



*Improvement of Mediterranean territorial cohesion through
setup of tourist-cultural itinerary Umayyad
Project reference: I-A_1.2_042_UMAYYAD*

*WP 5: Design of thematic travel packages
5.1 Analysis of cultural heritage tackled
with Umayyad*

Final Report

By Naif Haddad

**with contribution
from Bilal khrisat**

2014-2015

Prepared By CulTech Team

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Umayyad Region of Great Syria (Badiya): Umayyad Cultural Heritage of Jordan

1. Introduction

Very little is known about the prehistoric sequence of occupation in the area of the Black Desert, the basalt region of eastern Jordan. However, there are many evidences for post-Neolithic occupation in the area and elsewhere in the desert regions. Data for the chipped stone assemblage from Jawal an intrusive Late Chalcolithic/ Early Bronze industry, the Cananean, typical of Palestine and western Syria (Betts, 1986). Actually, the main sequence of occupation in the area is evidence in the, Nabataean, Roman and Byzantine times.

In the second half of the seventh century, the Umayyad dynasty established a world empire that comprised half of the old Roman (from Syria to Spain) and the whole Sasanian Empires in addition to Arabia. The Umayyads inherited in Syria, Palestine and Jordan the old Arab Ghassanid federate

kingdom that had guarded the eastern frontier of the Byzantine Empire of the sixth century. Under the Umayyads (661-750 AD), the Islamic state was transformed from a theocracy to an Arab monarchy. The scale and rapidity of the initial Arab invasions of the 7th and 8th centuries by a numerical minority made it inevitable that existing buildings were taken over, that local craftsmen were employed to construct new domestic quarters, and that those builders would be instrumental in giving architectural form to the germinal concepts of the new religion (Petherbridge, 1978). Almost all surviving Umayyad monuments are in Great Syria where the dynasty derived most of its support.

In 636 the Arabs were able to control Syria, Jordan and Palestine after the decisive battle of al Yarmouk. The site of the first battle encounter between Islam and Byzantium occurred in Mo'ta. In 750, Jordan shifted to the rule of the Abbasids after the Revolution that was initiated from Humaymah in the south of Jordan.

For 90 years, the Umayyads were actively involved in shaping this synergetic cultural identity within strong Islamic and Arabic parameters. In spite that the Umayyad epoch provided the starting point for what can be defined as "Islamic Architecture", still it can be considered as one of the richest period with architectural productions.

The debated interpretation and explanation of the process of early Islamic settlement in Greater Syria, based on recent archaeological evidence, is constantly growing, as more dynamic evidence is accumulating comparing with literary references (Kennedy 2014: 98). The buildings commissioned by the Umayyad dynasty in Greater Syria constitute the earliest Islamic monuments, and illustrate the dynasty's appropriation and adaptation of the Hellenistic, Roman, Byzantine and Sassanian cultural tradition (Haddad 2009: 7; Arce 2007; Almagro 1992). These early Islamic architectural elements

were formed to respond effectively to people's physical, environmental, social, physiological and religious requirements at their time (Kaptan 2013:5).

2. Umayyad Architectural Heritage in Jordan and its Particularity

The History of the Umayyads in Jordan represents one of the most rich periods in the history of Jordan from different aspects. In fact, Jordan played an important role in establishing the Islamic period during the Umayyad period, where the role of the Jordanian tribes was great in the establishment of the Umayyad Dynasty, but also witnessed a high period of urbanization.

Due to its proximity to Damascus and its strategic geographic position which made it an important thoroughfare for pilgrims venturing to the holy Muslim sites at Arabia. Umayyad Jordan has also been the stage for great events that have influenced Islamic history and the Mediterranean region. Perhaps the most important event was when the 'Abbāsids launched the movement against the Umayyads using al-Humaymah in southern Jordan as their headquarters, to establish their succession in Baghdad. In 750, Umayyad Jordan shifted to the rule of the 'Abbāsids after the revolution that was initiated from al- Humaymah.

However, Byzantine Jordan is closely tied to the Umayyad dynasty due to the tolerance exercised by them towards Christianity especially to the Arab Christians who helped the Islamic territorial expansion against Byzantium. The first confrontation of Islam and the Byzantine World in Jordan was in 629 in the battle of Mutah near al Karak. Evidences shows with great certainty a cultural continuity from Byzantine into early Islamic period as attested by the continuity of the same urban centers like Madaba, Jerash, Amman...etc.

Umayyad architecture in Jordan, actually, contains a mixture of eastern and western influences (Warren 1978: 230; Haddad 2009:1,7). Actually, Jordan was enriched with some of the finest examples of early Islamic architecture found anywhere, including caravan stops (caravanserais), bath houses, hunting complexes and palaces at the eastern Jordanian desert (Genequand, 2006).

