the central organization layout. It became evident that North African *hammam*s (those of Algeria, Tunis and Morocco) followed the simple linear layout; Egypt followed the central layout while the Levantine countries followed one or the other or both at different times.

In the third chapter, I related the results of fieldwork that I carried out in order to locate the existing *hammam*s at the time of writing this thesis and to document their condition. I also compared my results with the previous notices of historians and scholars starting with al-Maqrizi in the 15th century up until Nicholas Warner in 2005. This comparison showed an alarmingly rapid rate of deterioration of Cairene *hammam*s. Only five *hammam*s are still operating today. They suffer from an advanced level of deterioration that means they are most likely to stop functioning within a couple of years if no measures are taken to safeguard them. All the threats that these monuments are facing today whether physical, or concerning their reputation, were discussed. These *hammam*s face numerous threats that, however, can be eliminated. I concluded this chapter by researching ways to restore the *hammam*s back to their original function and also suggested adaptive re-use alternatives.

Figures

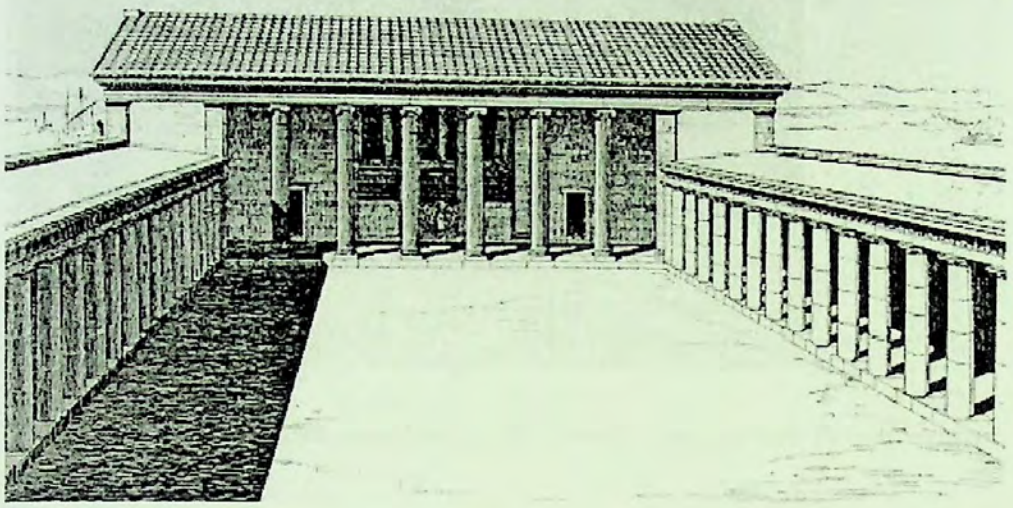

Fig. 1: Hellenistic gymnasium, Miletus. Restored view. Source: Yegül, 1992.

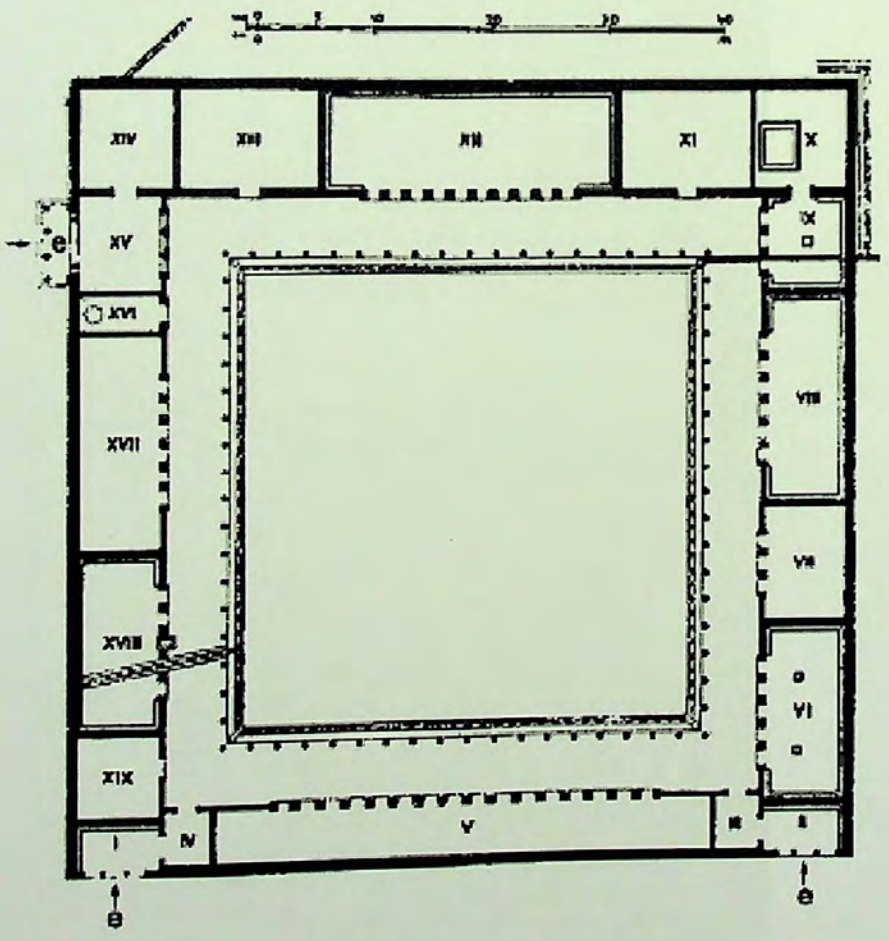

Fig. 2: *Palaestra*, Olympia. Ground plan. Source: Yegül, 1992.

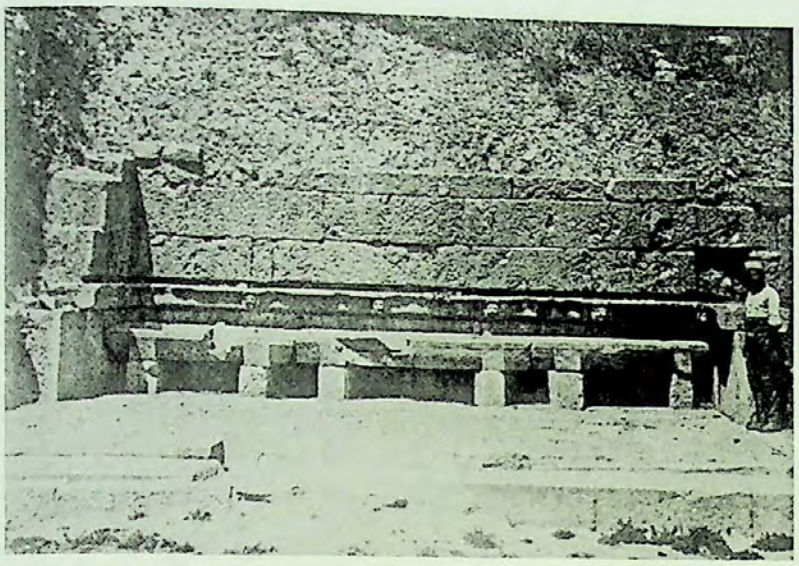

Fig. 3: The Wash room (*loutron*) of the Lower Gymnasium, Priene. Source: Yegül, 2011.

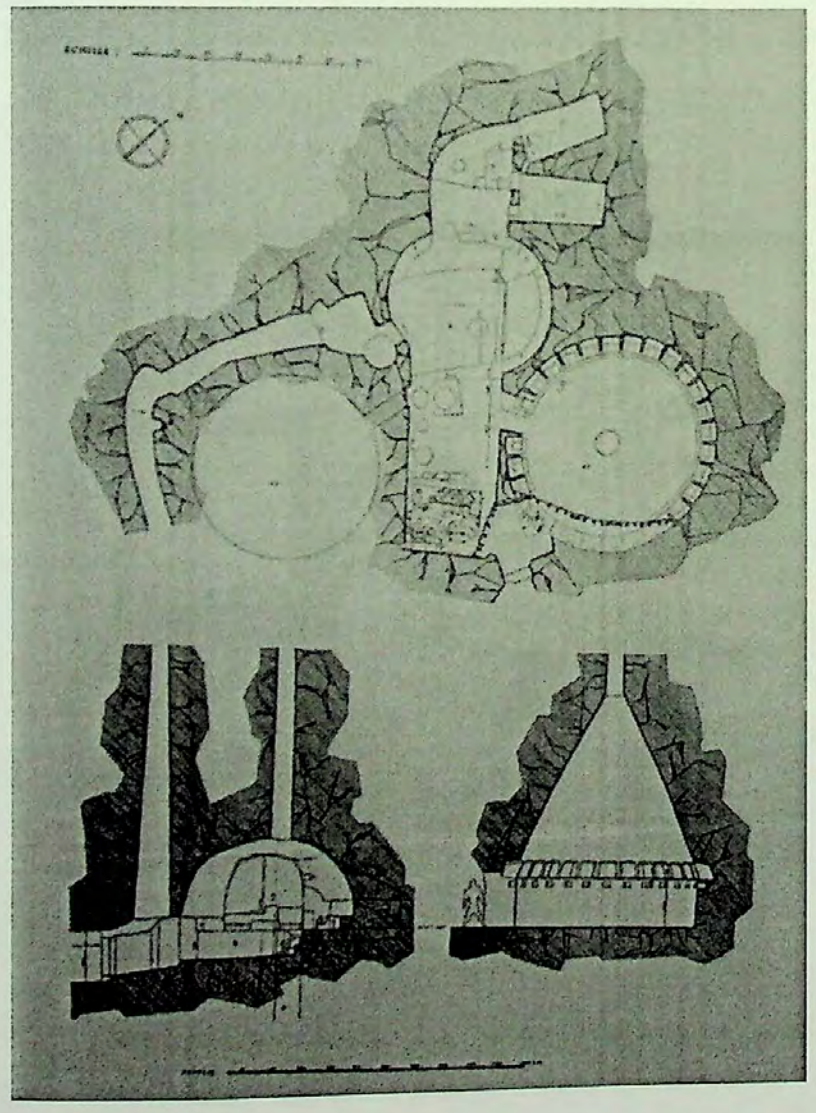

Fig. 4: Plan and sections of Greek baths, Piraeus. Source: Yegül, 2011.

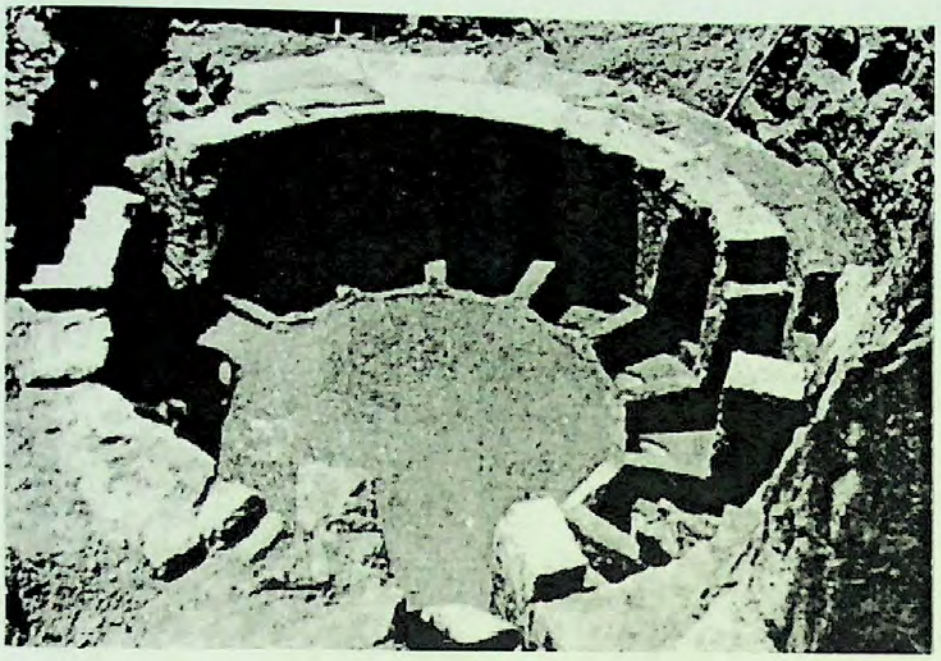

Fig. 5: Greek baths, Gortys. Rotunda with hipbaths (Ginouivés). Source: Yegül, 1992.

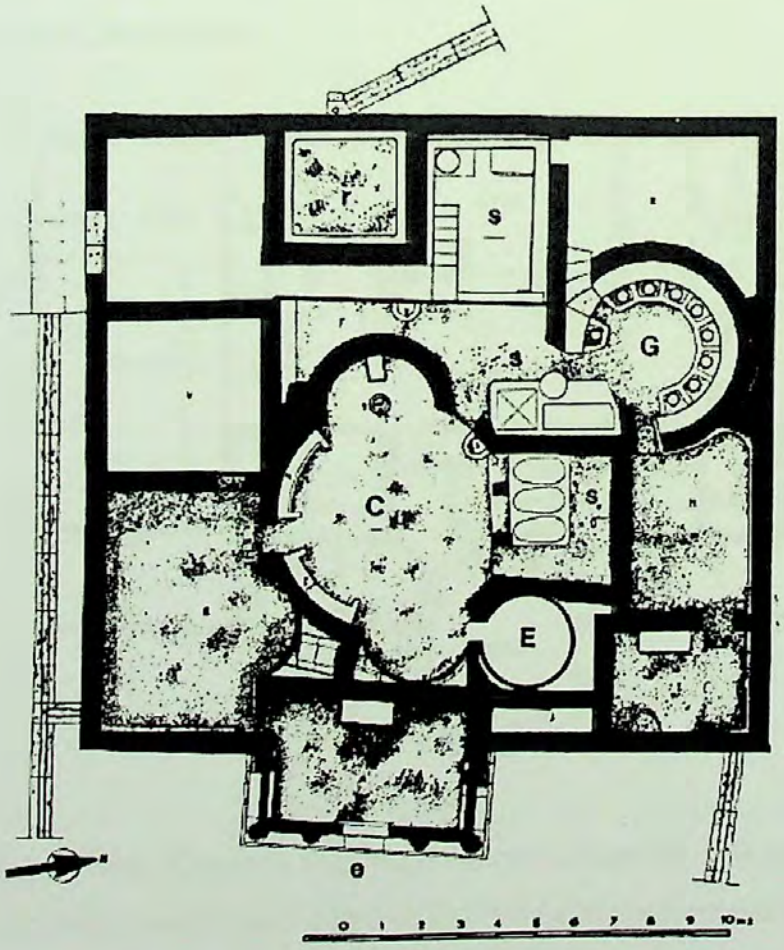

Fig. 6: Greek baths, Gortys. Plan (Ginouivés). Source: Yegül, 1992.

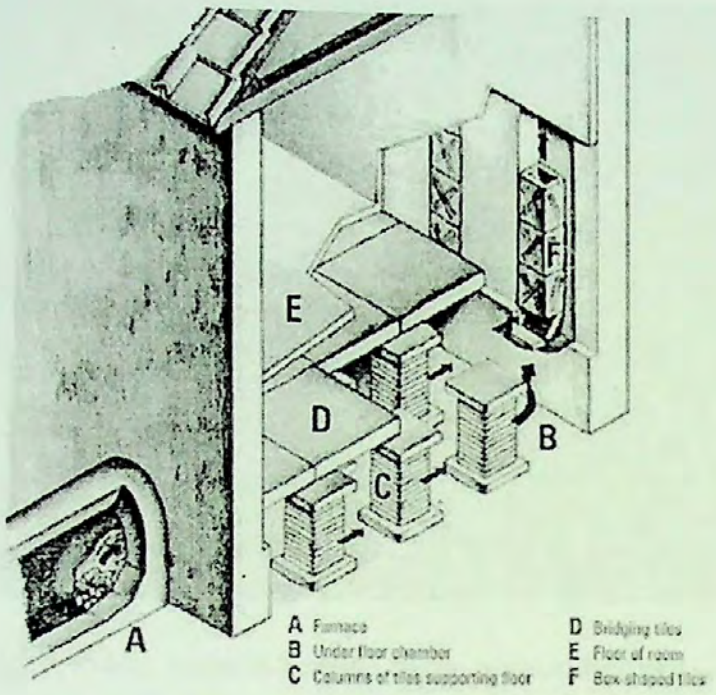

Fig. 7: Bath Hypocaust Section. Source: University of Washington Website. http://depts.washington.edu/arch350/Assets/Slides/Lecture24.gallery/source/bath_hypocaust_section.htm

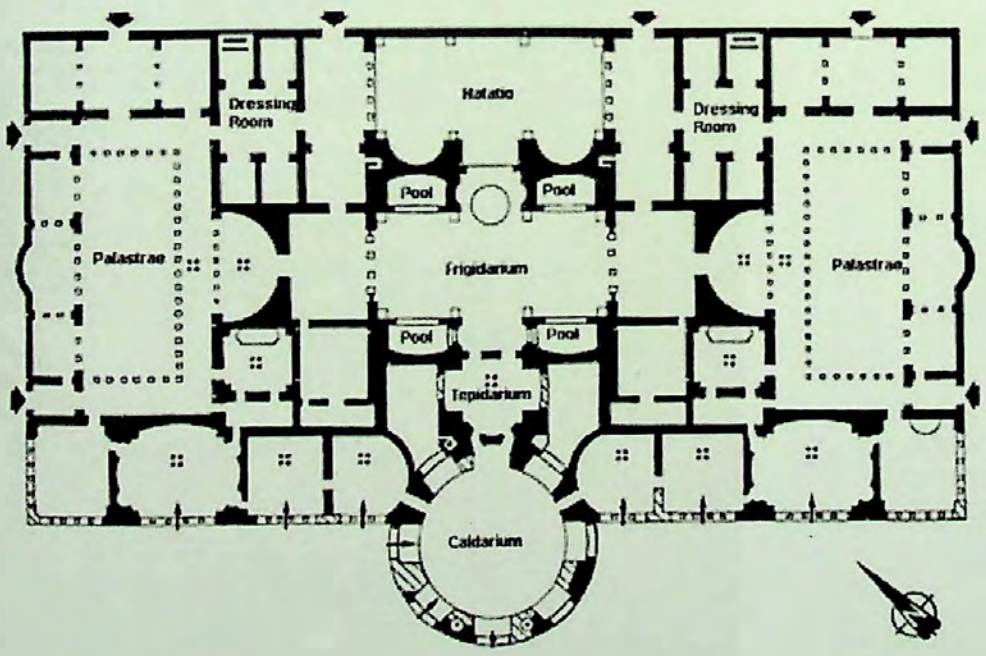

Fig. 8: Baths Caracalla Plan Key. Source: University of Washington Website. http://depts.washington.edu/arch350/Assets/Slides/Lecture24.gallery/source/baths_caracalla_plan_key.htm

Fig. 9: Public baths in Serjilla, Syria. Source: Bernard Gagnon, 2010.

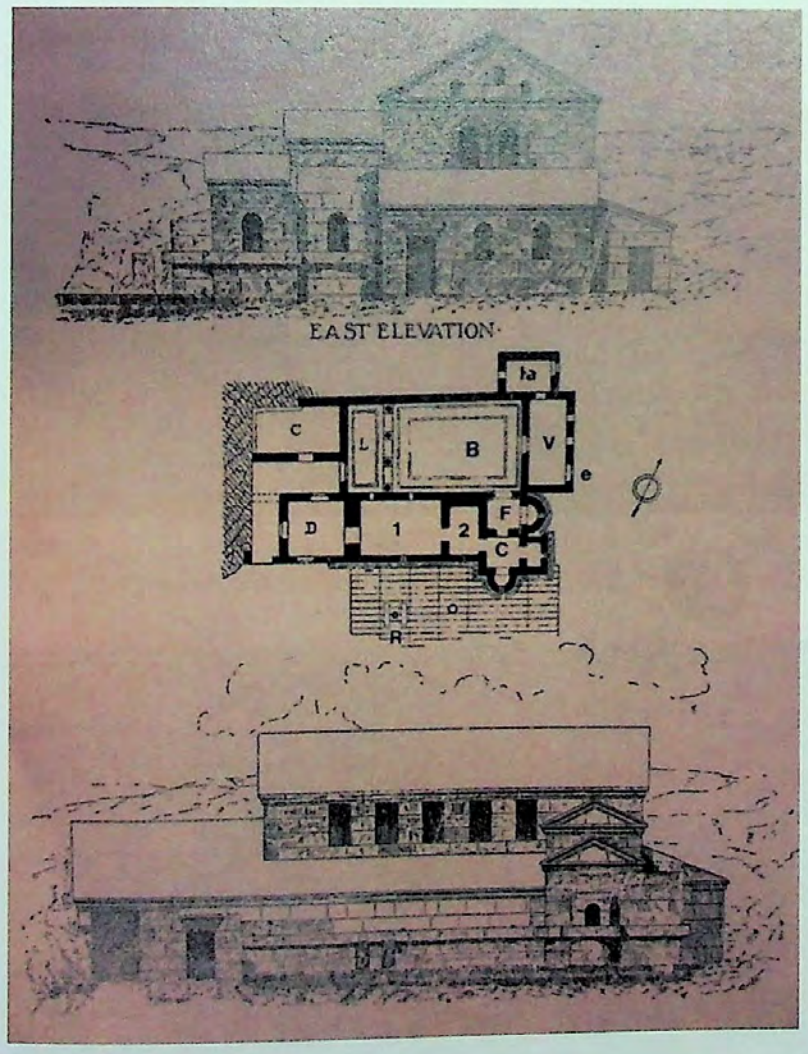

Fig. 10: Restored plan and elevations of the Roman baths at Serjilla. Source: Butler, 1903.