The Umayyad period witnessed an expansion in urban and rural centers as can be seen by castles, palaces, and the so called 'Nomad Village' which stretched over great areas of Jordan. According to Kennedy (2014: 96) "there is a rarer site type — a dispersed village, known under various names", he termed as 'Nomad Village', such as the ruins at Jebel Seys, at Qasr as-Swab, at Ar-Risha, at Hibabiya, and the ruins at Qasr el-Hallabat which is the principal subject of this paper. Kennedy (2014:107) states that 'Nomad Villages' "are important sites in their own right, revealing evidence for the progressive development of the pre-desert and adjacent desert regions of northern Jordan". In Jordan, though, the Umayyad achievements are reflected in the ability of the dynamic Muslim culture to expand far beyond urban centers, to exploit in a creative management the reward of the agriculture and trade potential of formerly marginal frontier regions.

The settlement of al-Rishah, as a collection of minimally preserved structures, individual buildings arranged in parallel lines with a mosque and large formal buildings. The complex of three Qasr at Umm al Walid, shows an urban pattern of settlement which consists of a unifying enclosure and a common court. Other Qasr like Qasr al Kharana , Qasr al Tuba, Qusayr Amra, al Azraq show somehow the urbanization and the prosperity during the Umayyad period.

When the Umayyad inhabitants of Jordan were building these 'Nomad Villages' complexes on the fringe of the desert, substantial Umayyad large urban towns existed at Jerash, Amman and Tabaqat Fahl (Pella), as also in many other long established towns at Madaba, Hisban, Umm el Walid, Umm el-Jimal, Umm el-Rasas, Aqaba sites (Alhasanat et al: 2012). In fact, the economics of many towns in early Umayyad Jordan became increasingly focused on the manufacture of tradable goods, especially

in the eighth century (Walmsley 2000: 305). The complex of three palaces at Umm al Walid shows an urban pattern of settlement which consists of a unifying enclosure and a common court. Other palaces, like Qasr Kharana, Qasr Tuba, Qusayr Amra, al Azraq show somehow urbanization and prosperity, but also demonstrate how deeply Umayyad culture had penetrated this provincial early Islamic area.

The Umayyad period provides the starting point for what really can be defined as "Islamic architecture", as still it can be considered as one of the richest architectural production periods.

The Umayyad architecture, through its desert palaces has developed a unique architectural concept reflected in its location, density and fast spread in a relatively short time (715-750). This has led to different interpretations by the scholars for the reasons of its production and development. Early Islamic sites fall into two general categories;

-A multiplicity of built units, caravansary, madinah, bath and agricultural installations; i.e. Qastal, Amra and Hallabat.

-One principal structure for rather limited purpose.

Umayyad architecture in Jordan contains a mixture of eastern and western influences, meanwhile the surviving buildings represent a variety of different architectural types some of which were never repeated (i.e. the use of baked brick and stone at Mushatta and Tuba) (Warren, 1978). Generally we can categorize this influences into three groups:

1- purely developments of Roman-Byzantine architecture (Genequand, 2006).

2- heavily influenced by Persian (Sassanian) architectural concepts.

3- and those combine both eastern and western traditions.

CASTLES

<i>Analyses of cultural elements</i>	Amman	Qastal	Mashatta	Kharana	Amra
<i>Date of building</i>	685 - 715	661 - 685	717 - 743	685 - 715	685 - 715
<i>Architectural plan</i>	Complex	Square	Complex	Square	Complex
<i>Dimensions</i>	~160x160 m	68x68	~144x144m	36x35 m.	~ 70 mq
<i>Parts of monument</i>	Five parts	One part	Five parts	One part	Seven parts
<i>Proportions of principal façade</i>	Symmetrical	Symmetrical	Symmetrical	Symmetrical	Asymmetrical
<i>Architectural typology</i>	More than one courtyard	One courtyard	More than one courtyard	One courtyard	Organic composition
<i>Number of floors</i>	One	Two	One	Two	One
<i>Construction system</i>	Arches, vaults, dome	Arches and corbel vault	Ogival barrel vaults	Transversal arch and barrel vault	Transversal arch and barrel vault
<i>Material</i>	Square stone	Square stone	Square stone Red brick	Irregular stone	Irregular stone
<i>Portico</i>	One central road	Two levels in courtyard	One central road	Two levels in courtyard	No portico
<i>Courtyard</i>	More than two courtyards	One courtyard	More than two courtyards	One courtyard	No courtyard
<i>Principal upstairs</i>	More than two	None	None	Two	None
<i>Staircase position</i>	No staircases	Behind the entrance	No staircase	In the south of courtyard	No staircase
<i>Reception room</i>	On ground floor	On second floor	On ground floor	On second floor	–
<i>Entrance</i>	With portico	With iwan	With portico	With iwan	Simple
<i>Audience room</i>	Ground floor, with iwan	First plan, with two half-domes	Ground floor, with iwan	First plan with two half-domes	–
<i>Mosque location</i>	On ground floor	On ground floor	On second floor	On second floor	Outside qasr
<i>Towers</i>	No towers	Structure towers	Structure towers	Structure towers	No towers
<i>Fortification system</i>	Fortified site	Fortified building	Fortified complex	Fortified building	Not fortified
<i>Construction stratification</i>	More than two phases	Two phases	One phase	Two phases	One phase
<i>Interior decoration</i>	Stone sculpture	Gypsum roses	Stone capitals	Gypsum roses	Wall frescoes
<i>Exterior decoration</i>	Stone sculpture	Molding panel over entrance	Stone capitals	Mold brick and moulding panel over entrance	No exterior decoration

Analysis of the architectural artistic and technical values of each castle

N.B. We include the most important castles that display the elements for analysis.(After Ilayan,,
NEW "SYSTEM" OF PRESENTATION OF Umayyad Desert Castles in Jordan.
Integral Museum of Umayyad Civilization

Such sites (in Jordan) are distinct from those in Syria as they are comparatively of modest scale and simple construction (Urice,1987). It is not a mere coincidence that the greater part of the architecture attributed to the Umayyad period (661-750) in Jordan corresponds to palaces or private residences, to the new oligarchy who sought to forgo a new image and mark the change of power, as Grabar has pointed out.

In Jordan, the Umayyad achievements are reflected in the ability of the dynamic Muslim culture to expand far beyond urban centers along the western hills of Jordan, to exploit in a creative management the reward of the agriculture and trade potential of formerly marginal frontier regions. Jordan prospered during the Umayyad due to its proximity to the capital city of Damascus and its also strategic geographic position made it an important thoroughfare for pilgrims venturing to the holy Muslim sites in Arabia.

During this period Jordan was enriched with some of the finest examples of early Islamic architecture found anywhere, including caravan stops (caravanserais), bath houses, hunting complexes and palaces in the eastern Jordanian desert (Genequand, 2006). Though the most spectacularly evident in the architecture they sponsored are religious and administrative complexes, palaces, military camps, small settlements, and entire cities.

Umayyad secular architecture in Jordan is best known from a group of desert/ Badiya structures (often called Qasr in Arabic sources) constructed of stone and/or brick, which have been interpreted as princely residences. The Umayyad palaces formed part of more extensive communities that engaged in a combination of agricultural and trade. The palaces also demonstrate how the Umayyad patrons adapted and reinterpreted Late Antique domestic and military architectural traditions during the early Islamic period. Significantly, most of these buildings were abandoned soon after the fall of the Umayyad regime and they remain as monuments to the wealth and tastes of the dynasty.

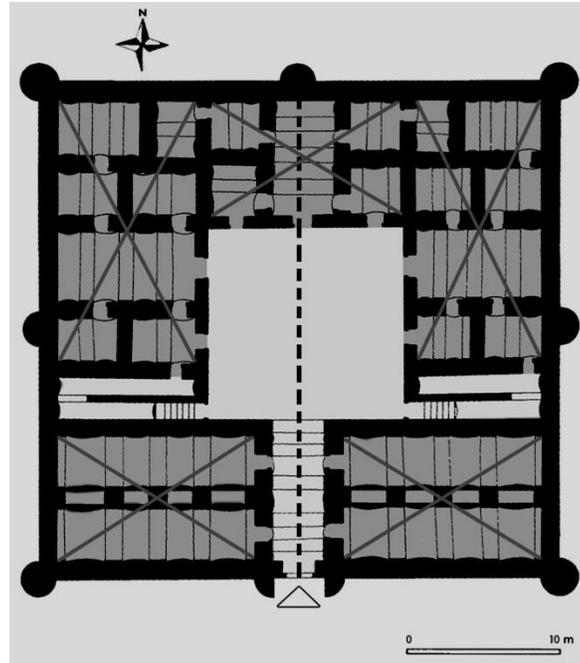


Figure 1: Plan of Kharana Umayyad desert palace, as a model illustrating the interior layout space distribution, division, the *bayts* units and symmetry (After Haddad:2009, fig.5).

These desert palaces structures have aroused a number of arguments and negotiations among scholars about their function. Several hypothesis were put forward to explain the development of these Umayyad complexes:

- Adoption of previous patterns of luxury and recreation as in Syrian palaces. This prototype cannot be built within the urban centre, for it could contradict with the order of the new religion.
- Al-Badya theory, Umayyads preferred to be close to the desert.
- Agricultural exploitation.
- Being close with the tribes and leaders/ supporters.
- Existing & new trade routes.

Though, in the past many scholars have seen them as places of entertainment built for Umayyad rulers. However, new excavations and more detailed studies showed that these different

structures were different both in form and purpose. On the whole, they were clear evidences of a highly urbanized life.