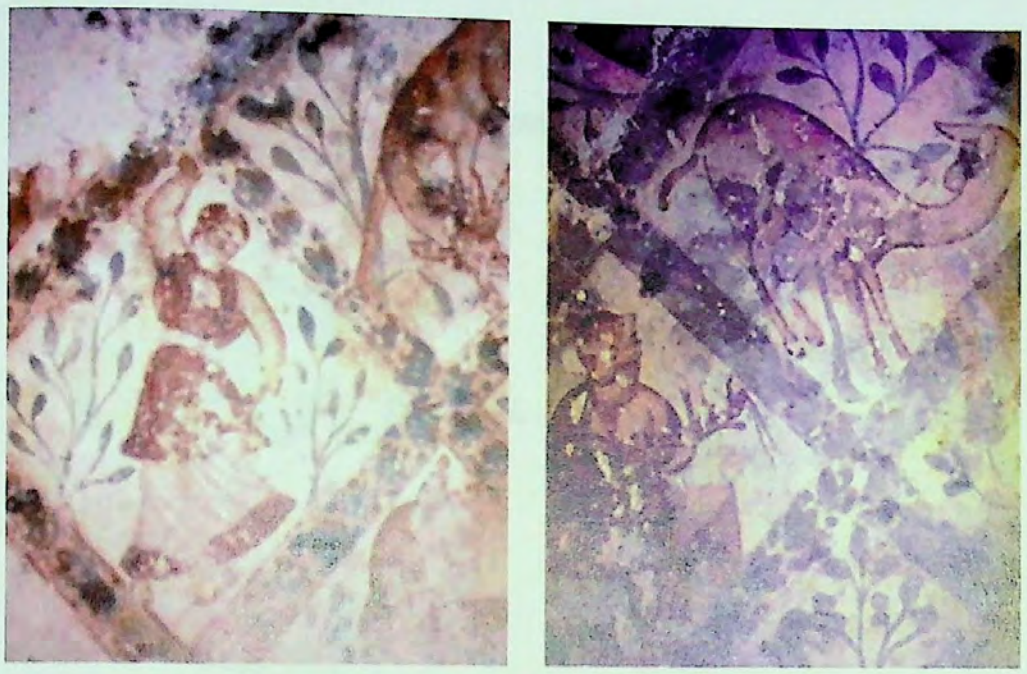

Fig. 11: Qusayr 'Amra's Frescoes depicting Dancers and musicians. Source: AUC Library Slides

Fig. 12: Qusayr 'Amra bathhouse. Source: Adam, 2011.

Fig. 13: Khirbat al Mafjar. Source: Orientalizing, 2013.

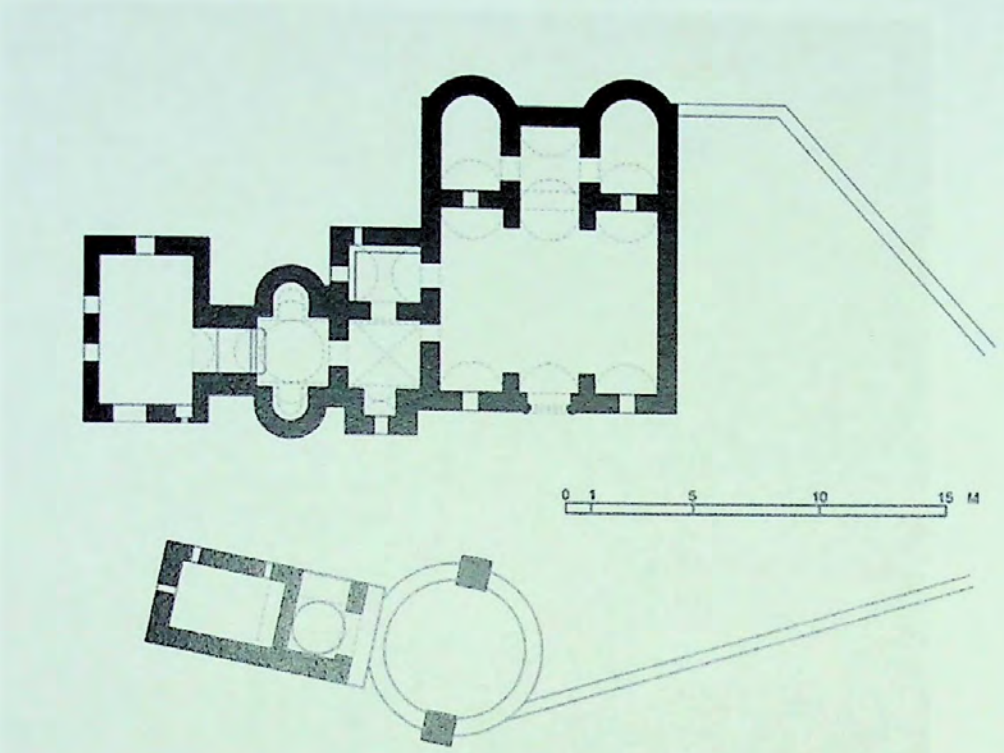

Fig. 14: Plan of Qusayr ʿAmra bathhouse. Source: K. A. C. Creswell, 1989, p.106.

Fig. 15: Hypocaust System of Qusayr ʿAmra. Source: Adam, 2011.

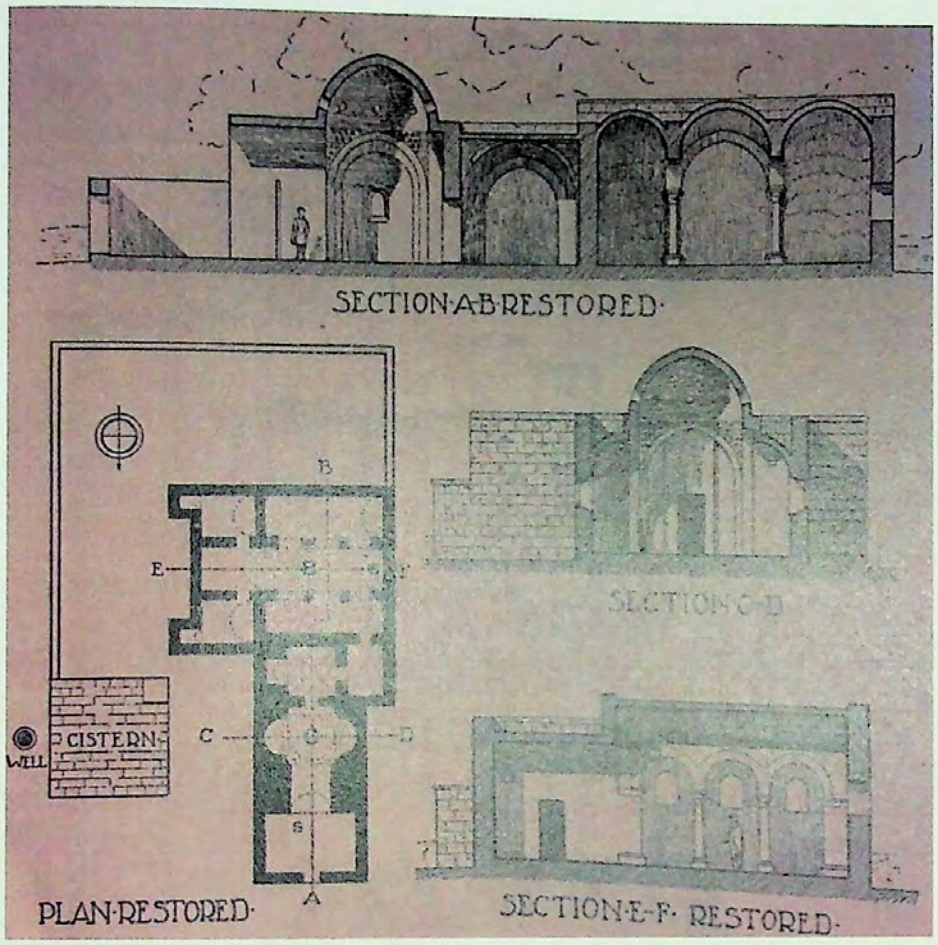

Fig. 16: Plan and Sections of *Hammam* al-Sarakh (Bath and Hunting Lodge in Syria). Source: Butler, 1903.

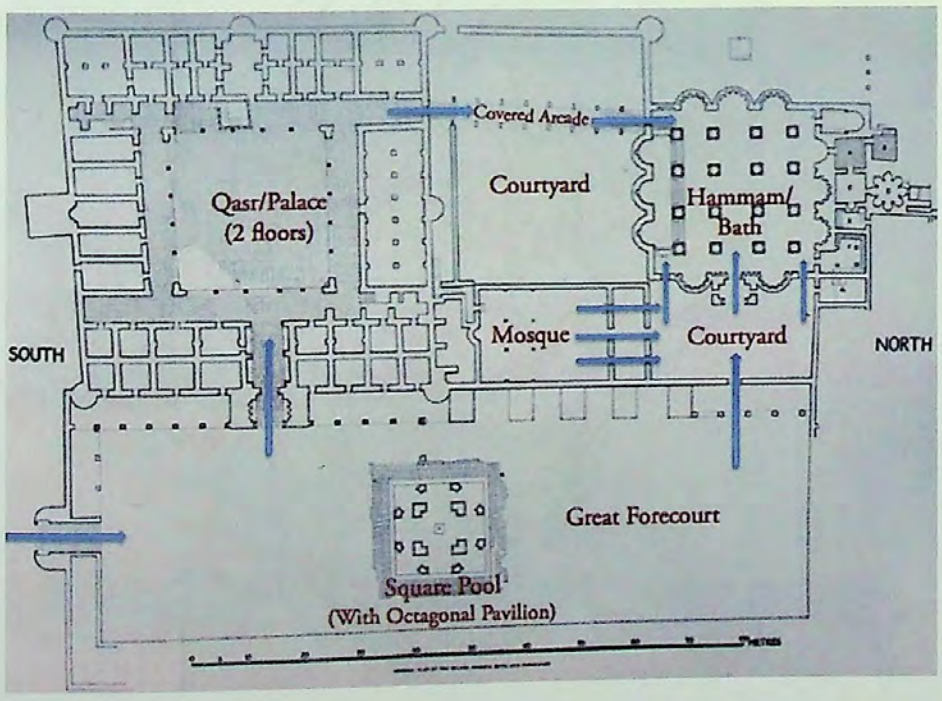

Fig. 17: Plan of Khirbat al-Mafjar. Source: Hamilton, 1959.

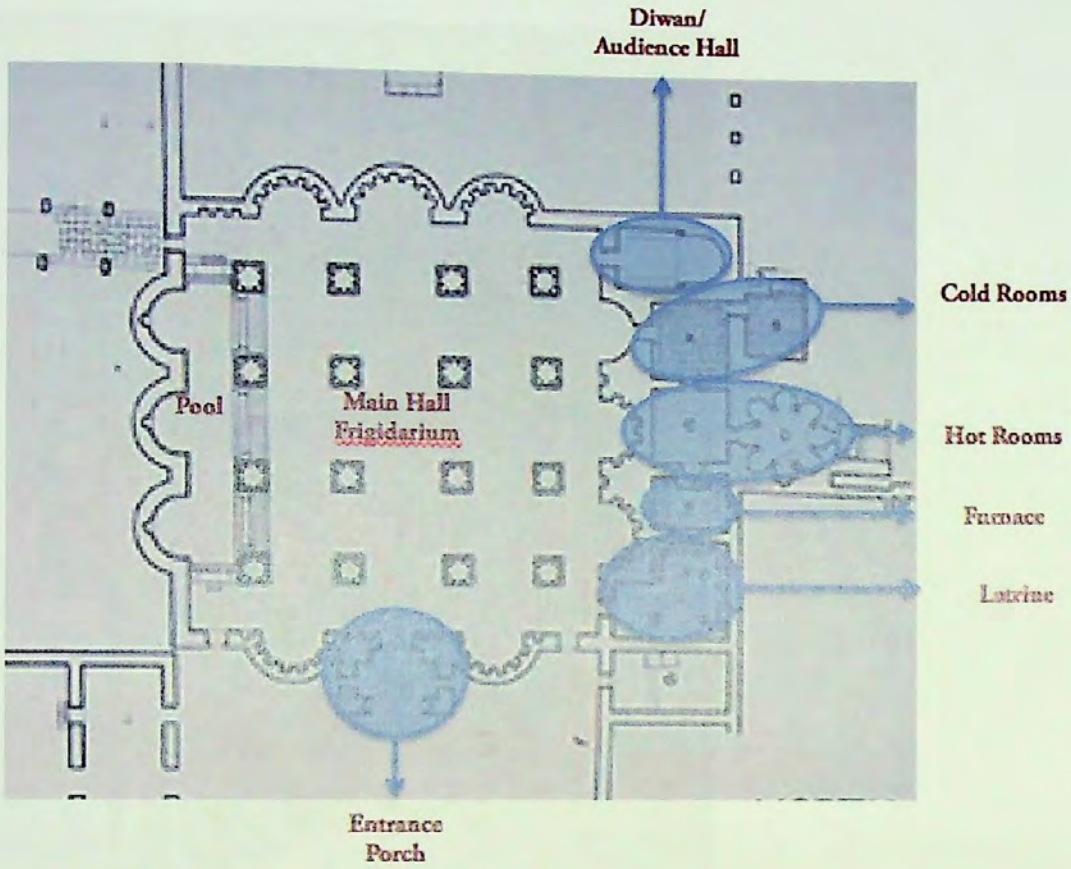

Fig. 18: Plan of the *Hammam* of Khirbat al-Mafjar. Source: Hamilton, 1959.

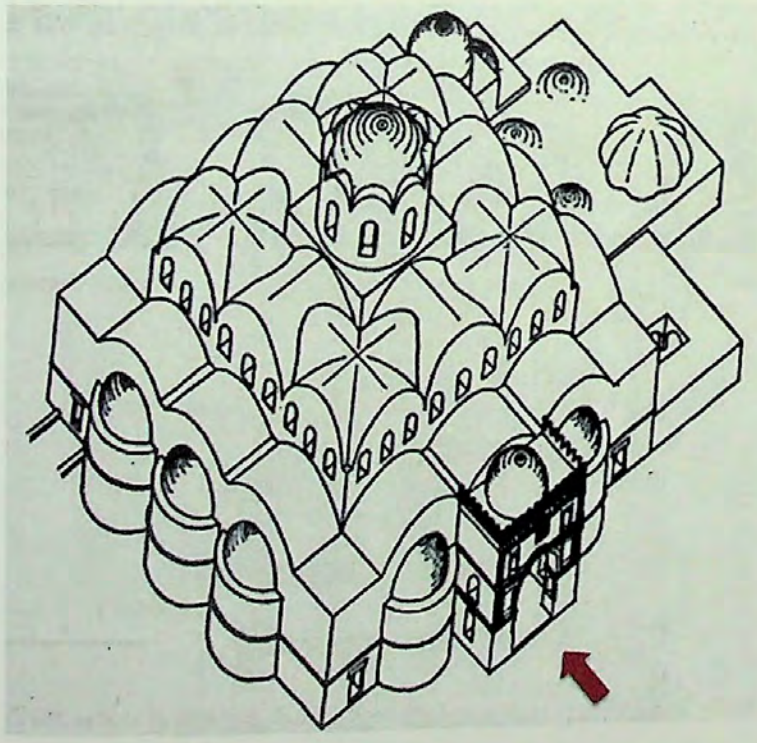

Fig. 19: Isometric vVew of the *Hammam* of Khirbat al-Mafjar. Source: Hamilton, 1959.

Parade previous to Circumcision.

Fig. 20: Parade previous to Circumcision. Source: Lane, 2003.

Bridal Procession. (Part I.)

Fig. 21: Bridal Procession (Part I). Source: Lane, 2003.

Fig. 22: Bridal Procession (Part II). Source: Lane, 2003.

Fig. 23: Plan of al-Salih Najm al-Din Ayyub *Madrasa* and Mausoleum. Source: Warner, 2005.

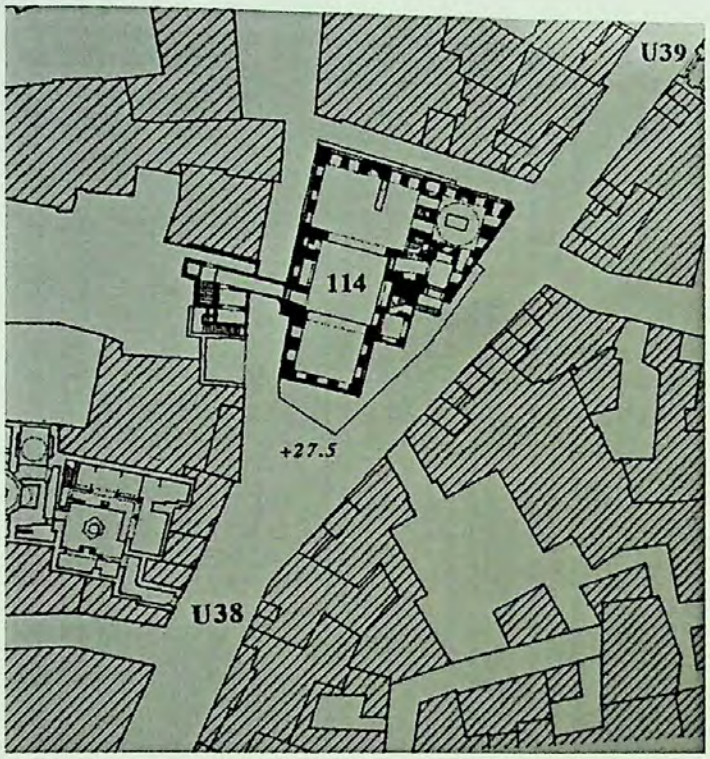

Fig. 24: Plan of Qijmas al-Ishaqi's Mosque. Source: Warner, 2005.

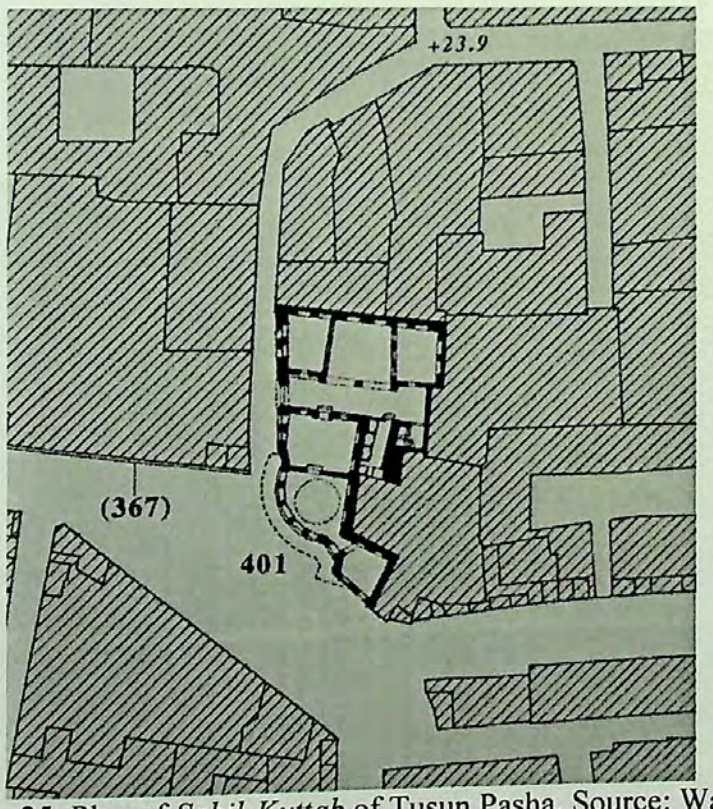

Fig. 25: Plan of *Sabil-Kuttab* of Tusun Pasha. Source: Warner, 2005.


Nicolas Vernet's map of historic Cairo

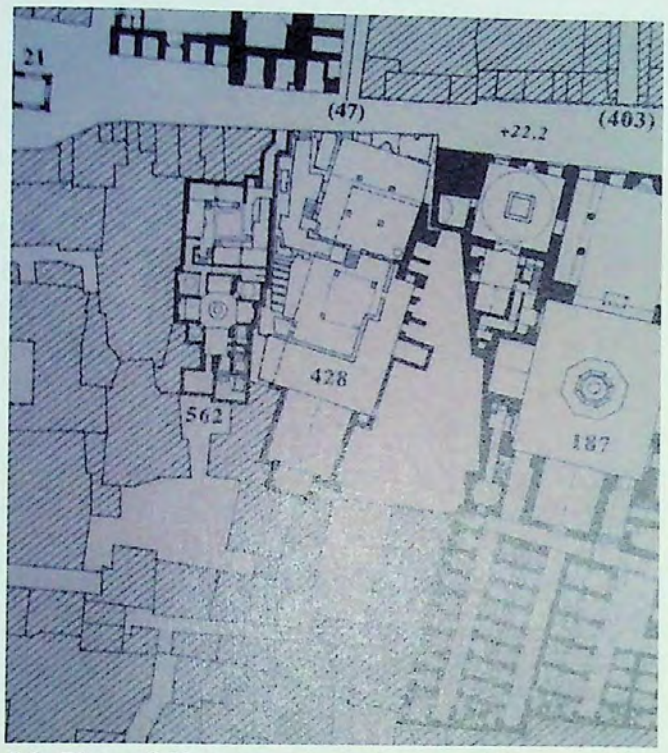

Fig. 26: Plan of *Hammam* Inal. Source: Warner, 2005.