According to Haddad (2009, 3-4, Table 2), these palaces in Greater Syria can be divided to three sizes:

1 - Umayyad palaces can be divided in Great Syria Badia to three sizes;

- Small palaces , almost 30 x 30 m² (Qasr al-Haranah)
- Medium Palaces, almost 60 x60 m² , which represent the majority.
- The large Palaces, almost 150x 150 m² (Qasr Mushatta , Qasr al-Hayr al-Sharqi / large complex in Syria).

No	Palace name	Period of Erection	Dimensions (m)	Court Dimensions (m)	Court /Palace area	court Length side /Palace	Notes
1	<i>Qasr al-Haranah / Jordan</i>	715 - 706	36.50 × 30.45	×12.65512.9	%14.7	%38	No portico
2	<i>Khirbet al-Maniya/Palestine</i>	714 – 706	73 × 67	41 × 40	% 33.5	%57	portico
3	<i>Jabal Assis / Syria</i>	714 – 706	67.11 × 67.11	31 × 31	% 21.3	% 46.2	portico
4	<i>Anjar palace complex / Lebanon</i>	715 – 714	71 × 59.5	32.5 × 32.5	% 20	% 44	portico
5	<i>Qasr al-Hayr al-Gharbi/ Syria</i>	727	70.45N 71.03 S , 71.45E, 68W	37 × 37	%26	% 51	portico
6	<i>Qasr al-Hayr al-Sharqi / Small complex in Syria</i>	729 - 727	74N,67S , E: 71.50 68W	36 N, 34S,29E,28W	%20	45%	portico
7	<i>Qasr al-Hayr al-Sharqi / Large complex in Syria</i>	729 – 727	168.4N, 167S, 166E 167.4 W	83×83	% 24.5	%50	portico
8	<i>Qasr al-Qastal/ Jordan</i>	743 – 723	59 × 59	28 × 28	% 22.5	% 47.5	No portico
9	<i>Qasr Tuba/ Jordan</i>	744 - 743	72.85 × 70.25	29.6 × 29.5	% 16.5	% 41.5	No portico
10	<i>Qasr al-Mushatta/ Jordan</i>	744 - 743	144 × 144	57.15 × 57.3	% 15.5	% 40	No portico
11	<i>Khirbat al-Majjar/Palestine</i>	744 - 743	64 × 61	28.95 × 27.3	% 20	% 44	portico
12	<i>Umayyad Palace in al-shegebeh, Busra/Irak</i>	744 - 743	69 × 58	35.7 × 35.40	% 30.6	50%	portico

Table 1. Main Omayyad palaces in Great Syria (Haddad,2009)

2 - In the first phase of Umayyad architecture (706-715), four palaces were erected covering Great Syria in the same period, three of which are medium-sized (Khirbet al-Maniya / Palestine 67 x 73 m², Jabal Assis / Syria 67.11 × 67.11m², Anjar palace complex / Lebanon 59.5 × 71m²), while the fourth , al-Kharanah / Jordan 30.45 x 36.50 m² of the small size.

3 - Three palaces were erected in the same area of al-Hayr, in the second phase of the Umayyad architecture (227 - 229), as huge caravanserais complexes for convoys. While at the end of the Umayyad period, the focus was on building palaces especially in the area of Jordan, then moved to Iraq.

4 - Geometrical and mathematical principles are also reflected in the architectural form. The proportion along the side courtyard to the length of the palace is between 45 % - 55% with exception of Jordan (Qasr al-Kharanah 38 %, Qasr Tuba 41.1 % and Qasr al-Mushatta 40 %). Actually, the ratio of the courtyard to the palace space area in Umayyad Jordan emphasizes reduction of the courtyard area, which is approximately 15 % (Haddad: 2009,4, Table 1).

The socio-economic aspects and activities in these rural Early Islamic Umayyad palaces in the (*Badiya*) of Jordan, and kind of architectural typology from socio-economic approach is of significance. However, there is a need for a systematic approach to define their particularity within their built environment, relationship between function and building form, landscape, location and position, their architectural origins, aims as multi-functional spaces for the activities for which these buildings were erected. In addition there is a need to assist their current state of preservation in order to suggest an action plan for interpretation, conservation and modern use of these unique Umayyad resources.

On the other hand, the Umayyad in Jordan, despite of the erection of these complexes on the fringe of the desert, substantial Umayyad large urban sites, e.g., Amman, Jerash and Tabaqat Fahl, and other urban towns existed at, Abila, Madaba, Hisban, Umm el Walid, Pella, Umm el-Jimal, Umm el-Rasas, Aqaba and many other long established urban sites throughout the land of Jordan.(Alhasanat et al, 2012). However, the Hallabat settlement provides the opportunity to investigate the cultural significance of Umayyad residential, architecture, which is limited in Jordan.