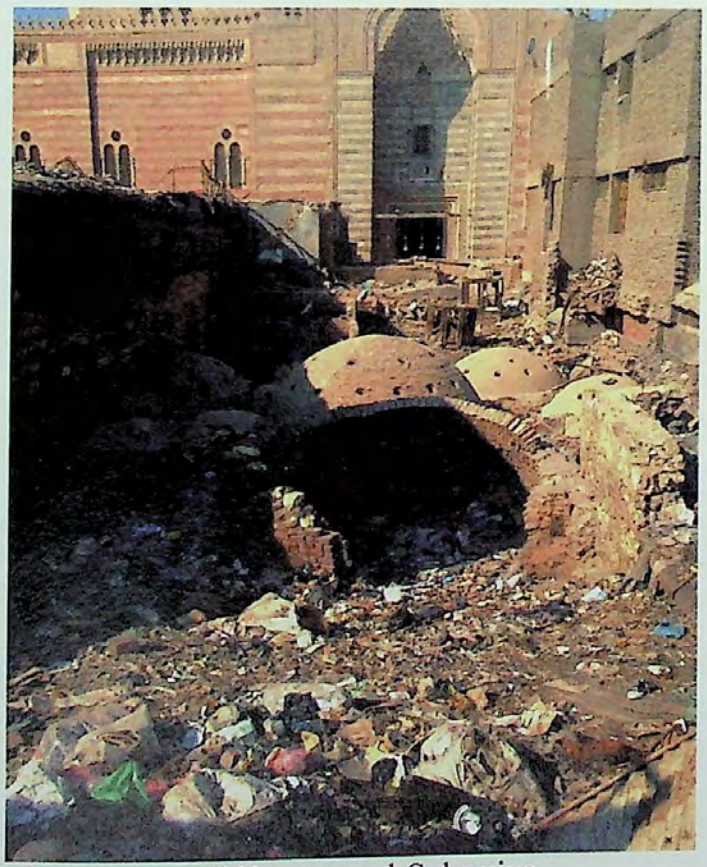
Fig. 27: The Domes of *Hammam* al-Sukarriya

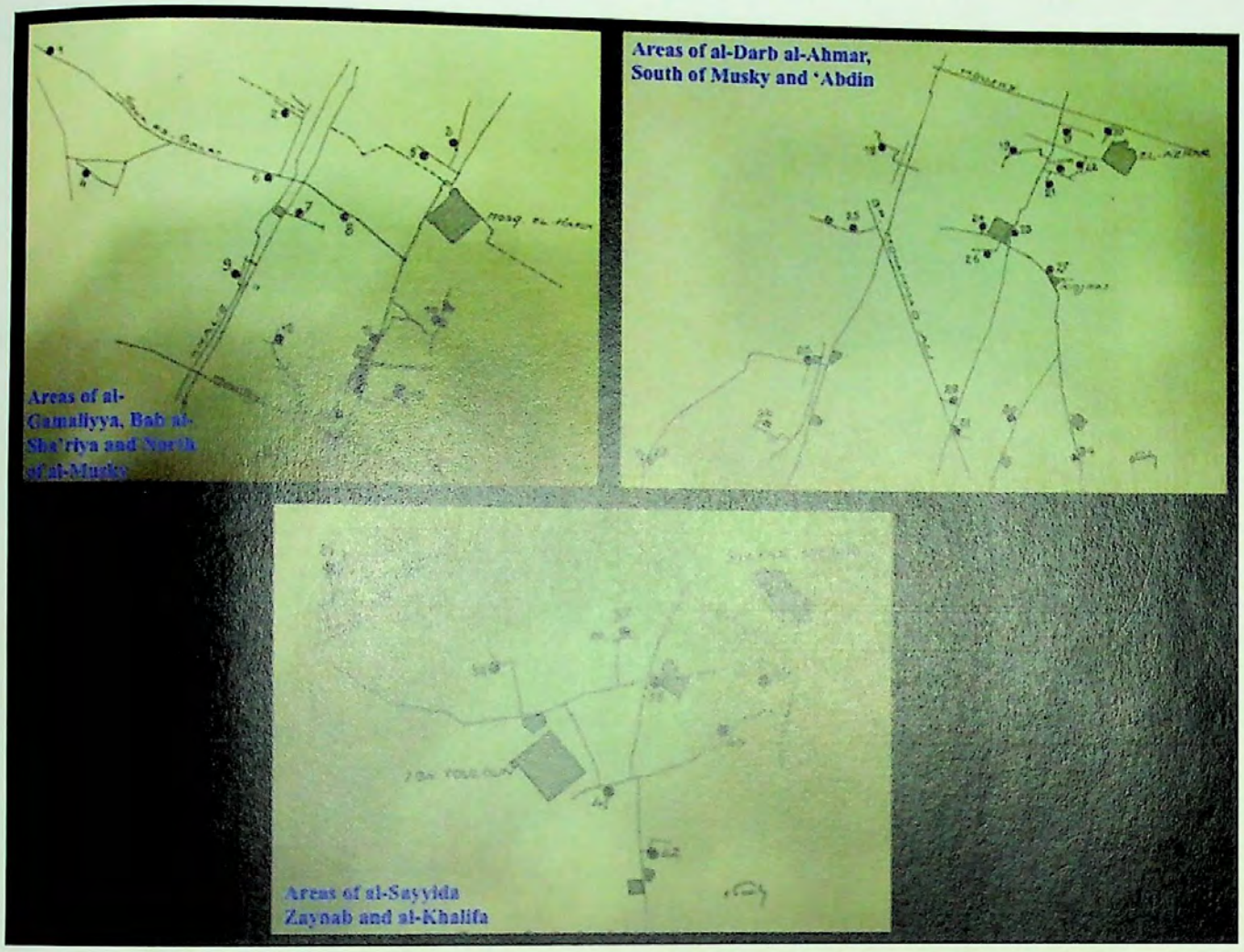

Fig. 29: Edmond Pauty's maps indicating the location of *hammam*s in Cairo. Source: Pauty, 1933.

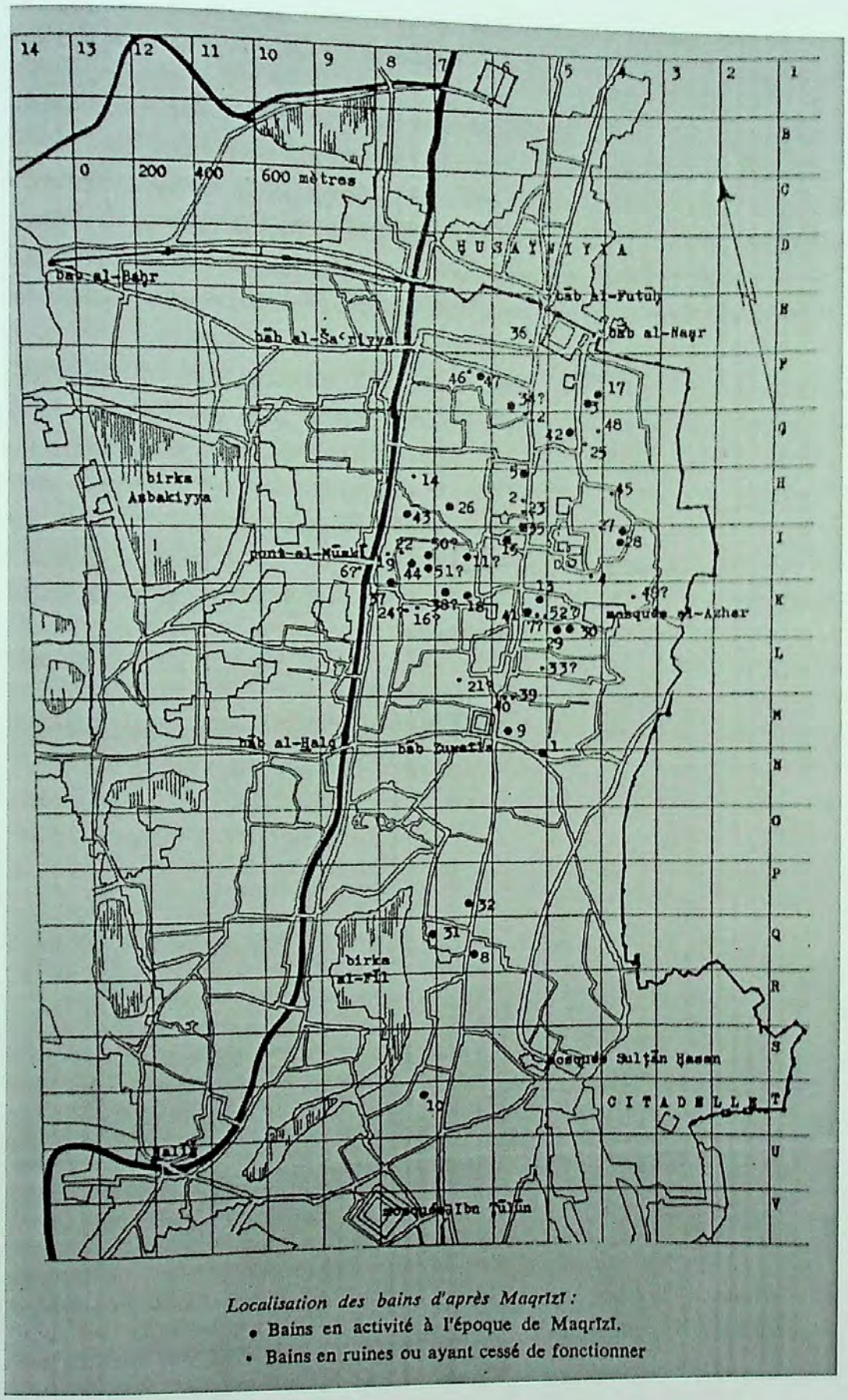

Fig. 30: Localization of *hammams* in Cairo in the 15th century A.D. after Maqrizi.

Source: Raymond, 1978.

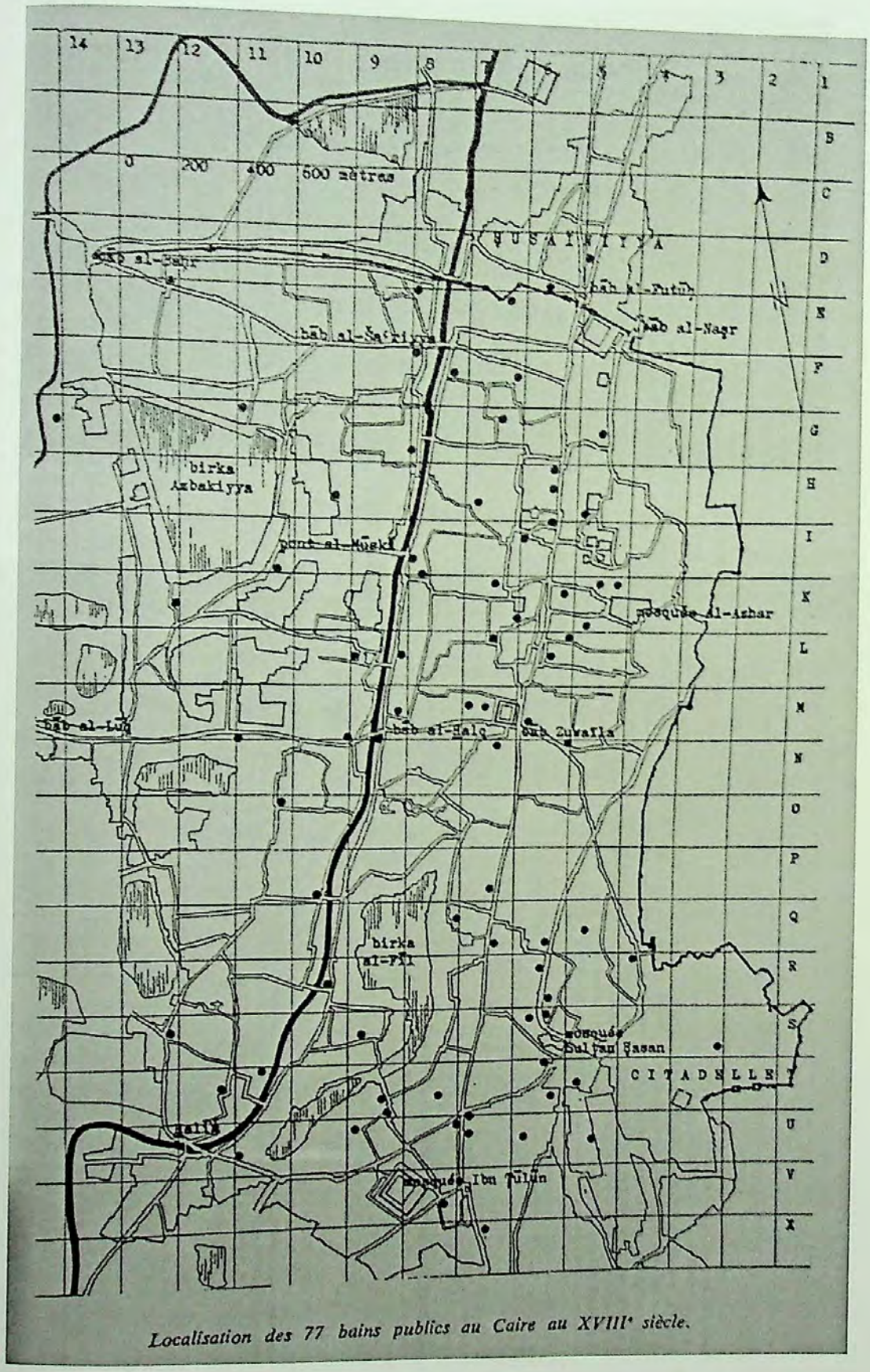

Fig. 31: Localization of *hammams* in Cairo in the 18th century A.D. Source: Raymond, 1978.

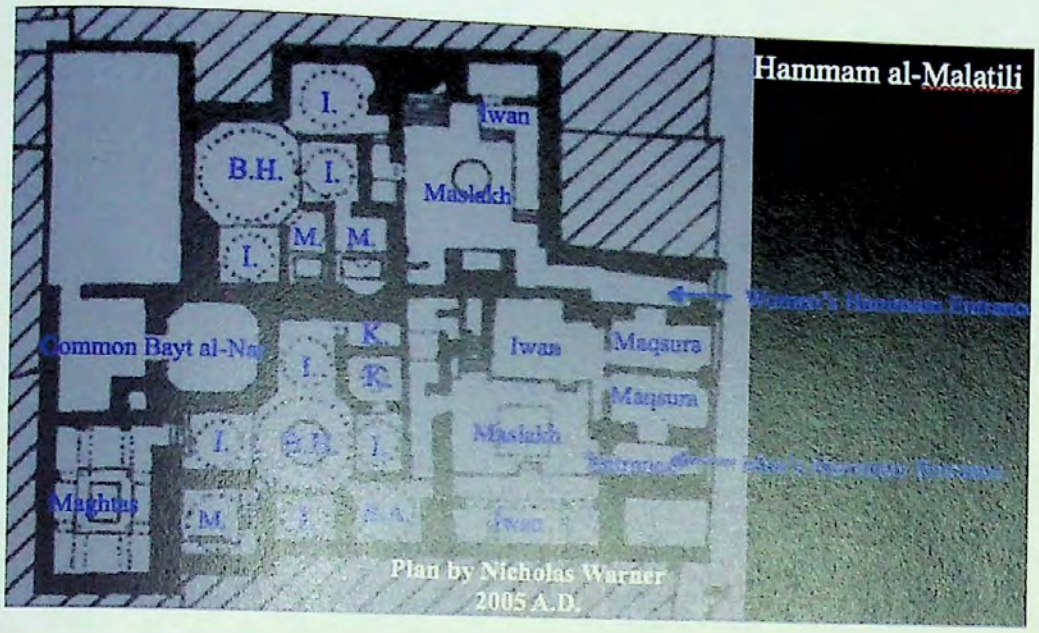

Fig. 32: Twin *Hammam* al-Malatili Plan. Source: Warner, 2005.

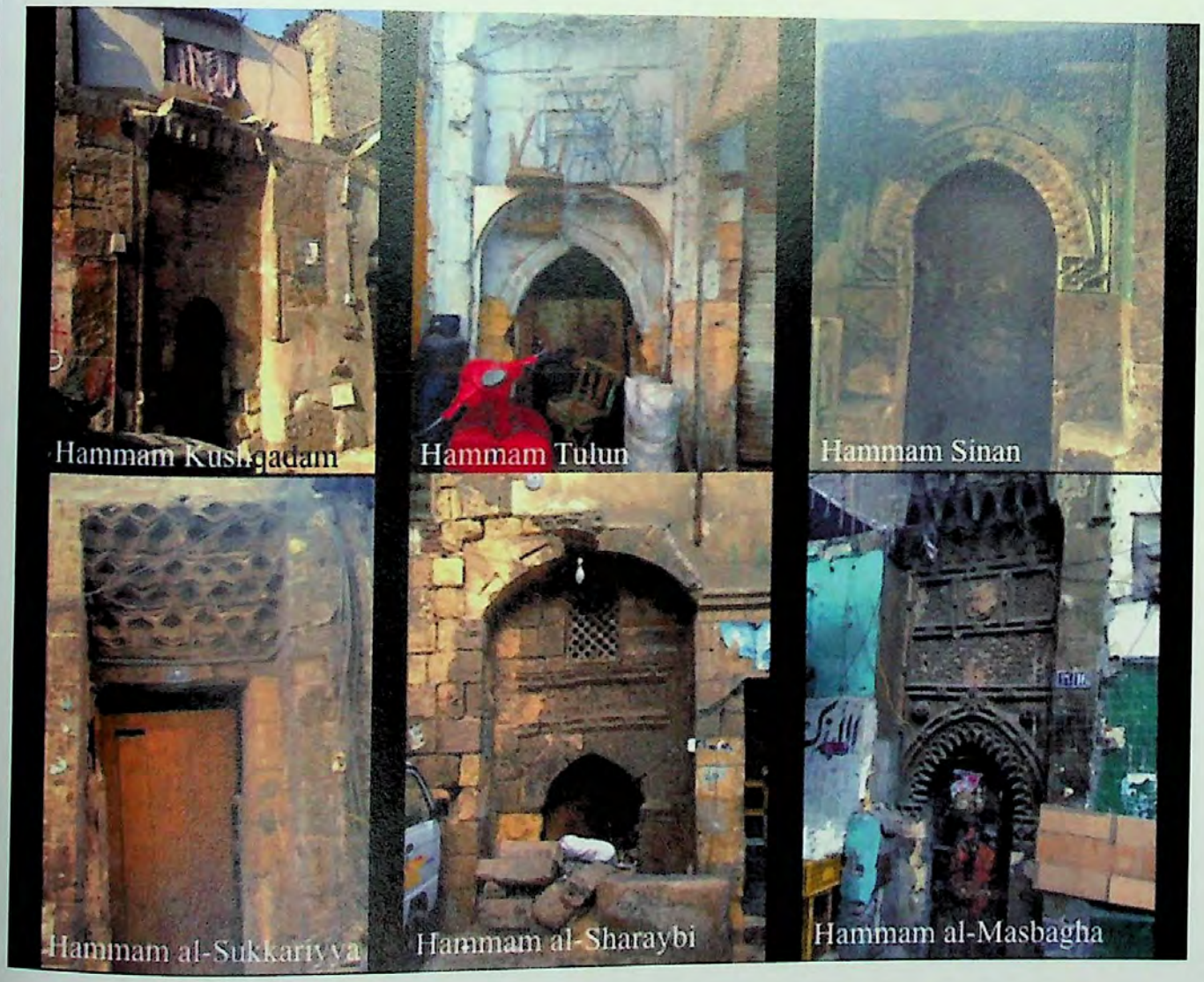

Fig. 33: *Hammams* Portals (Part I)

Fig. 34: *Hammams* Portals (Part II)

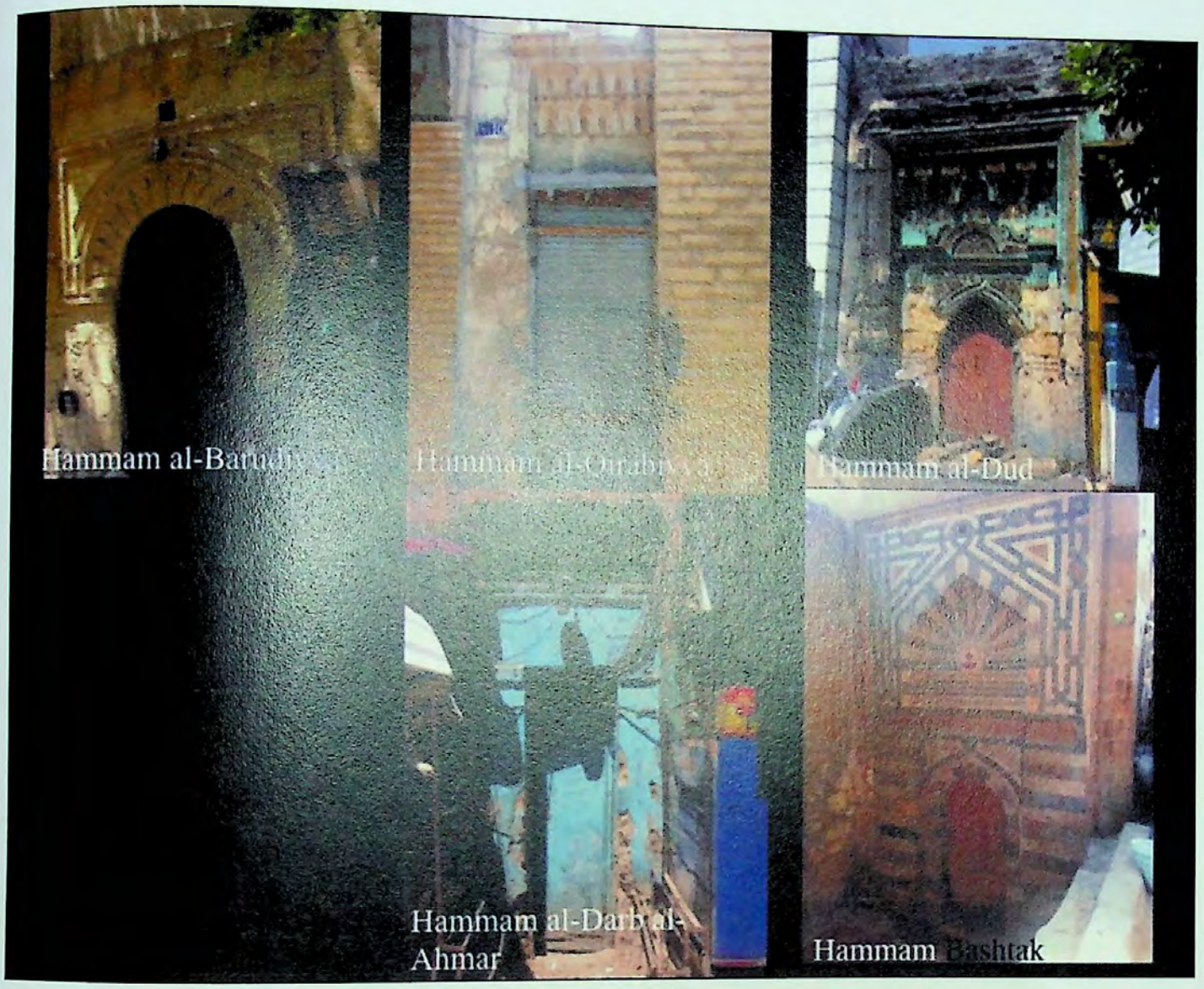

Fig. 35: *Hammams* Portals (Part III)