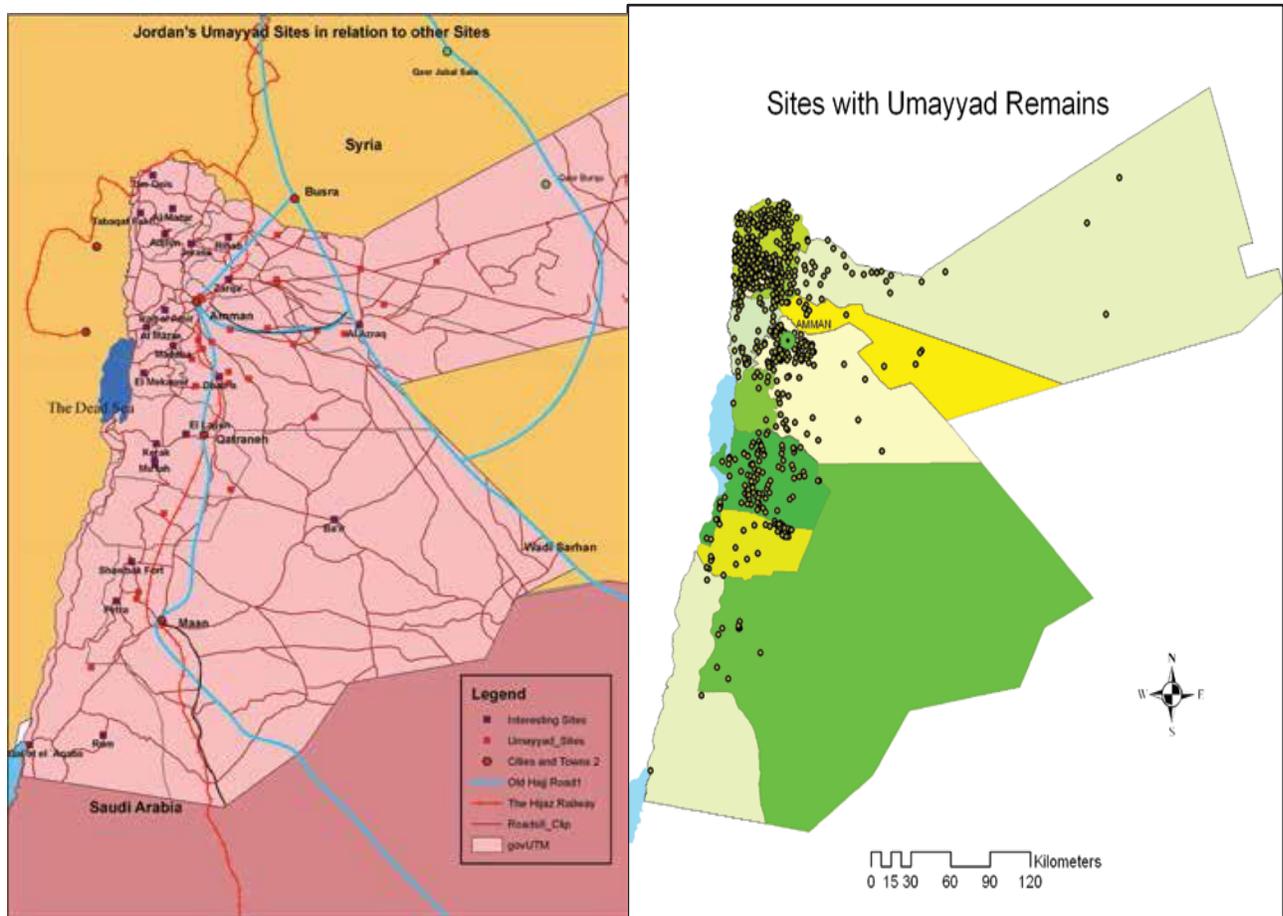


Figure (2): Map showing Umayyad sites in relation to other sites in Jordan.

2.1 The Architectural Pattern of the so called Umayyad 'Bayt'

In early Umayyad architectural context, a *bayt*, composed of a central hall flanked by a pair of rooms on either side, from which the accessibility is achieved. This is a module frequently repeated in the desert palaces (Creswell 1989:516; Almagro 1987:183; Haddad 2009:7). This scheme is found in many palaces (**figs.1, 2**).

The *bayt* of the Umayyad palace, has different typologies that can be established from their architectural patterns; either independent or grouped structures appearing in more or less compact ensembles. The independent type corresponds to buildings organized around a central square courtyard. This arrangement is considered a more orderly expression of the same pattern

seen in the few urban residences. In some cases, it may appear in groups forming more extensive buildings or ensembles (Genequand, 2006). Rooms open off the courtyard and are either directly or indirectly connected to it such as Qasr at-Tuba. These rooms form secondary structures arranged around a main hall from which two or four adjacent rooms radiate. At Kharana's other rooms added to the three-or five-room-group (**fig.1**), yet there is no repetition of any particular type of pattern from one case to another (Creswell, 1989).