Fig. 36: Window of Shaykh Zayn al-Din Yusuf's *zawiyya*

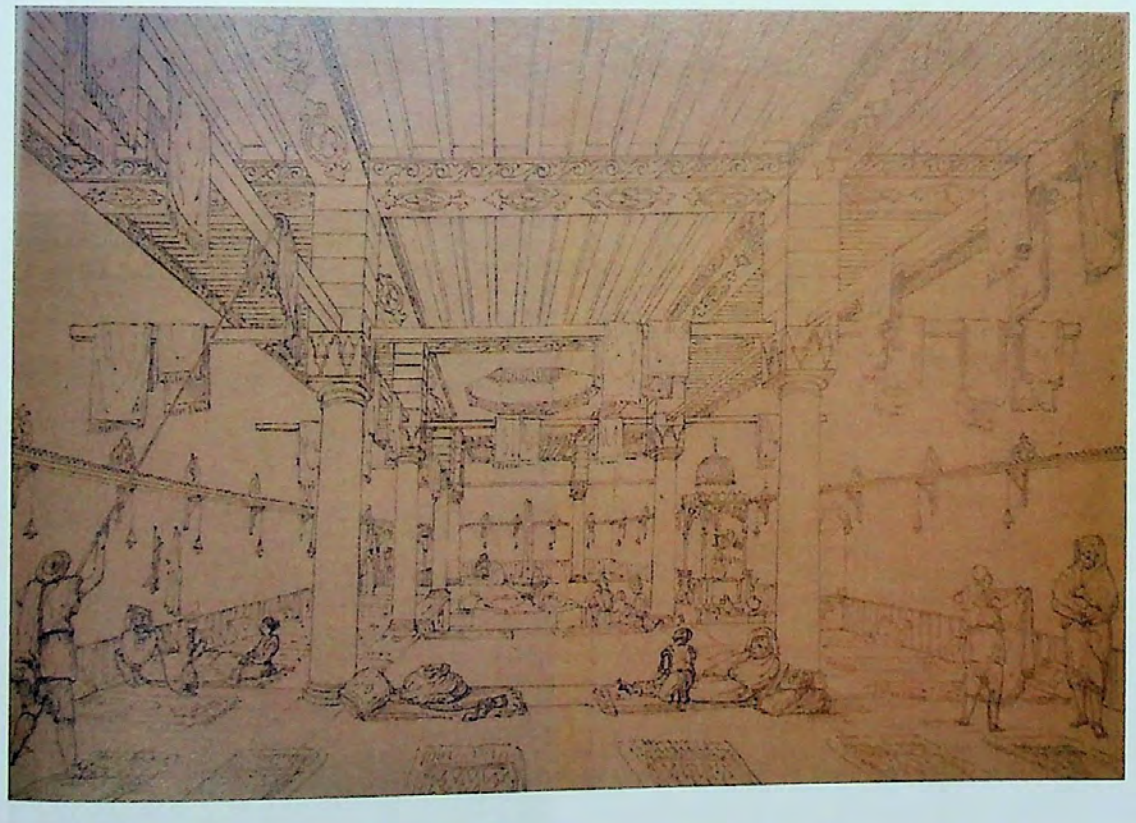

Fig. 37: View of the *Maslakh* of *Hammam* al-Malatili. Source: Pascal Coste, 1822.

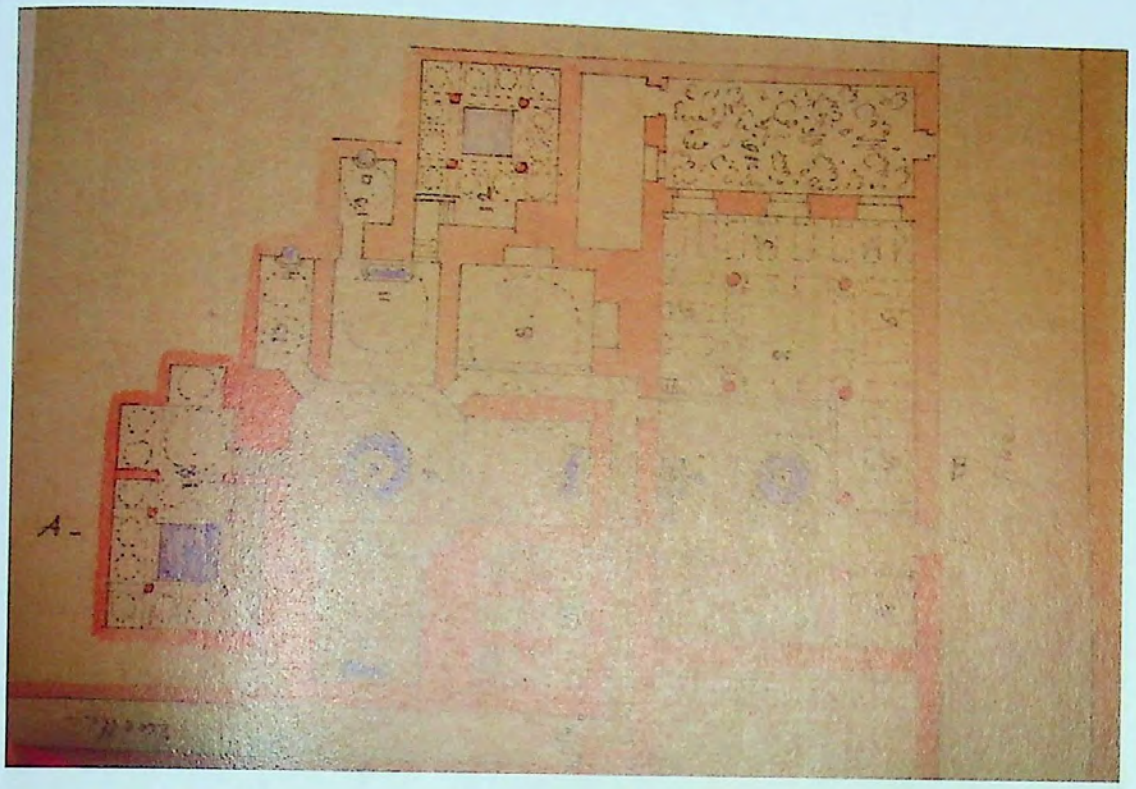

Fig. 38: Plan of Men's section in *Hammam* al-Malatili. Source: Pascal Coste, 1822.

Fig. 39: *Maslakh* of a bathhouse. Source: G.M. Ebres, 1881-82.

Fig. 40: *Maslakh* Cabinets of *Hammam* Inal

Fig. 41: Surviving marble flooring in *Hammam* al-Bishri. Source: Pascal Meunier photographies, http://www.pascalmeunier.com/reportages_photos_en.php?piId=1946

Fig. 42: *Maslakh* of *Hammam* Bashtak. Source: Pascal Meunier photographies, http://www.pascalmeunier.com/reportages_photos_en.php?pild=1940

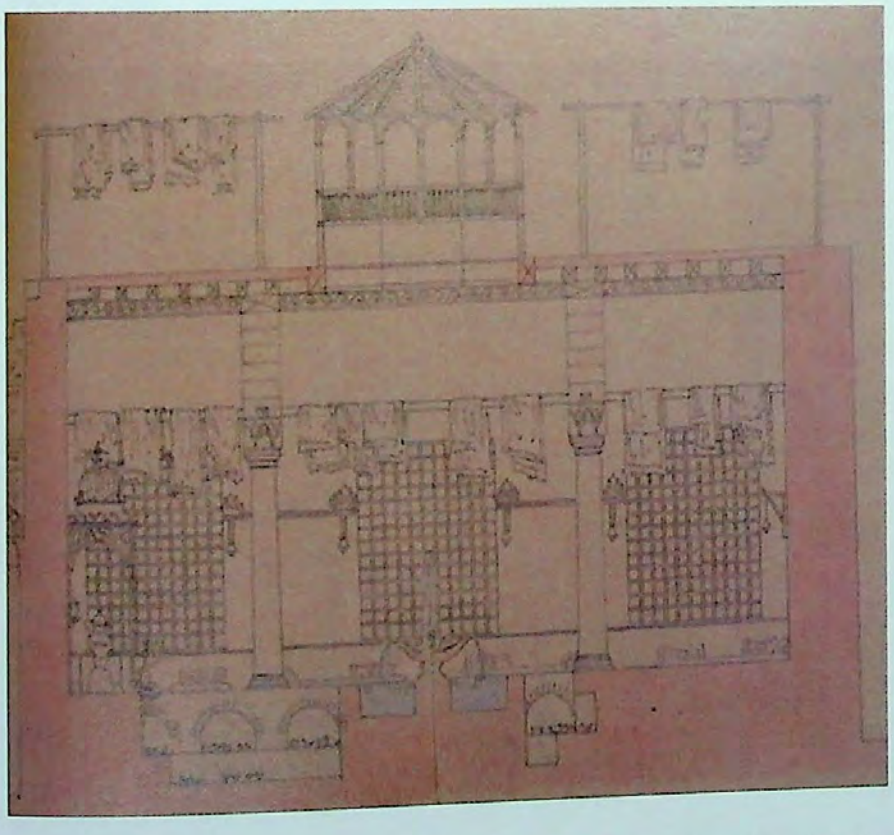

Fig. 43: *Hammam* al-Malatili's *Maslakh* Cross-Section showing the towels hung up on the beams. Source: Pascal Coste, 1822.

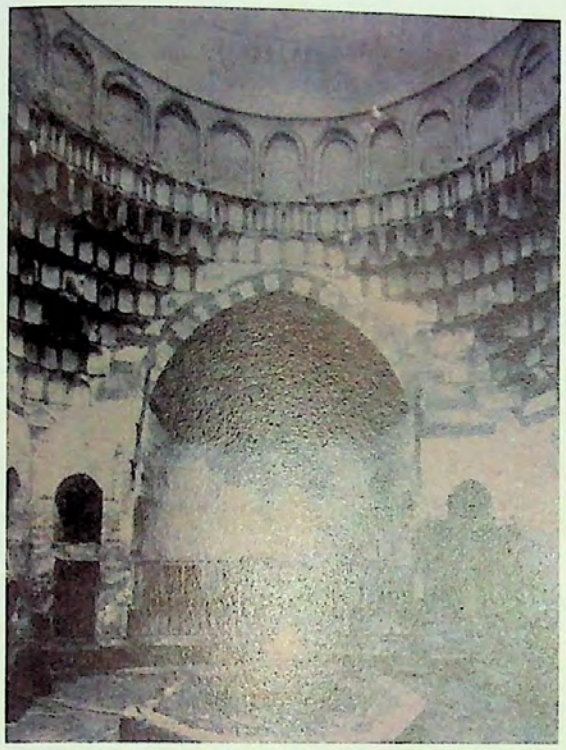

Fig. 44: *Maslakh* dome and stalactites of Mu'ayyad Shaykh's *Hammam*. Source: Pauty, 1933.

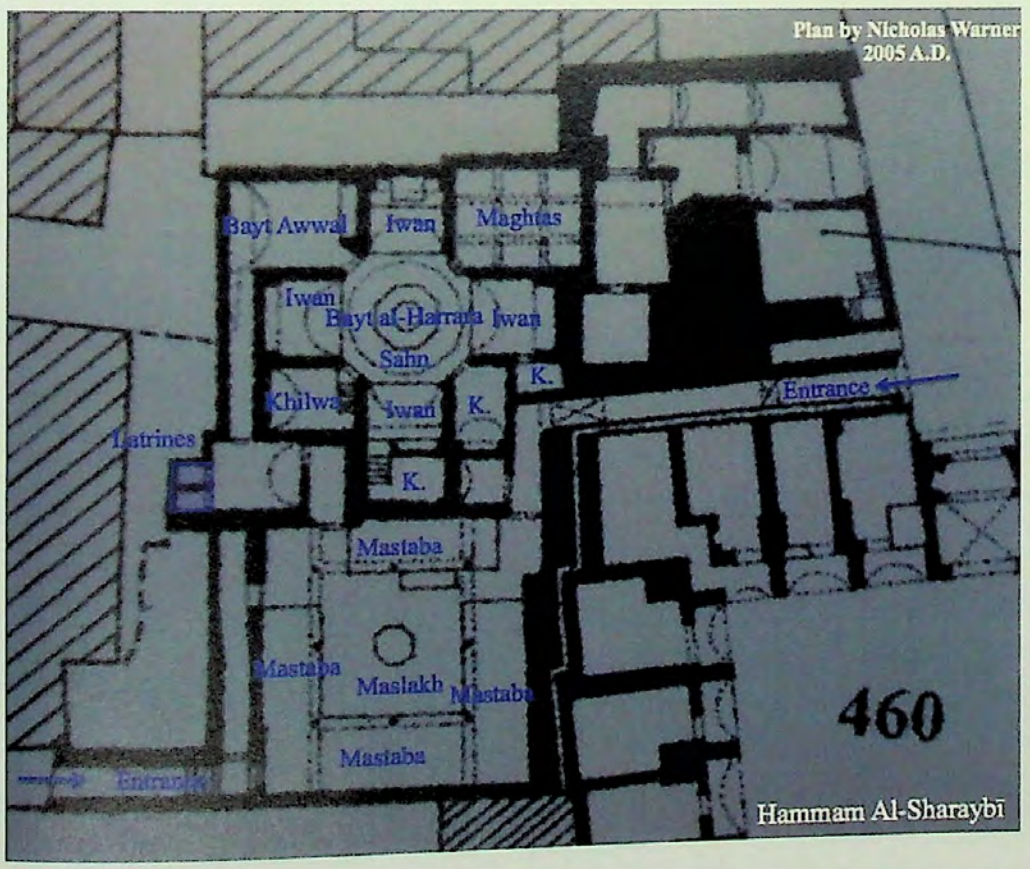

Fig. 45: Plan of *Hammam* al-Sharaybi showing a vaulted *Bayt al-Awwal*. Source: Warner, 2005.

Fig. 46: Inside of a *hammam*, dome '*qamariyyat*'

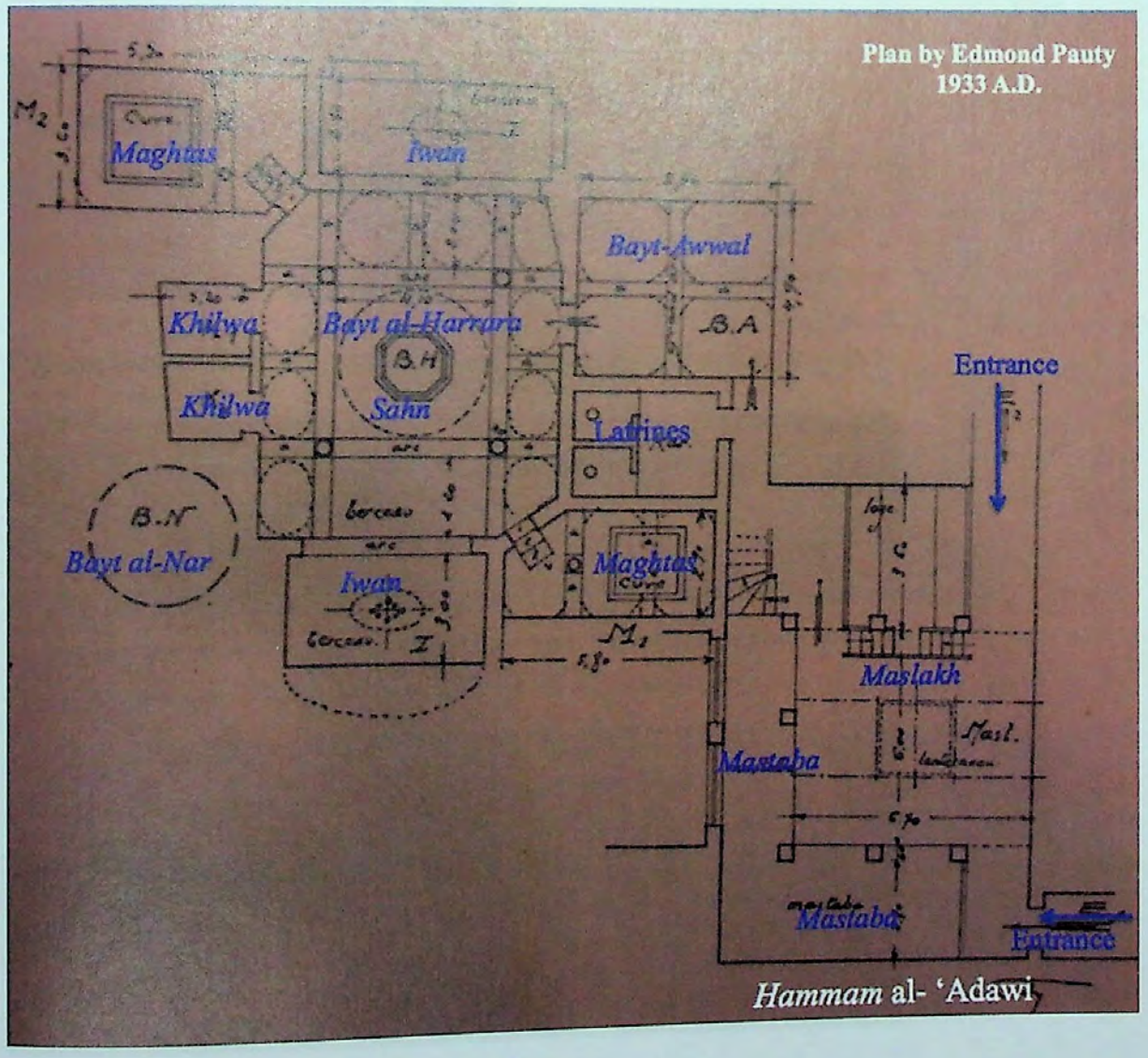

Fig. 47: Plan of *Hammam* al-'Adawi. Source: Pauty 1933.

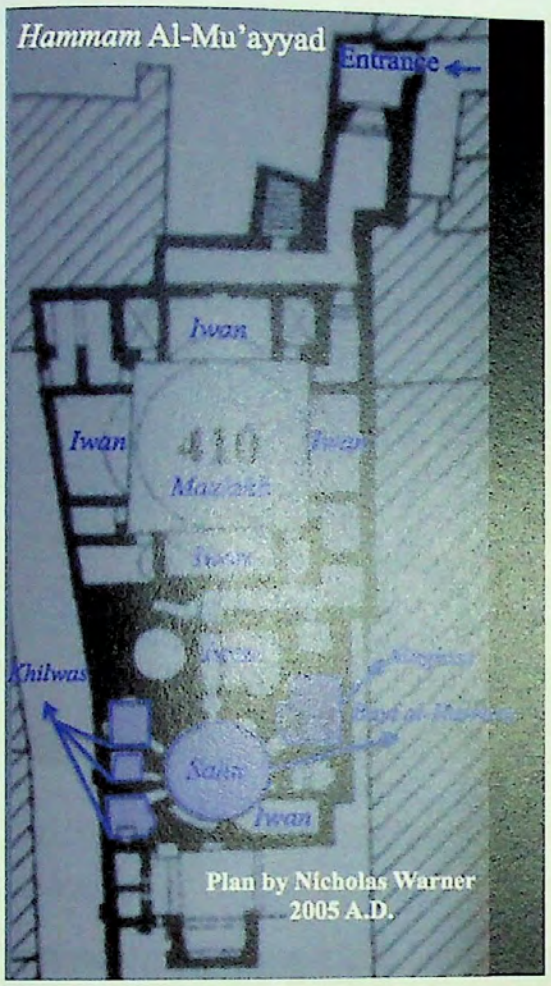

Fig. 48: Plan of *Hammam* al-Mu'ayyad. Source: Nicholas Warner, 2005.

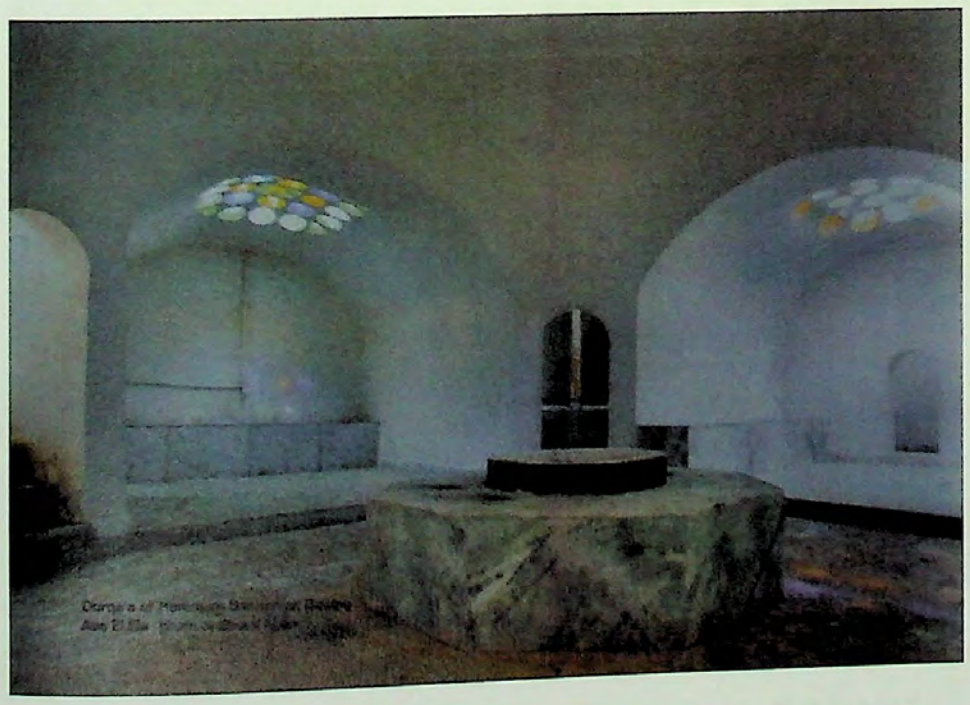

Fig. 49: *Sahn* of *Hammam* Sinan in Bulaq. Source: Sherif Nasr, 2010.

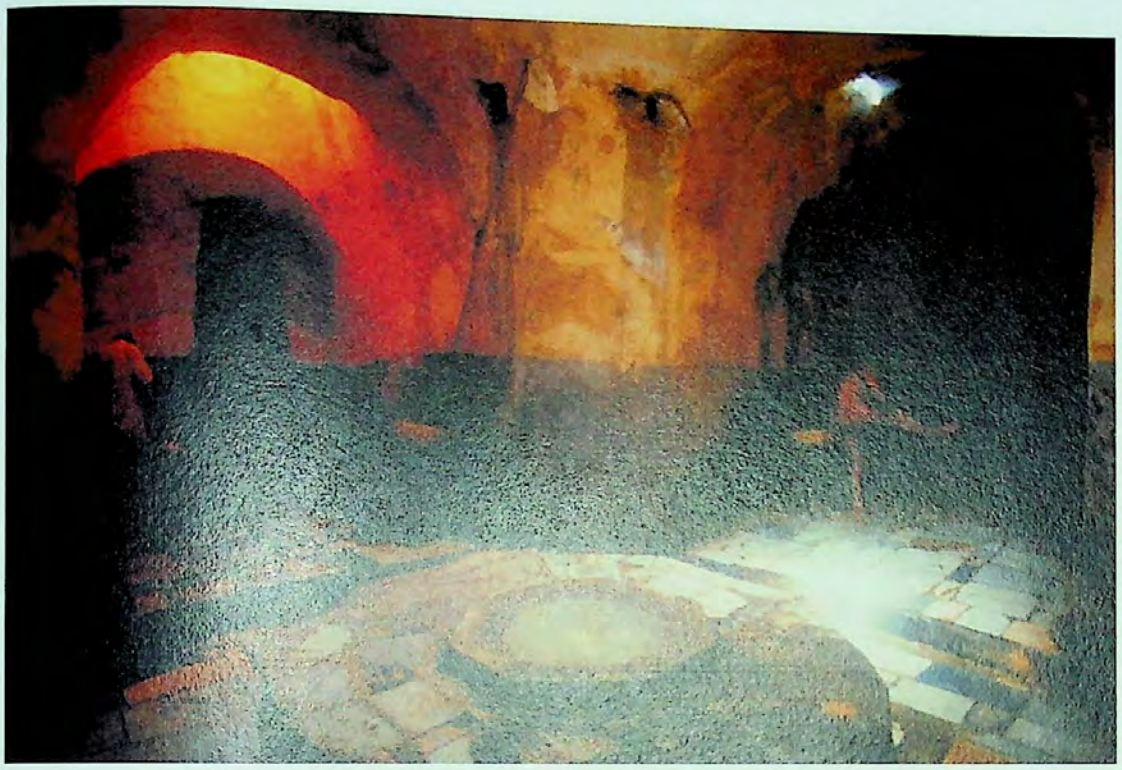

Fig. 50: *Bayt al-Harrara* of *Hammam* al-Malatili. Source: Pascal Meunier photographies, http://www.pascalmeunier.com/reportages_photos_en.php?piId=1926

Fig. 51: *Khilwa* of *Hammam* al-Tambali. Source: Pascal Meunier photographies, http://www.pascalmeunier.com/reportages_photos_en.php?piId=1947

Fig. 52: *Maghtas* of *Hammam* al-Tambali. Source: Pascal Meunier photographies, http://www.pascalmeunier.com/reportages_photos_en.php?piId=1929

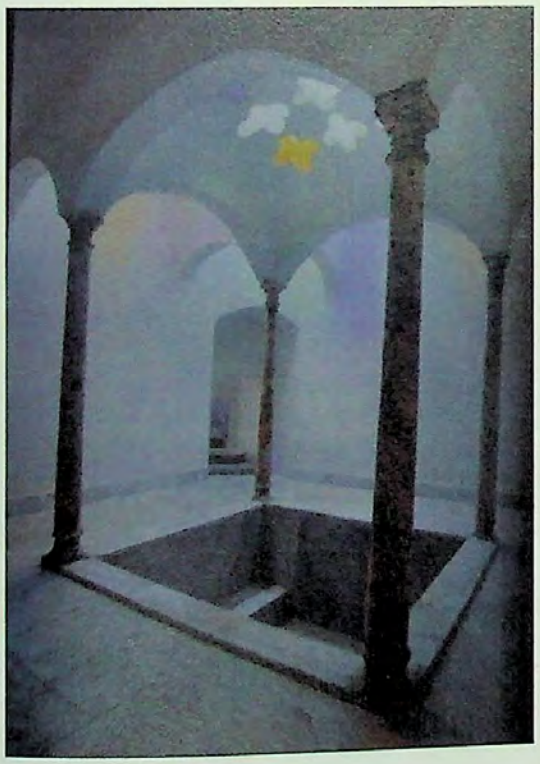

Fig. 53: *Maghtas* of *Hammam* Sinan. Source: Sherif Nasr, 2010.

Fig. 54: Dome over *Maghtas* of *Hammam* Qalawun. Source: Edmond Pauty, 1933.

. 55: Schematic Cross-Section of a *Hammam* showing *al-Dabkuniyya*. Source: Ahmed Lotfy,
10.

Fig. 56: Cross-Section in the *Maslakh* of *Hammam* al-Malatili. Source: Pascal Coste, 1822.

Fig. 57: Copper Fava Beans Pot. Source: Talaluna

https://www.flickr.com/photos/62820245@N02/7107482757/

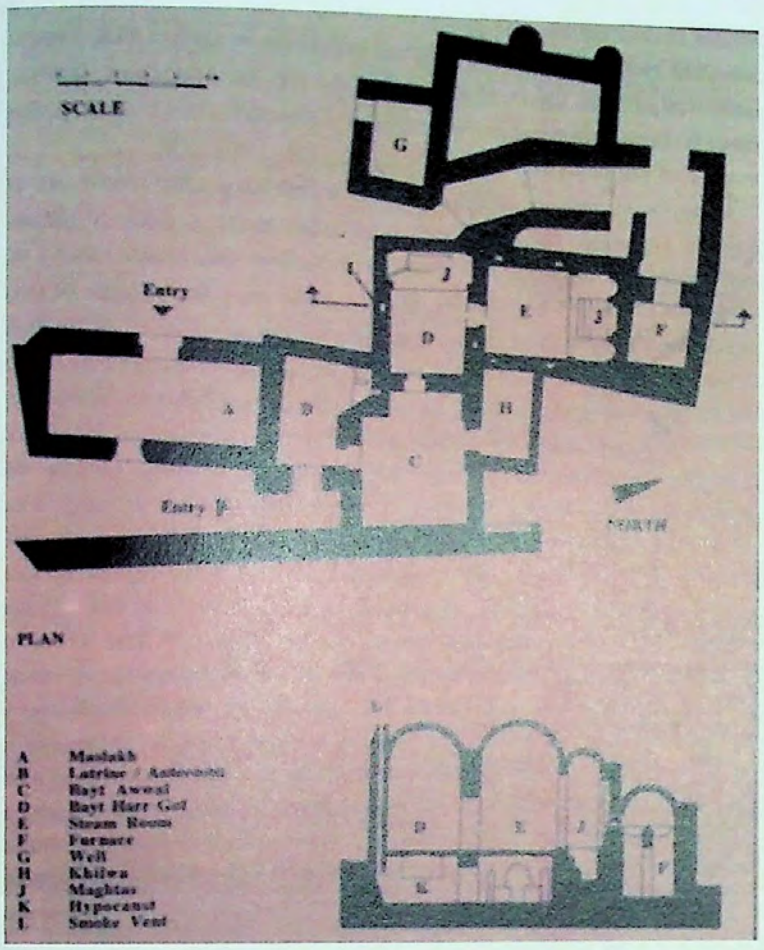

Fig. 58: Plan and Section of the Tulunid *Hammam*. Source: A. Yasin, 1988.

Fig. 59: *Salsabil* of Qaytbay *sabil*

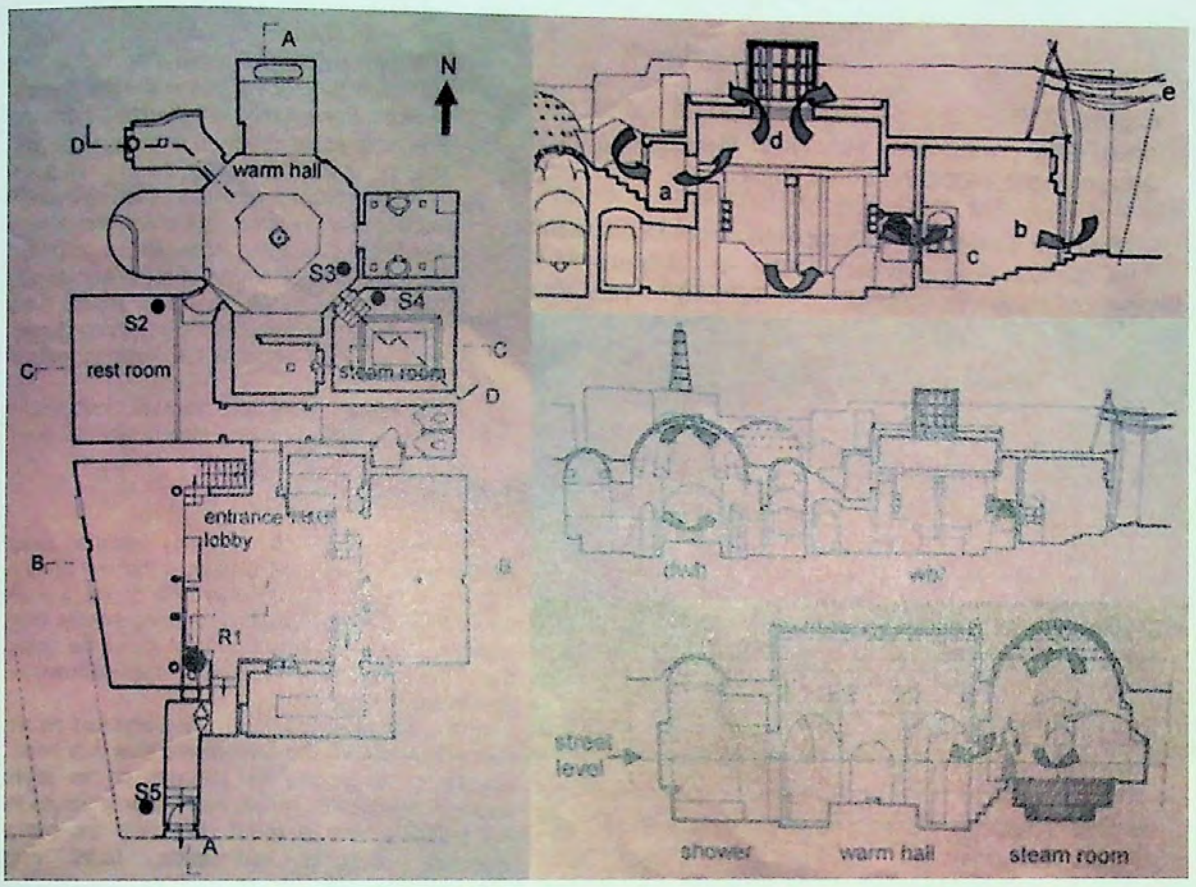

Fig. 60: Plan & Sections of *Hammam* Bab al-Bahr in Cairo. Source: Bouillot, 2006.

Fig. 61: Doorway of *Hammam* Buswifa in Fez. Source: Bouillot, 2006.

http://archnet.org/system/publications/contents/5172/original/DPC1909.PDF?1384788601

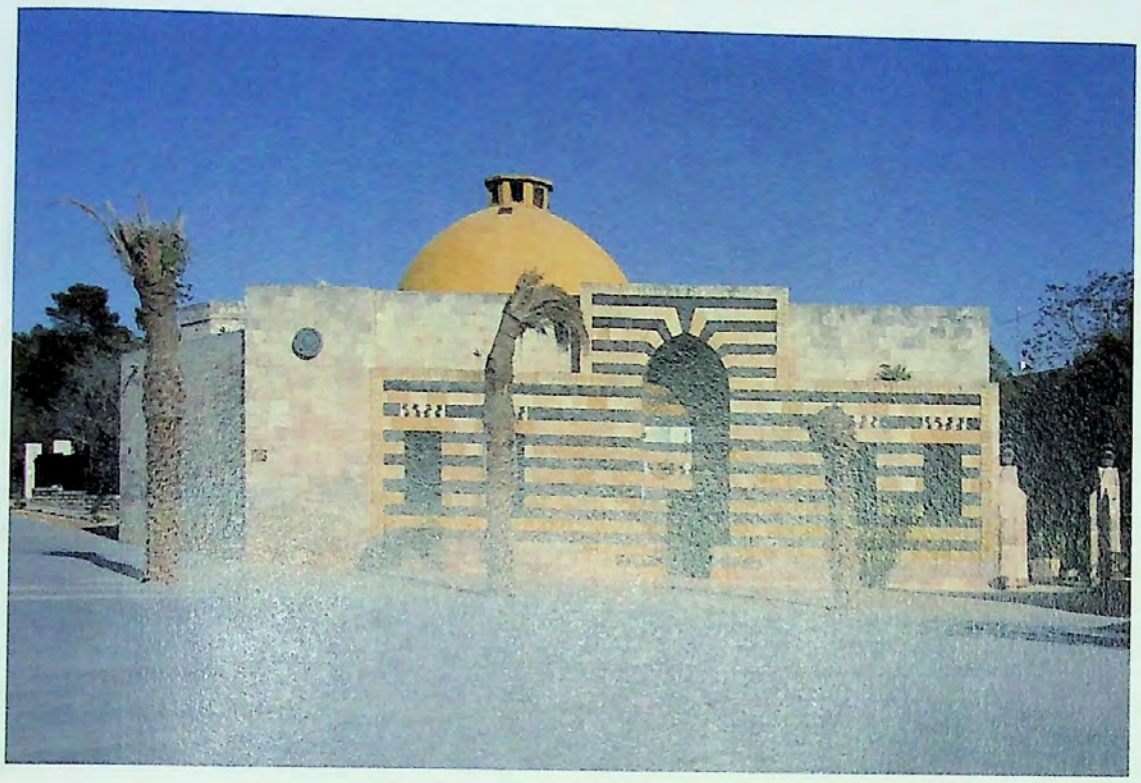

Fig. 62: Façade of *Hammam* Yalbugha. Source: Gagnon, 2010.

http://en.wikipedia.org/wiki/File:Hammam_Yalbougha_al-Nasri,_Aleppo.jpg

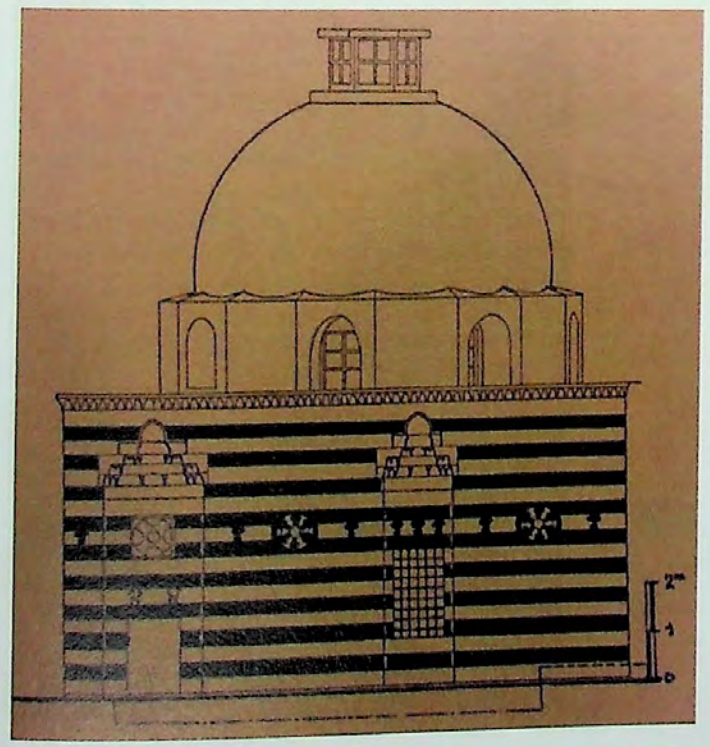

Fig. 63: Façade of *Hammam* al-Tayruzi. Source: Ecochard and le Coeur, 1942.

Fig. 64: *Hammam* al-Tayruzi Portal. Source: Knost.

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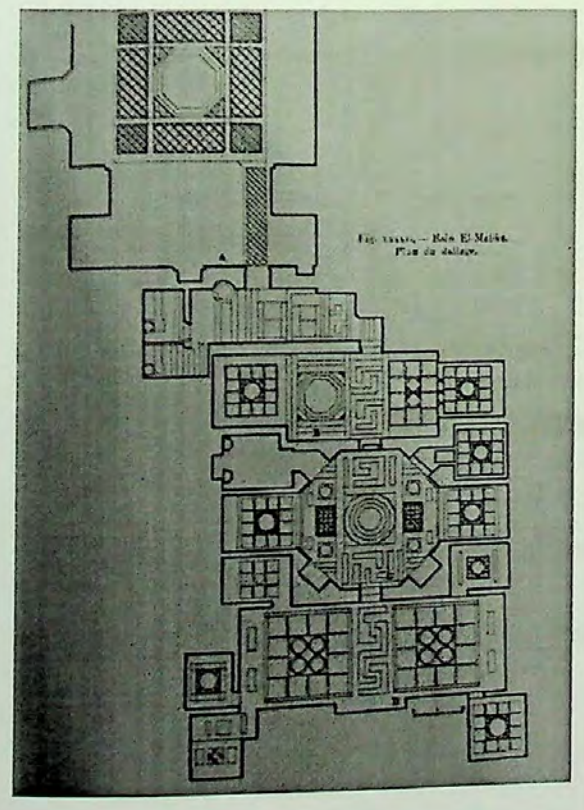

Fig. 65: Marble Flooring in Geometric Forms of *Hammam* al-Maliki. Source: Ecochard and le Coeur, 1942.

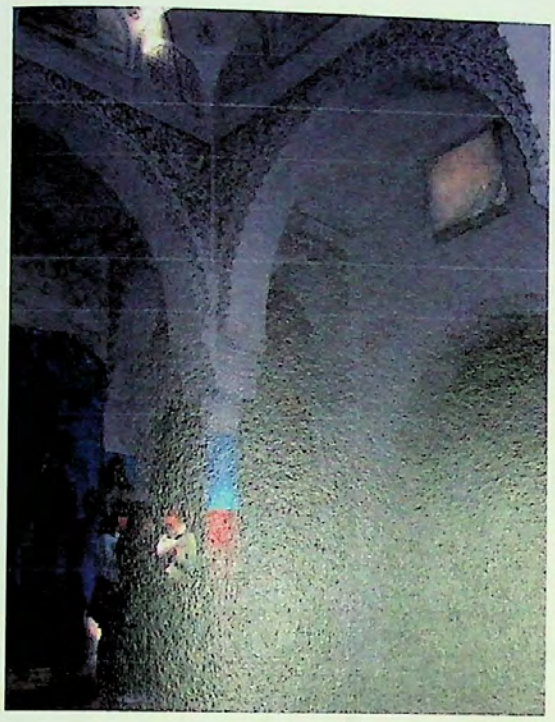

Fig. 66: Undressing Room of Seffarine *Hammam* in Fez. Source: Darwish, 2006.

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8601

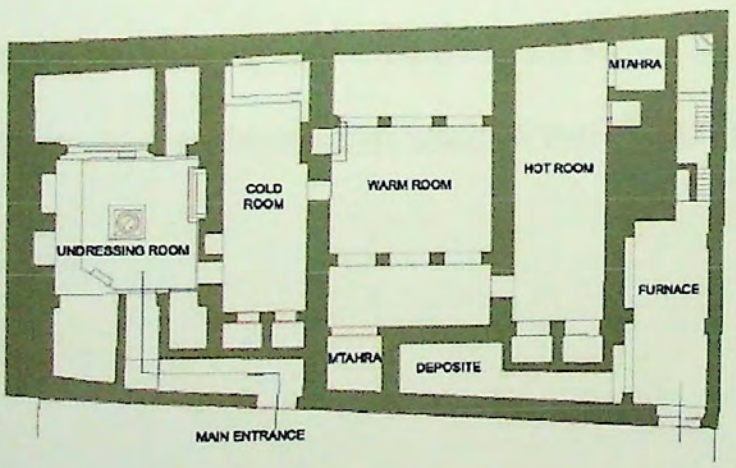

Fig. 67: Plan of *Hammam* Mukhfiyya in Fez. Source: ADER-Fés, 2006.