According to Almagro (1992) these structures, based on a main hall and two to four smaller-sized adjacent rooms, appear to comprise the simplest type of room-unit, and can be compared to similar *bayt* not as regular structures found in the urban Umayyad house. Parallels, however, of such a module, that resembles a *bayt* of the Umayyad places, are found in the residential structures at Amman citadel, in both households of Building B and the main house over the Museum site (Harding 1951:7); In the room that may have functioned as a reception opening onto two flanked rooms on either side of it and formed a *bayt* (**fig.3**). According to Northedge (1992: 157), the addition of a *bayt* in both households at Amman may be explained by the fact that, these houses correspond to a part of the Umayyad citadel project, which represents a single, planned unit whose elements include the palace, the rebuilding of the fortification circuit, the open cistern, and the Stratum V buildings of Areas B, C, and the Museum site. Whatever form and internal arrangements it may have had, it was in large use in the seventh and eighth centuries; at the same time it shows some relationship with urban domestic architecture of the late Antiquity era of Greater Syria.

3. Religious and Secular Umayyad Architecture in Jordan

This section aims to clarify the Umayyad architectural product within its historical context and in relation to other civilizations. The Umayyad architecture can be divided mainly into religious and secular architecture (see Annex 1). New architectural patterns, related to the new religion (mosque), social organization (*buyut* arranged around a courtyard in palaces) in addition to the role of the bath in Umayyad customs and ceremonies (audience hall in relation to the bath complex), emphasize a clear Umayyad personality both from its precedents and the subsequent inheritance. (Almagro, 1992). Umayyad architecture inherited and adopted the Bayt (Byzantine, Roman and Hellenistic tradition), palace and bath and reintroduced them as a symbol for the new ruler/class, adapting them into new roles; Bath complex as an audience hall, new social organization and order of al-Bayt, (central hall) including the introduction of latrine and kitchen and Palace/Qasr/Castle organized around one courtyard (Qastal), or more courtyards (Mushatta) with new approaches in the use of decoration.

3.1 Religious Architecture:

The greatest of all Umayyad constructions is the Dome of the Rock Mosque, built by Caliph ‘Abd al-Malik ibn Marwan in the year 691 A.D., Jerusalem (Zain al-'Abideen, 2006). However, ordinary Umayyad religious architecture applied square or rectangular plans a courtyard and a covered hypostyle prayer hall. This particular arrangement continued to be used in most mosques by the Abbasids and into the medieval period (Sauvaget, 2002). Generally we can assume that the Umayyad mosque was erected from local materials, usually of ashlar stone, which might be combined with brick, meanwhile the austere exterior gave way to a lavish interior decoration of geometrically-patterned marble revetment and mosaics depicting architecture, vegetal forms, and objects with royal connotations such as crowns and vases (Gibb, 1982), (al- Bahnasy, 1987). These characteristics are exemplified by the three Umayyad mosques during the rule of the Umayyad caliph al-Walid (705-714): the Great Mosque of Damascus (706), the al-Aqsa Mosque of Jerusalem (715), and the Mosque of the Prophet in Medina (709-715) (Judi, 1998). Al-

Hallabat Mosque (8th century A.D), however, featured similar to the first architectural Islamic style in North Africa and Spain (Glueck, 1940).

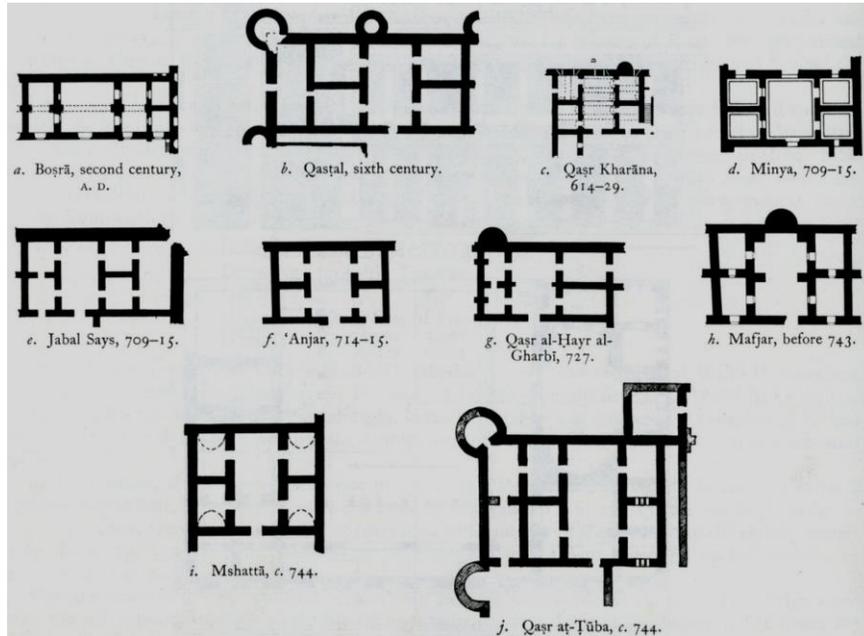


Figure 3 different *bayt* units from Umayyad palaces in Greater Syria (After Creswell:1989, fig. 565).