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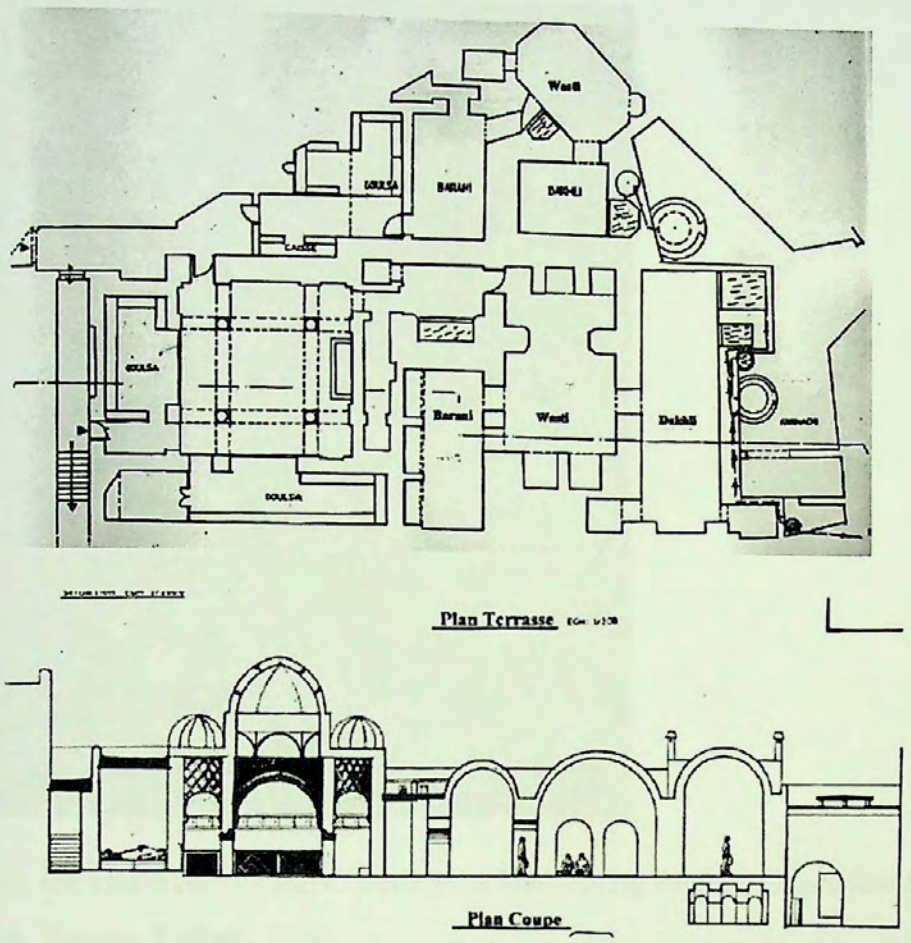

Fig. 68: *Hammam* Seffarine Ground Plan and Section. Source: Sibley, 2006.

http://www.unige.ch/cuepe/html/plea2006/Vol1/PLEA2006_PAPER971.pdf

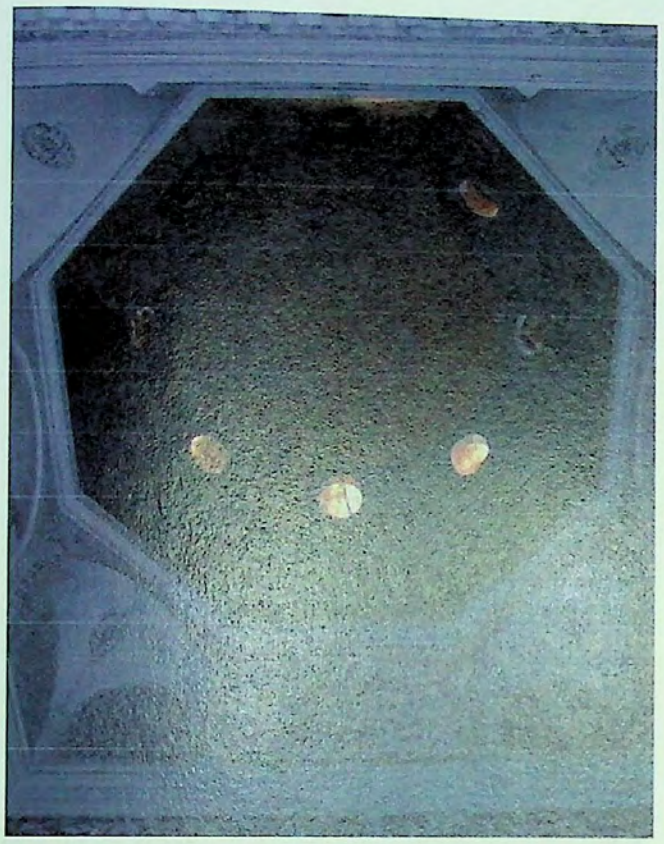

Fig. 69: Decorated Dome Covering the Undressing Room of *Hammam* Seffarine in Fez. Source: Raftani, 2006.

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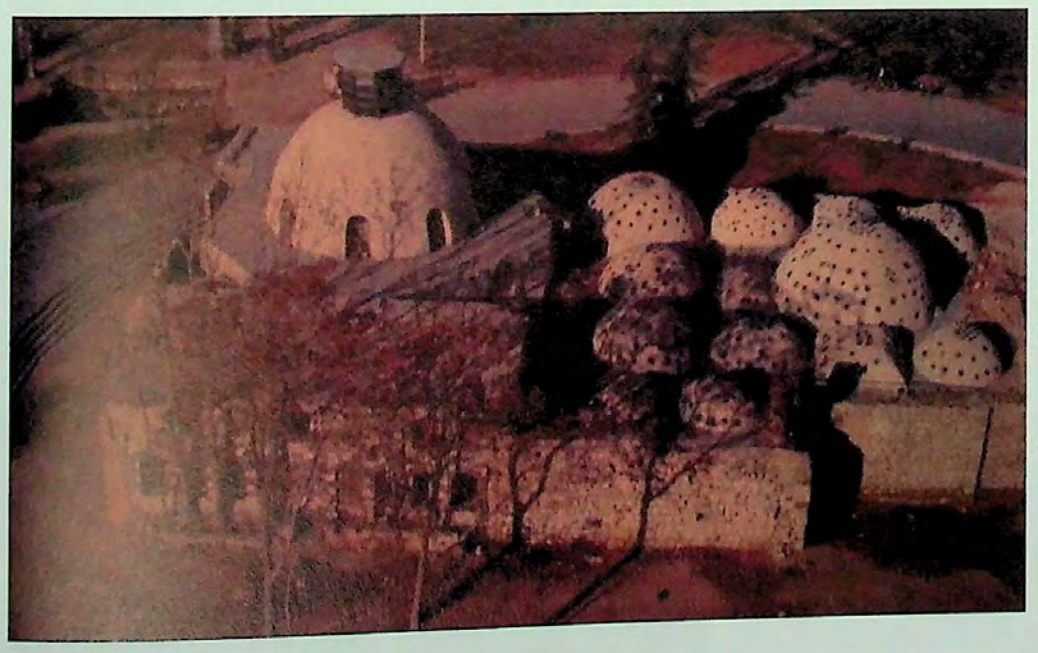

Fig. 70: View of *Hammam* Qaramana Domes in Damascus. Source: Boggs, 2010.

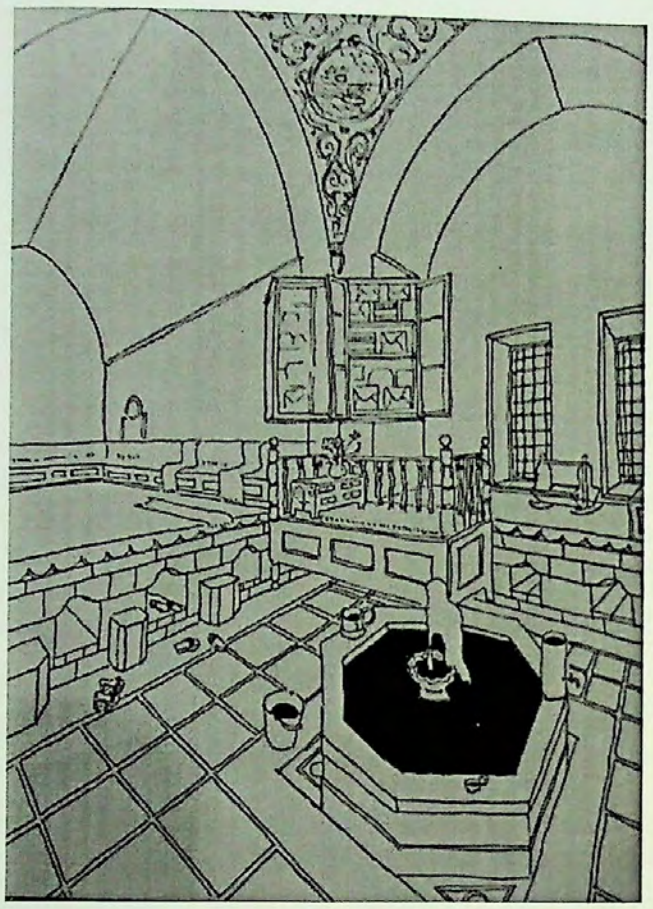

Fig. 71: View of *Hammam* al-Tayruzi undressing room with windows. Source: Ecochard and le Coeur, 1942.

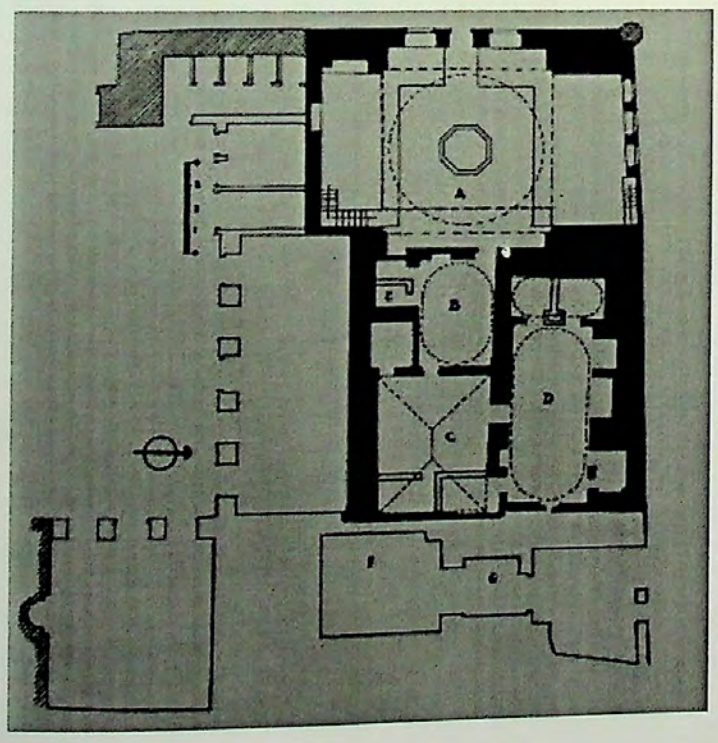

Fig. 72: Plan of *Hammam* al-Malik al-Zahir. Source: Ecochard and le Coeur, 1942.

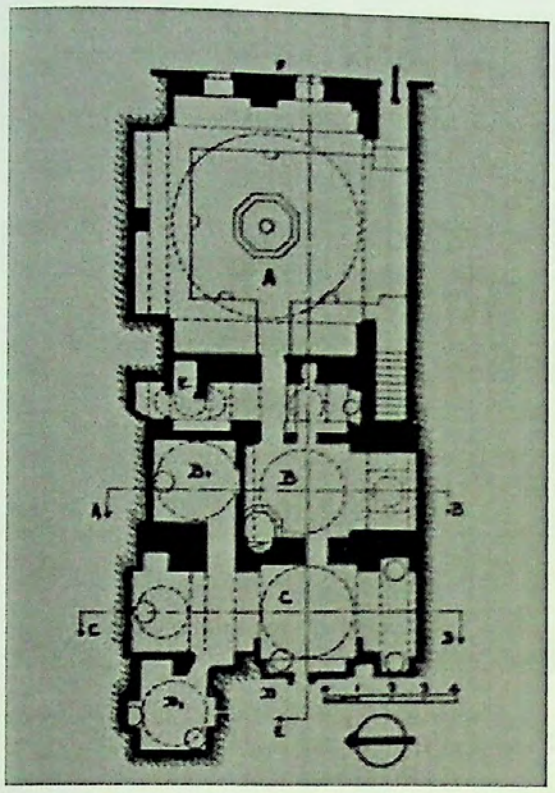

Fig. 73: Plan of *Hammam* Ammuna. Source: Ecochard and le Coeur, 1942.

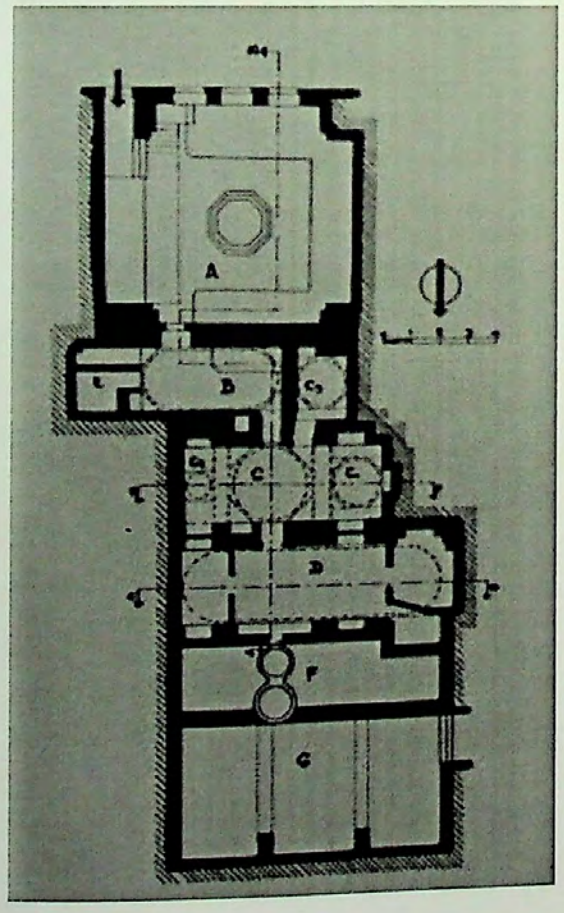

Fig. 74: Plan of *Hammam* al-'Umari. Source: Ecochard and le Coeur, 1942.

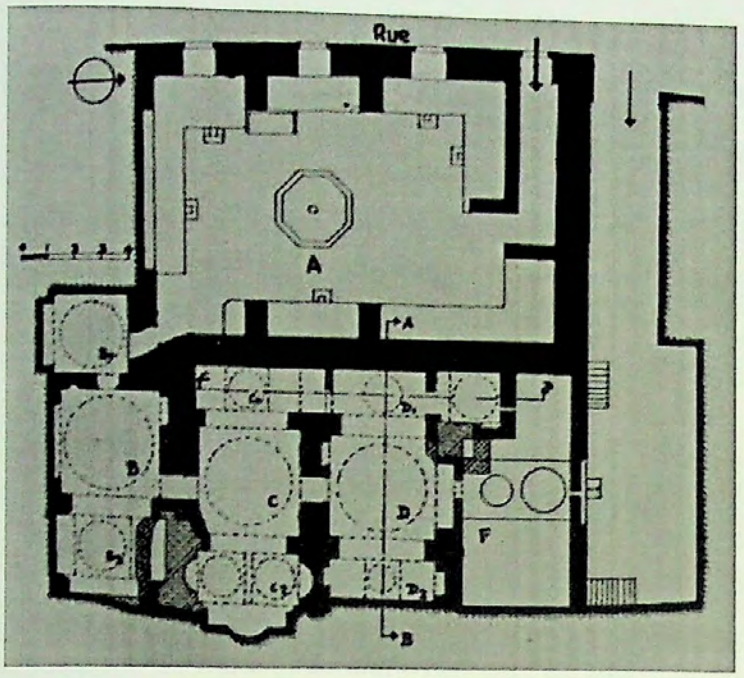

Fig. 75: Plan of *Hammam* Qaymariyya. Source: Ecochard and le Coeur, 1942.

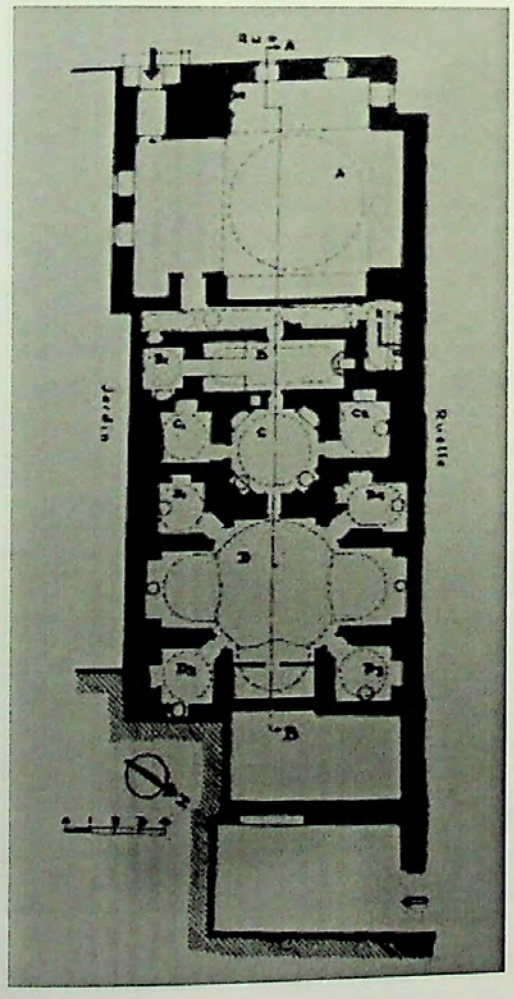

Fig. 76: Plan of *Hammam* al-Hajib. Source: Ecochard and le Coeur, 1942.

Fig. 77: *Hammam* al-Malatili Windows overlooking the Street.

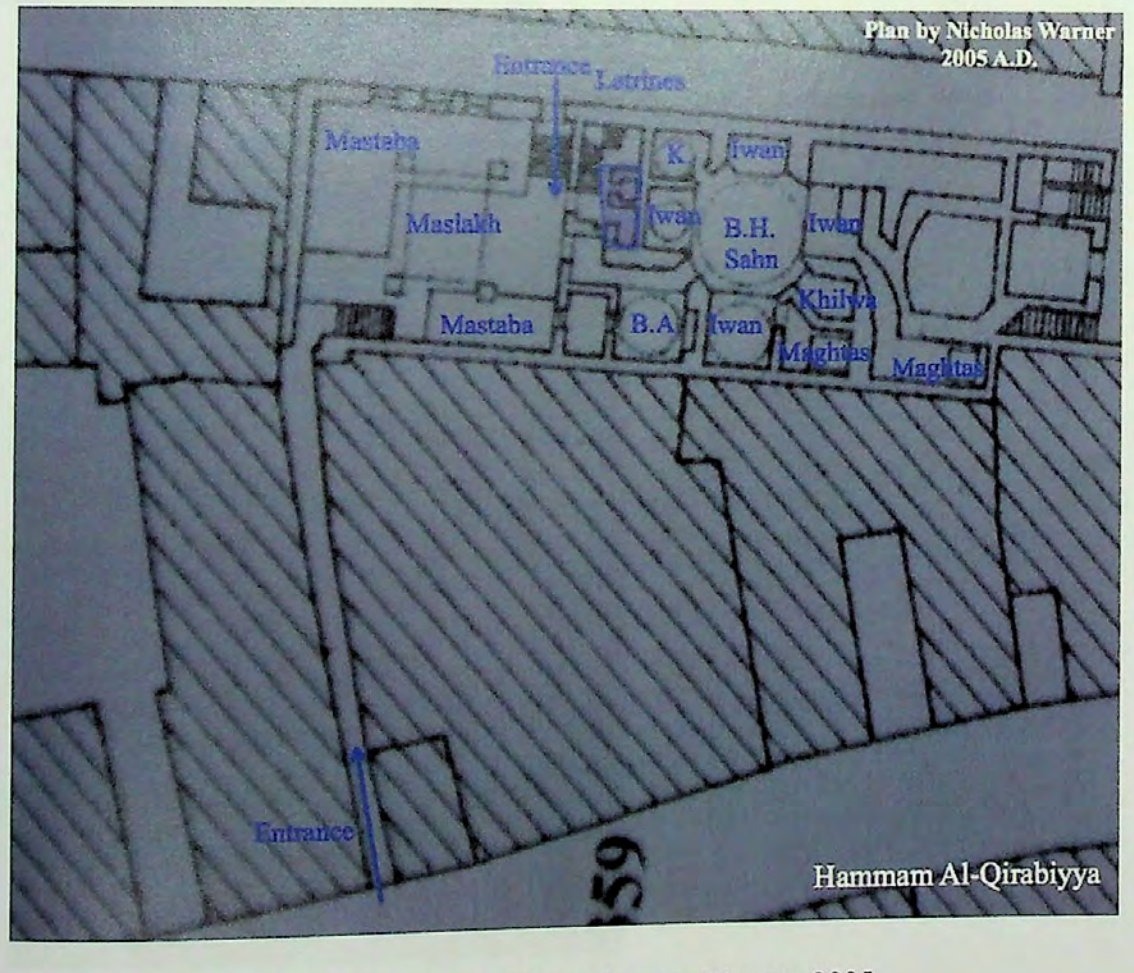

Fig. 78: *Hammam* al-Qirabiyya Floor Plans. Source: Warner, 2005.

Fig. 79: Winter Undressing Room at *Hammam* al-ʿAyn. Source: Dow, 1996.

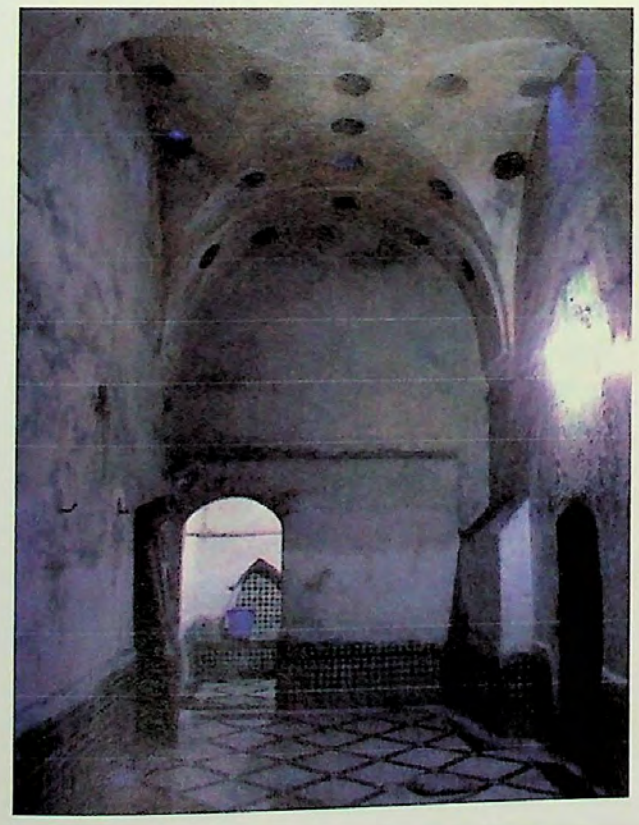

Fig. 80: Cold Room of *Hammam* Mukhfiyya in Fez. Source: Bouillot, 2006.