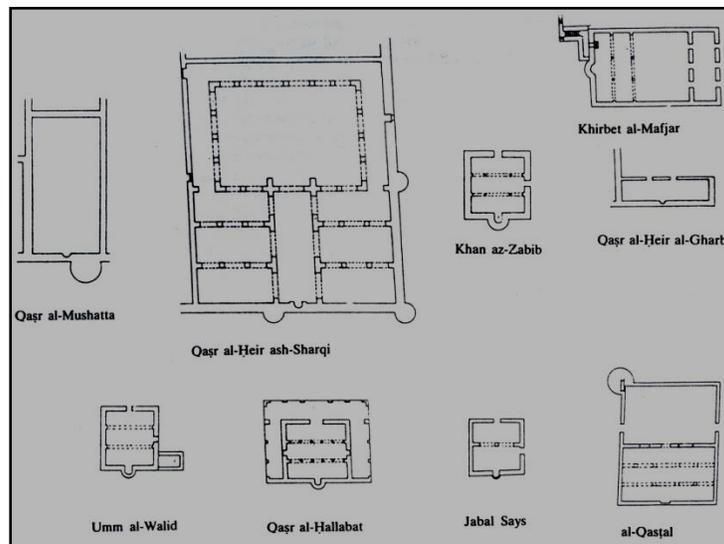


Figure (4): Plan of Umayyad mosque in Bilad ash-Sham (Almagro, 1992).

3.2 The Umayyad Palaces in Jordan

Umayyad secular architecture, in fact, is best known from a group of desert palaces (often called Qasr in Arabic sources) constructed of stone and/or brick in some cases. The so called desert palaces have developed a unique architectural concept reflected in its location, density and fast spread in a relatively short time (715-750 AD) (Haddad 2009: 2). Desert palaces are a series of early Islamic installations in greater Syria that stretches from the site of Bayir in the south of Jordan to the vast complex of Qasr al-Hayr East, south of the Euphrates. The desert palaces adopted a new particularity of prevailing architectural interpretations in terms of the court and wall, which are attributed to previous Hellenistic and urban traditions.

The socio-economic aspects and activities in these rural early Islamic Umayyad palaces, and architectural typology responding to socio-economic aspects are of significance. Their remains were found mainly in the eastern desert of Jordan (*Badiya*), and only a few were built in Syria (Qasr al-Hayr (727-9), east and west), and a couple in the West Bank (Khirbat al-Mafjar in Palestine).

Such sites in Jordan are distinct from those in Syria as they are comparatively of modest scale and simple construction (Urice 1987). It is not a mere coincidence that the greater part of the architecture attributed to Jordan corresponds to palaces or private residences and to the new oligarchy who sought to forgo a new image and mark the change of power, as Grabar (1987: 134-135) has pointed out. This peripheral and countryside category was normally the engine of politico-economic activities, and there economic, agricultural and technical innovations were intrinsically linked to urban centers and interregional networks.

The desert palaces as a physical entity were produced within a compatible order providing for the function, morphology and structural requirements. The designer adopted a *unified architectural system* of both wall and internal court to respond to the above, it also responded to the location *general form*, orientation, kinetic and visual axes, hierarchal organization from the

most public to the private spaces, external expression and identity reflected in simplicity and clarity, in addition to the function of the building form.

The best-known examples include the eighth-century Khirbat al-Mafjar in Palestine (fig.3), Qasr al-Hayr (727-279, Eastern & western palaces) in Syria, and Mushatta (744) in Jordan (Haddad, 2009). Geometrical and mathematical principles are also reflected in the architectural form in relation to its surrounding environment and use of building materials. The formation and evolution of this particular Secular Umayyad architectural plan, consistent with a geometrical order, and based on two main architectural concepts: (wall / central square court) (Haddad, 2009).

Usually these palaces are square in plan with semi-circular solid towers buttressing the exterior walls and flanking the entrance doorway giving the palaces a sense of a fortified appearance. The interior spaces were arranged around a central porticoes courtyard. Often decorated with freestanding sculptures, carved stucco reliefs, fresco paintings and mosaics, the palaces also demonstrate how the Umayyad patrons adapted and reinterpreted Late Antique domestic and military architectural traditions during the early Islamic period (Haddad, 2009).

These peripheral and countryside category was normally the engine of politico-economic activities, and there economic, agricultural and technical innovations were intrinsically linked to urban centers and interregional networks (Haddad, 2009). Actually the origin of the internal typology is derived from the Hellenistic /Byzantine Great Syria and from fragments of the Roman villa tradition in their typological aspect (Haddad, 2009). A few of them, the basic plan is largely derived from Roman military models. Actually the Umayyad installations do not fortify, they ‘monitor’.