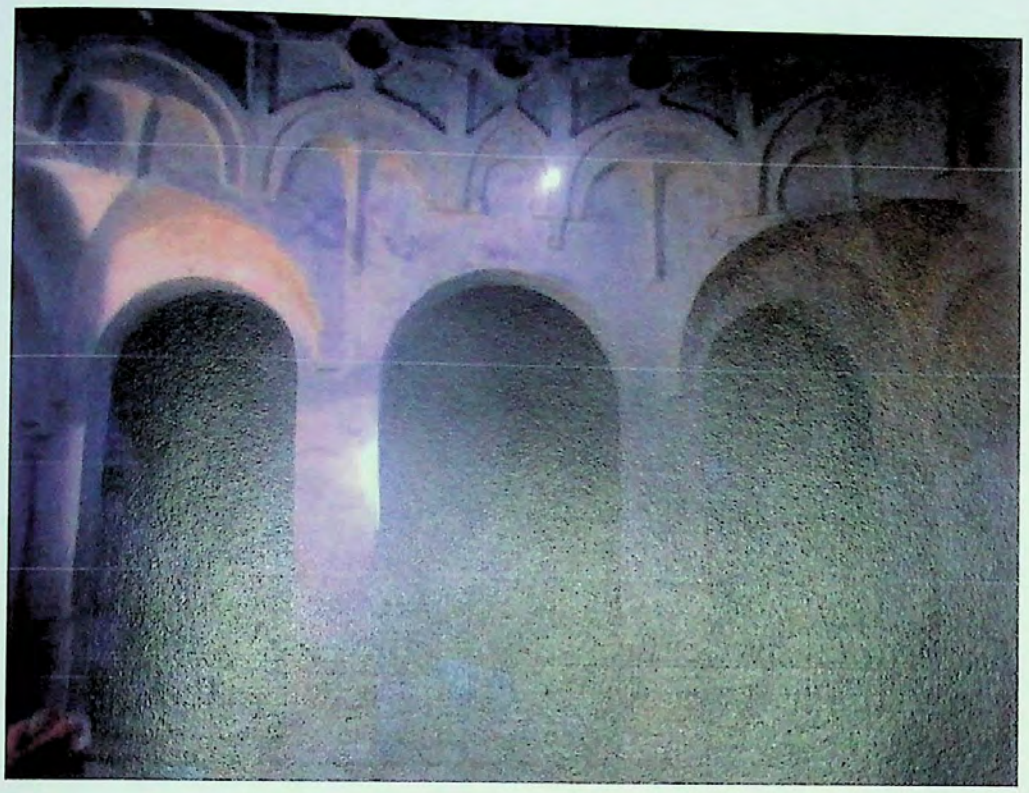

Fig. 81: Warm Room of *Hammam* Mukhfiyya in Fez. Source: Bouillot, 2006.

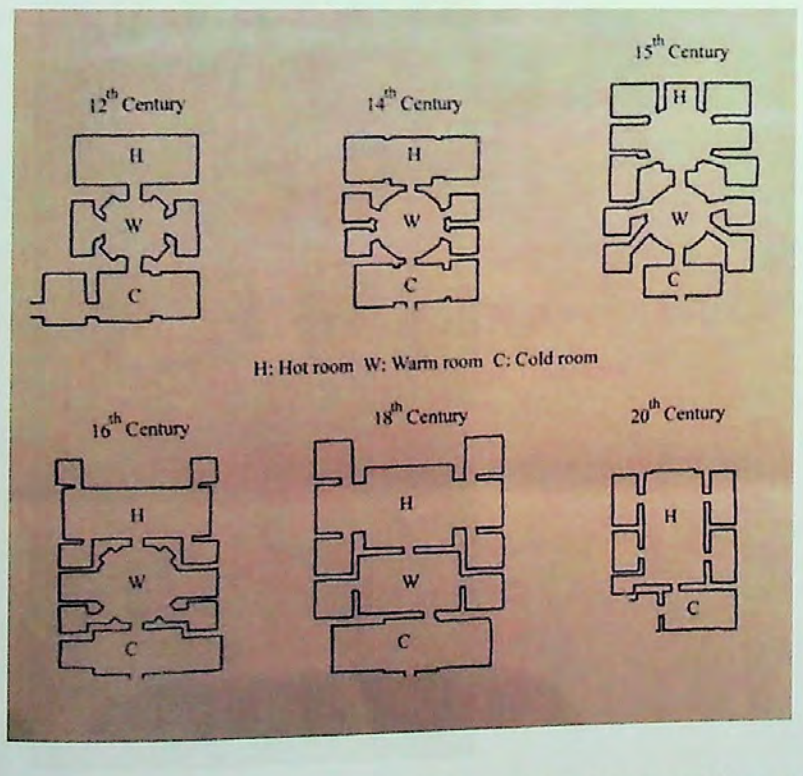

Fig. 82: Diagram Showing Evolution of the *Hammam* layout between the 12th and 20th centuries. Source: Ecochard and le Coeur, 1942.

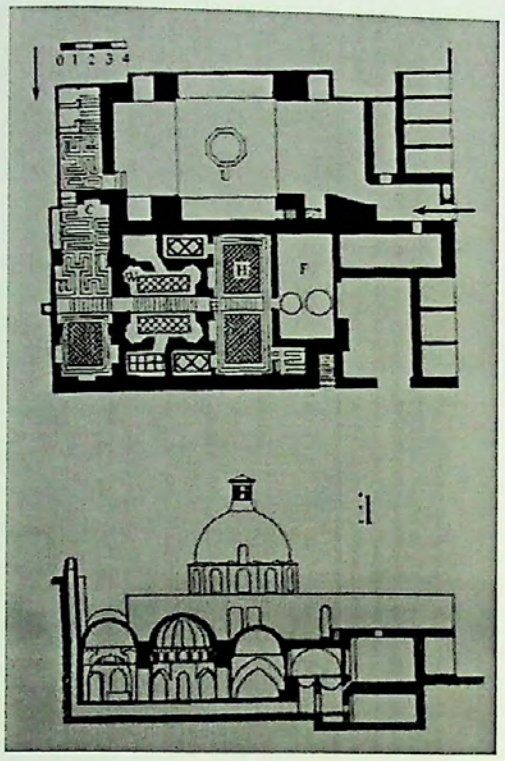

Fig. 83: Plan and Section of *Hammam* al-Bazuriyi. Source: Ecochard and le Coeur, 1942.

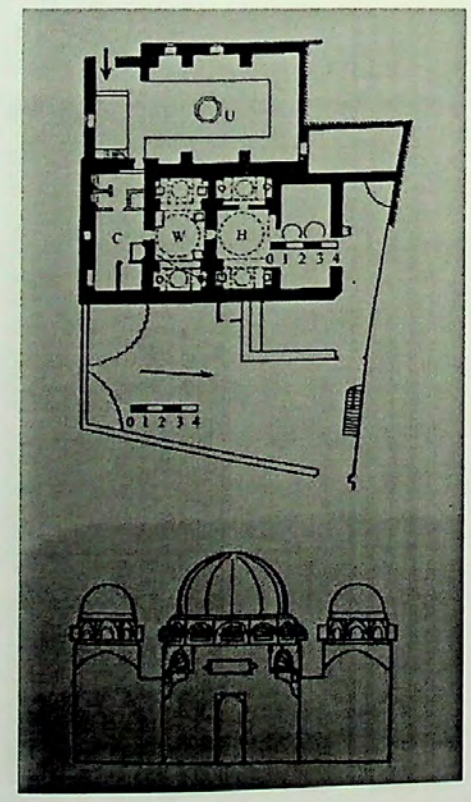

Fig. 84: Plan and Section of *Hammam* al-Saruji. Source: Ecochard and le Coeur, 1942.

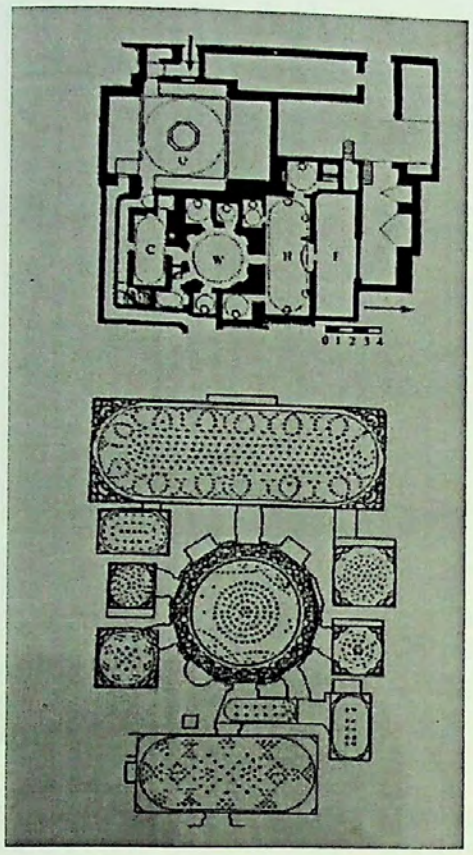

Fig. 85: Plan and Section of *Hammam* al-Ward. Source: Ecochard and le Coeur, 1942.

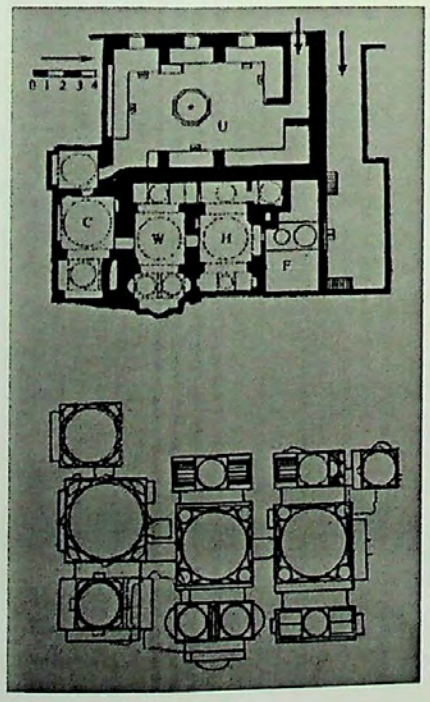

Fig. 86: Plan and Section of *Hammam* al-Qaymariya. Source: Ecochard and le Coeur, 1942.

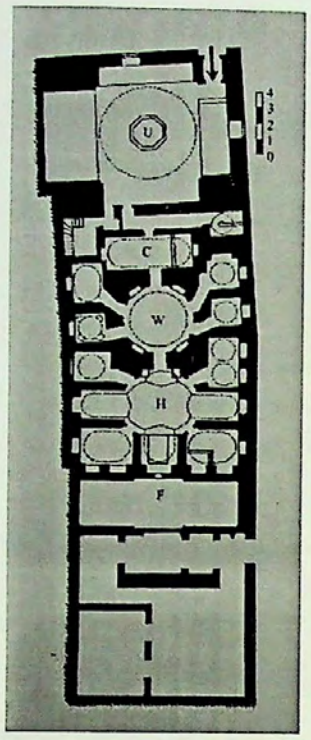

Fig. 87: Plan and Section of *Hammam* al-Tayruzi. Source: Ecochard and le Coeur, 1942.

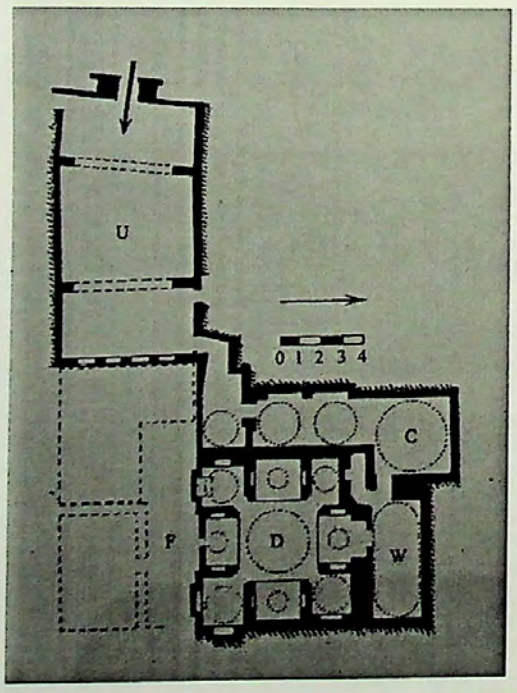

Fig. 88: Plan and Section of *Hammam* al-Rifa'i. Source: Ecochard and le Coeur, 1942.

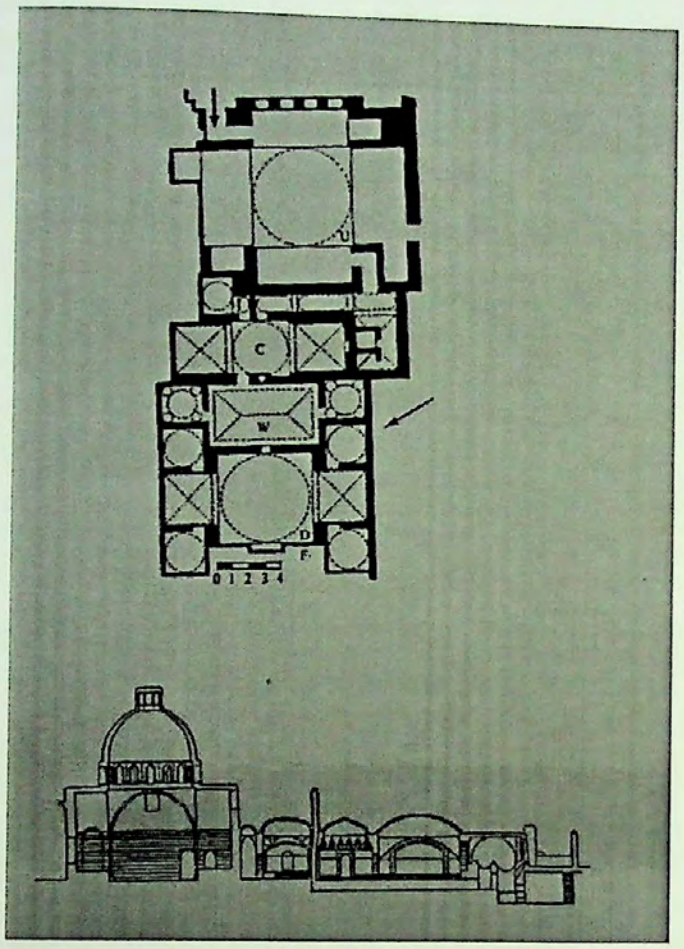

Fig. 89: Plan and Section of *Hammam* Fethi. Source: Ecochard and le Coeur, 1942.

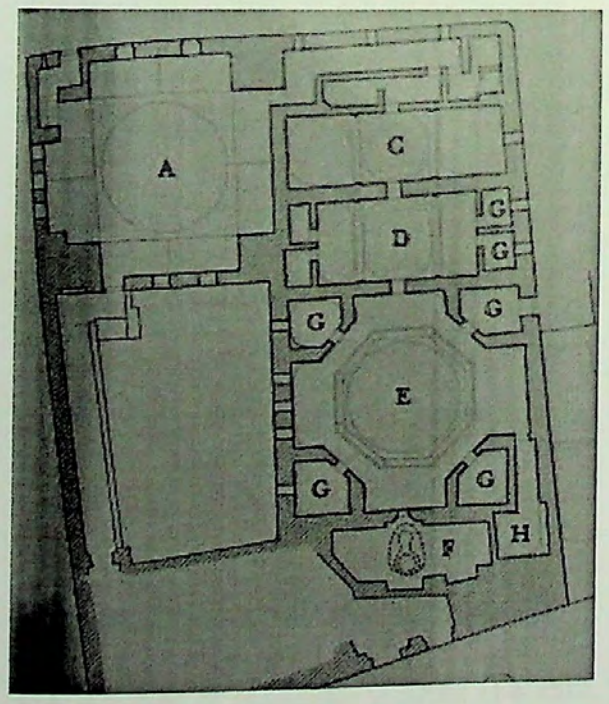

Fig. 90: Plan of *Hammam* al-Basha. Source: Dow, 1996.

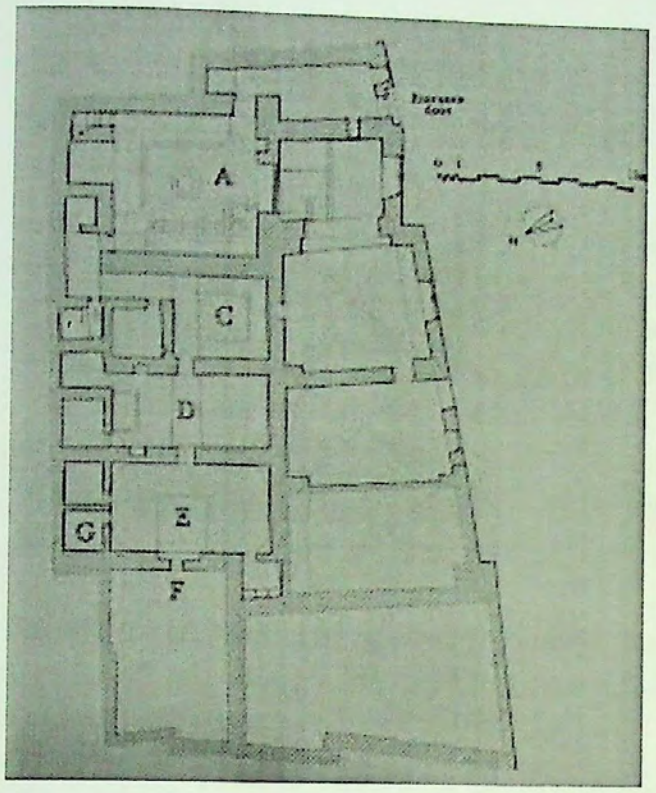

Fig. 91: Plan of *Hammam* al-Sha'bi. Source: Dow, 1996.

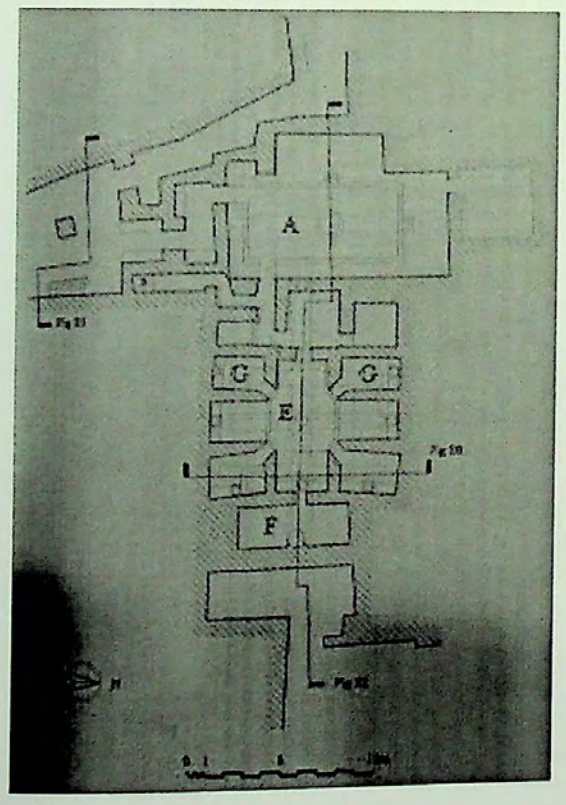

Fig. 92: Plan of *Hammam* Ibrahim al-Kahlil. Source: Dow, 1996.

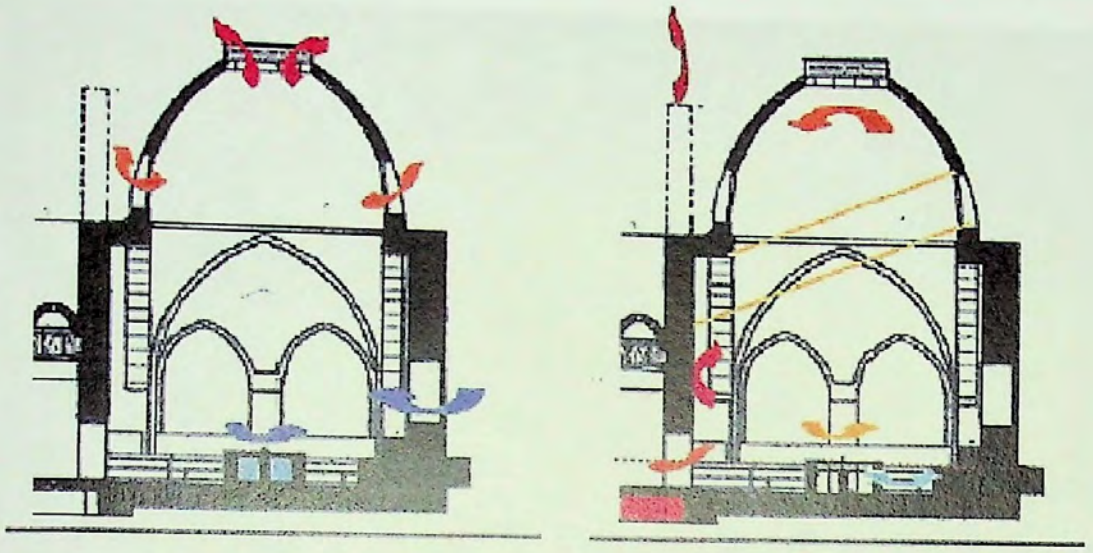

Fig. 93: Air Movement in *Hammam* Ammuna Damascus in summer and winter. Source: Bouillot, 2008.

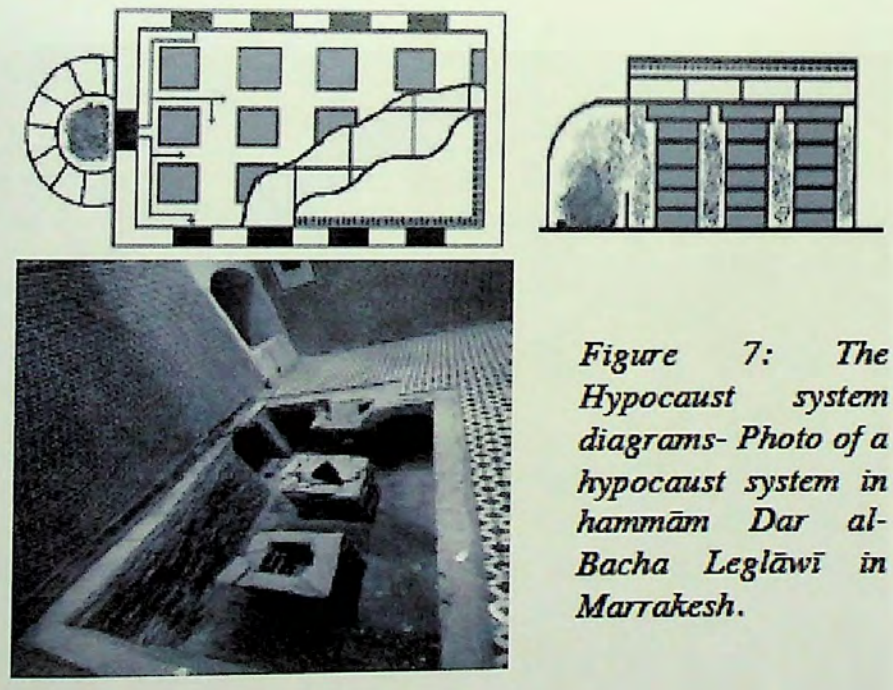

Figure 7: The Hypocaust system diagrams- Photo of a hypocaust system in hammām Dar al-Bacha Leglāwī in Marrakesh.

Fig. 94: Hypocaust of *Hammam* Dar al-Basha Leglawi in Marrakesh. Source: Fadli and Sibley, 2009.

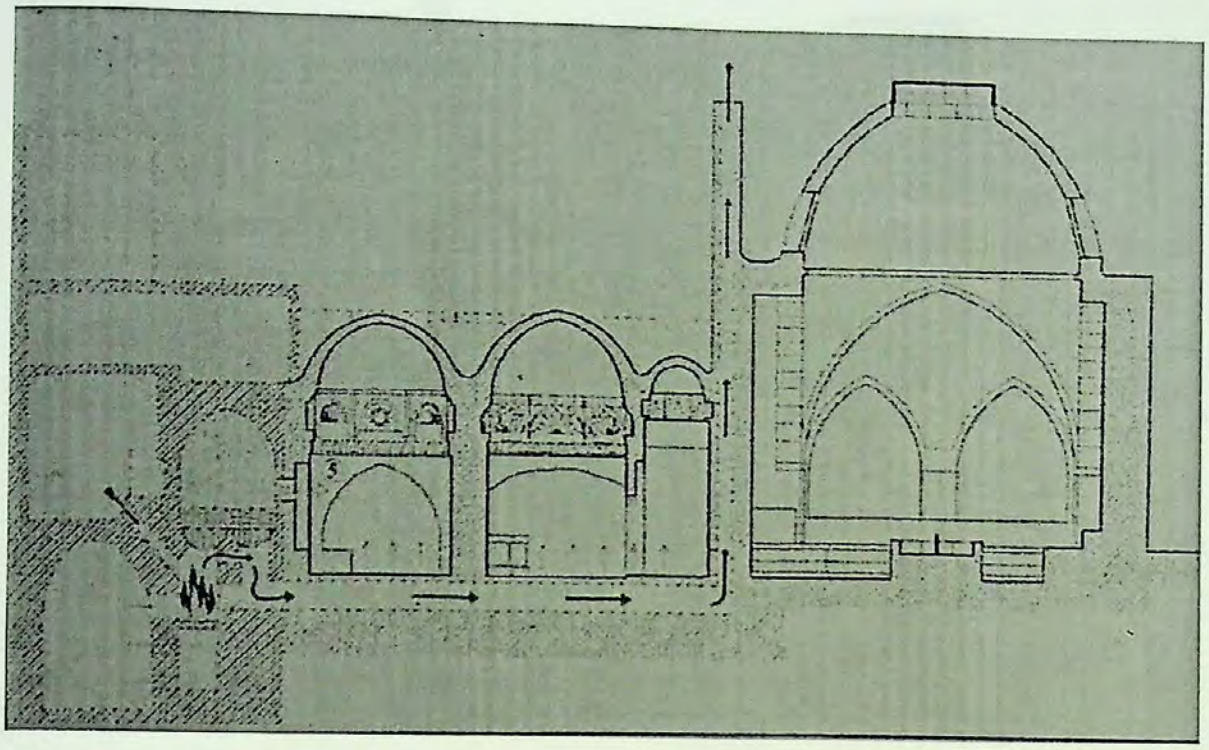

Fig. 95: Section in *Hammam* Ammuna in Damascus showing the heating duct system. Source: Ecochard and Le Coeur, 1943.

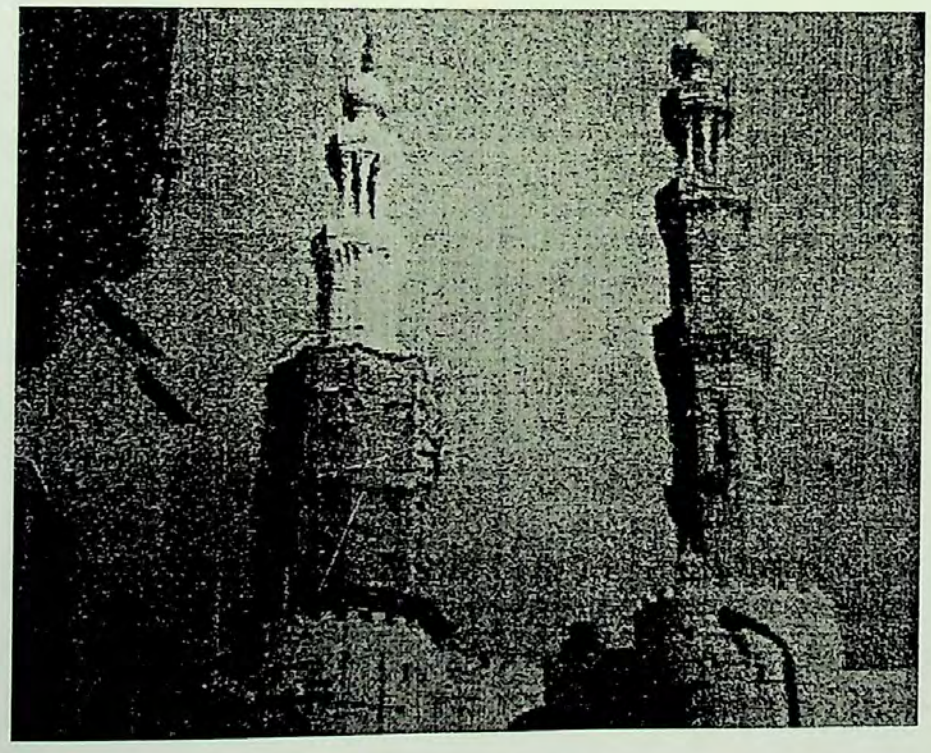

Fig. 96: The Difference between clean and clean surfaces on Bab Zuwayla. Source: Orphy and Haid, 2004.

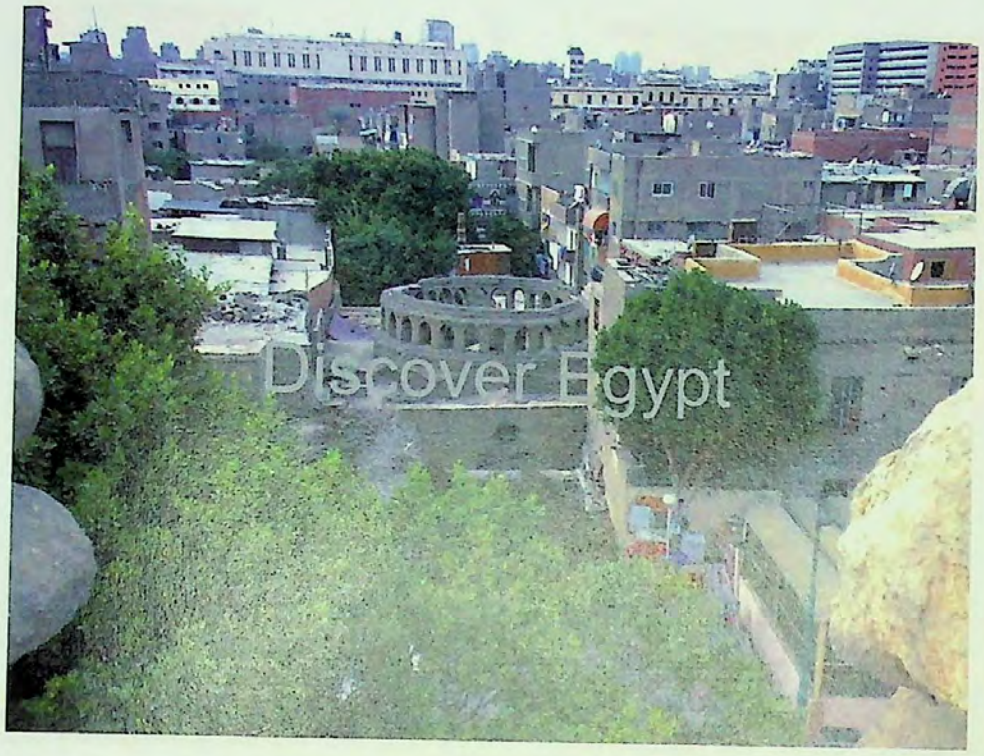

Fig. 97: *Hammam* al-Mu'ayyad Missing Dome. Source: Discover Egypt facebook page

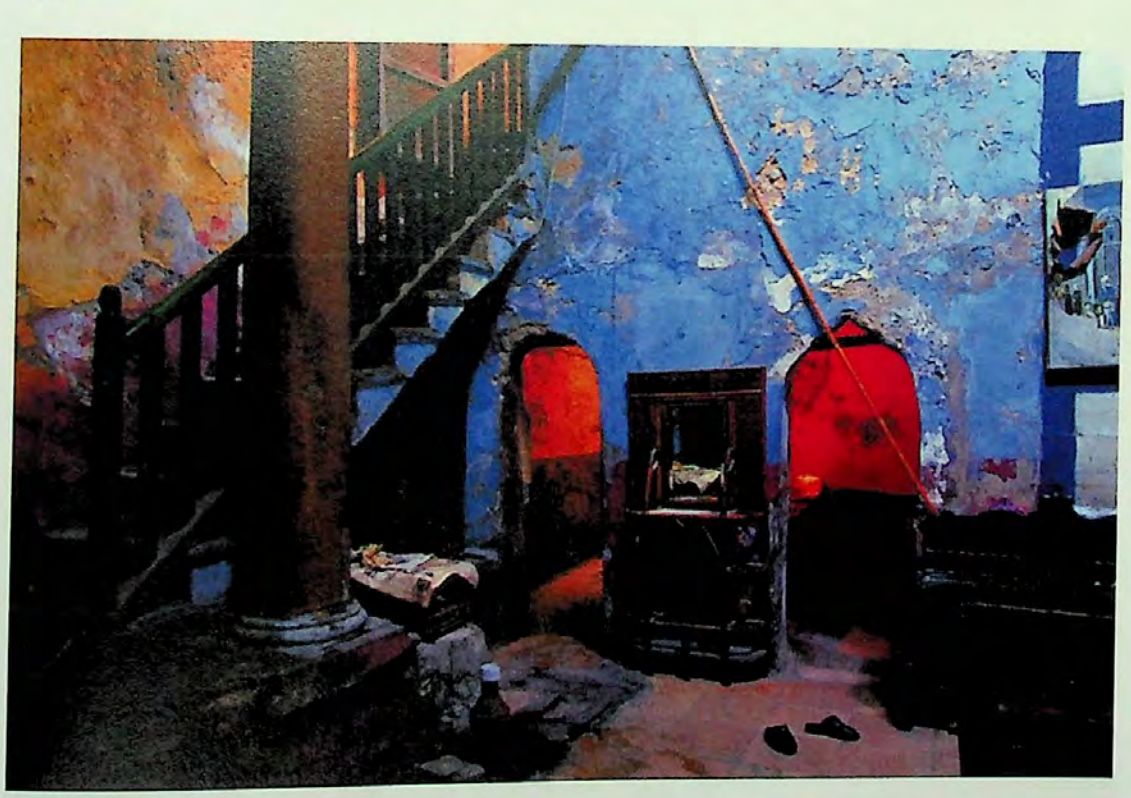

Fig. 98: *Maslakh* of *Hammam* Qalawun. Source: Pascal Meunier photographies, http://www.pascalmeunier.com/reportages_photos_en.php?piId=1957

Fig. 99: Henna night in a contemporary Moroccan *hammam*

Fig. 100: Henna night accompanied by traditional food in a contemporary Moroccan *hammam*

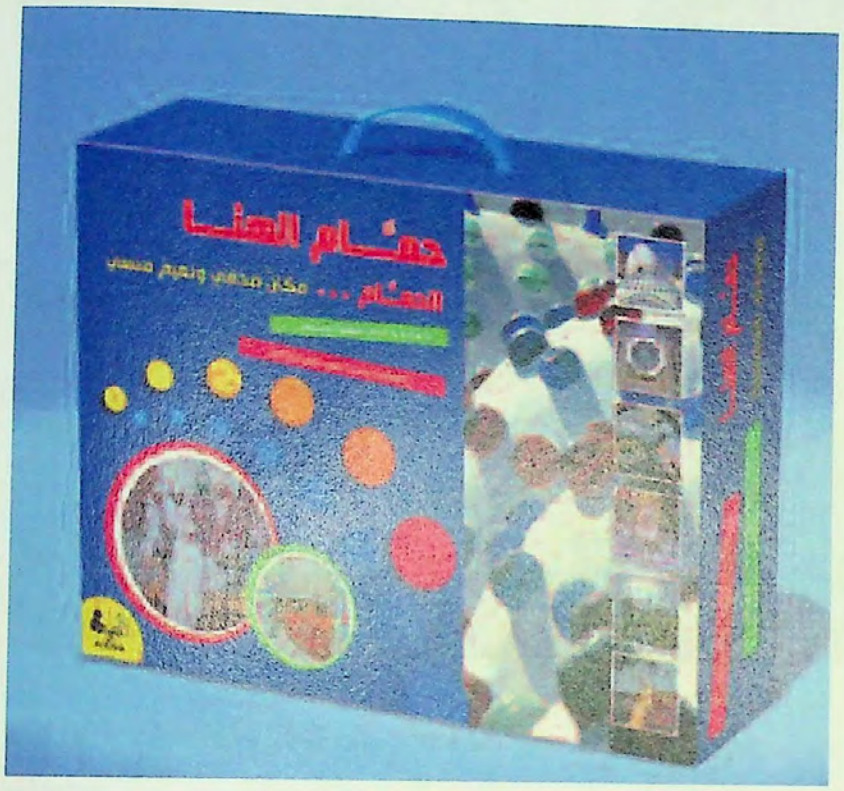

Fig. 101: Game of *hammam* al-hana. Source: Aboukhater.

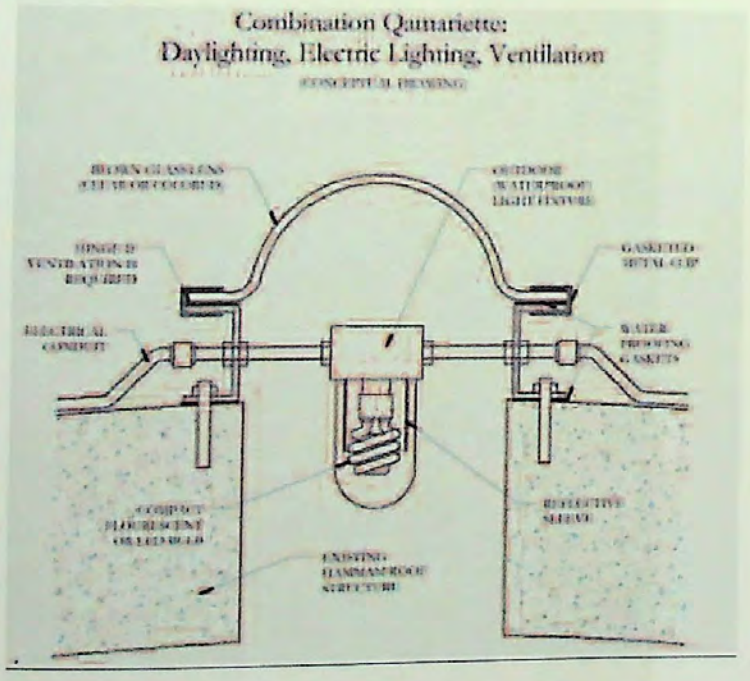

Fig. 102: Idea for Artificial Lighting in *hammam*s. Source: Levine.

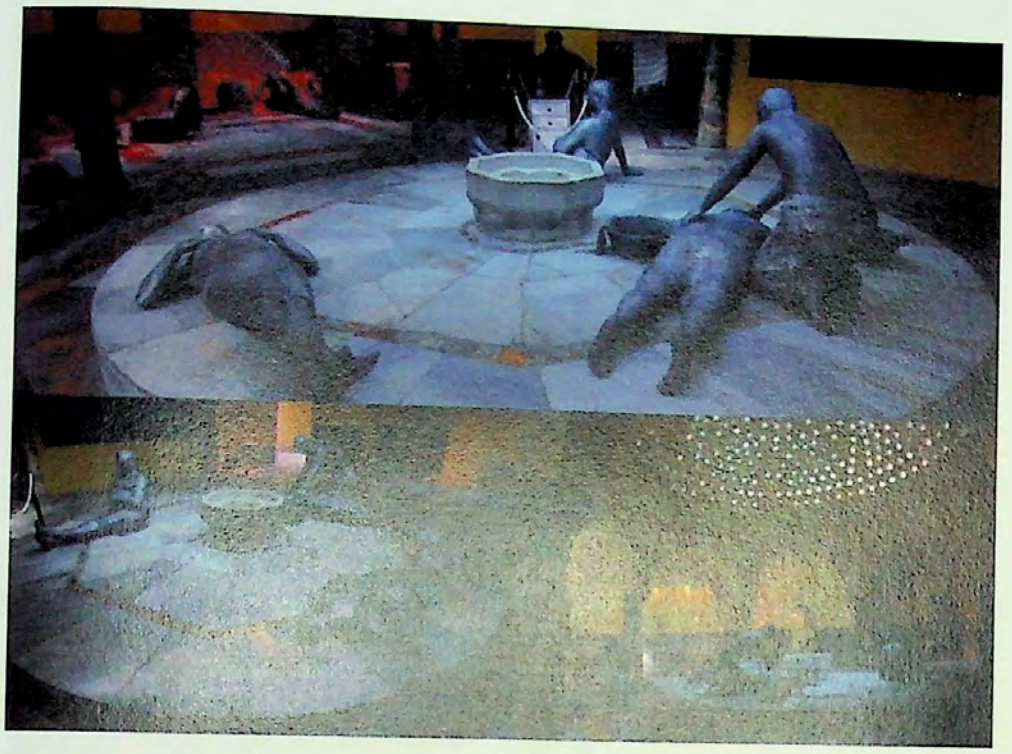

Fig. 103: *Hammam* al-Basha Museum. Source: http://www.akko.org.il/en/Hamam-al--Basha-

Fig. 104: *Hammam* al-Basha Museum. Source: http://www.akko.org.il/en/Hamam-al--Basha-

Fig. 105: *Hammam* al-Basha Museum. Source: http://www.akko.org.il/en/Hamam-al--Basha-

Fig. 106: Carpet Bazaar in a *hammam*. Source: Ozkose.

Tables

Table 1. Different Naming of *Hammam* areas in Different Countries.

Country	Passive/Reception Spaces		Bathing Spaces					Additional Spaces
	Changing Room	Winter Undressing Room	Cold Room	Warm Room	Private Washing Room	Hot Water Basin	Hot Room	Furnace
Egypt	*Maslakh*	*Bayt-Awwal*	–	–	*Khilwa*	*Maghtas*	*Bayt al-Harrara*	*Mustawqid*
Syria	*Mashlah*	*Wastani Barrani*	–	*Wastai Juwwai*	*Maquūra*	*Maqsurat al-Maghtas*	*Juwani Harrara*	*Bayt al-Nar*
Palestine	*Mashlah Sayfī/Barid*	*Mashlah Shitawi /Juwwani*	–	–	*Khalwa*	*Maghtas*	*Bayt al-Harrara*	*Qammim*
Morocco	*Gūlssa*	–	*Al-Barrani*	*Al-Wasti*	*Mtahra*	*Barma*	*Al-Dakhli*	*Farnachi*

Table 2. Existing Cairene *Hammam*s nowadays.

Operating Hammams	Closed *Hammams*	Re-used *Hammams*
Bab al-Bahr	Al-Sinaniyya	Inal
Al-Malatili	Al-Dud	Al-Darb al-Ahmar
Al-Barudiyya	Al-Mu'ayyad	Al-Masbagha
Al-Husayniyya	Al-Qirabiyya	Kushqadam al-Ahmadi/Darb al-Husr
Al-Talaat	Al-Sukkariyya	Shaykhu
Al-Arba'	Tulun	
	Qalawun/Al-Nahassin	
	Al-Gamamliyya	
	Al-Tambali	
	Al-Sharaybi	

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