These were not isolated fortresses or secluded pleasure or hunting lodges, most of the standing desert castles formed part of complexes for active and extensive communities that engaged in a combination of agricultural and trade. They might reflect the ability of a dynamic Muslim Umayyad culture to expand far beyond urban centers along the western hills of Jordan, to exploit the agriculture and trade potential of formerly marginal frontier regions. One group of the palaces is referred to, however, as the “Desert palaces of Jordan”, where most of the remaining palaces are located east of Amman, the capital of Jordan. They stand out as a group because of

their size and elaborate architecture, and their concentration in what, today, seems like a deserted arid steppe, and by the fact that they were all constructed within a 30-year period.

While there are rich Umayyad remains in Syria (e.g., the Umayyad Great Mosque in Damascus, Qasr Hair al-Gharbi and Qasr Hair al-Sharqi, Qasr Jabal Sais) and increasing evidence of Umayyad remains in Palestine (e.g., the recently excavated Umayyad dar al-idara associated with the Umayyad mosque al-Aqsa and the Dome of the Rock, Khirbet al-Minya, Khirbet al-Mafjar, Khan al-Tuqqah), only Jabal Sais, Khair al-Sharqi, Khair al-Gharbi, Mafjar and Minya fit the general definition of the fortified, secular palaces (Milwright 2010, Alhasanat, et al, 2012). However, the architectural remains of the palaces are largely found in Jordan, a few in Syria, and two on the West Bank. The particularity of these buildings as they represent the governmental and the administrative centre in the rural Islamic region of great Syria (Badiya), appears from the unity of the internal and external architectural form with different variation of sizes and scales, and fixed orientation, with clear common architectural features. They are characterized by clarity, identification, reflecting the image of power of Islam from the outside, and the luxury from the inside, according to the new life style of the Umayyad (Haddad, 2009).

In an arid landscape, water is power and travel routes are essentially connections between water sources; to control water is to control movement on the landscape, which corresponds with control of the travel routes. Recent results of GIS analysis (Alhasanat, et al 2012: 343) show that these Umayyad palaces are carefully situated at routes of transhumance and water sources in order to monitor routes of transhumance amongst the socio-political and economical centers of the period. Each palace controls a perennial water source. The distribution pattern of these prominent structures were strategically placed in the landscape for careful monitoring and protecting the routes that led to Damascus. They clustered at the outlet of Wadi Sarhan, and there is, actually, line-of-sight communication between Azraq, Amra, Kharana, Muwaqqar, Umm al Walid, Mushatta, and Qastal. However, Qasr al-Hallabat and Qasr al-Tubah function more as two main patrol stations (Alhasanat, et al 2012: 356-57). All of these routes pass through the palaces, and all of them connect to water sources. In addition, many of the palaces laid on the Old Hajj routes, and were often used by pilgrims to Mecca and Medina for stopovers.

There is also a positive association between Umayyad palaces and their water sources. These results support the argument that the Umayyad palaces were built strategically at perennial water sources in order to monitor routes of transhumance amongst the socio-political centers of the period (Alhasanat, et al, 2012); spatial depiction of the co-occurrence of the palaces , trade/ travel routes and perennial water sources support the notion that the Umayyad dynasty poured resources into building the palaces for highly functional purposes. There were two routes that the *barid* took: one from Damascus through Busra, ‘Amman, Ma’an, and Tabuk to Tayma, and the other from Damascus through Busra, ‘Amman, ‘Azraq, and Wadi Sirhan to Jauf. Bayir, Tuba and Kharana rather align themselves on a north-south axis and seem to suggest a series of service stations conveniently placed for official caravans or couriers. All of these routes pass through the ‘screen’ of the palaces , and all of them connect to water sources.

These multi-functional activities structures were imposed by the nature of the emerging early Islamic state to strengthen the power and the economy of the newly established dynasty. Their typological origin is derived from the Hellenistic/Byzantine Greater Syria traditions, while the basic plan is largely derived from Roman military models (Haddad, 2009:1,8). They also demonstrate how the Umayyad patrons adapted and reinterpreted Hellenistic, Roman and late classical Antiquity domestic and military architectural traditions during the early Islamic period. Usually these palaces are square in plan, with semi-circular towers buttressing the exterior walls and the flanking entrance portals give the palaces a fortified appearance (**Table 2, fig.5**). The central square courtyard generally being surrounded by porticoes two stories high, with the upper ground layout generally following the same guide-lines as the lower. In fact, the square layout is not only conceived as a multi-functional space, to control all the activities taking place: trade at the *Suqs*, religious activities at the mosque, and political functions at the *Qasr* (Almagro and Arce 2001: 665), but also as symbol of power; Just as a perfect balanced, stable, clear, and rigid form that reflects the concept of power and strength (Haddad: 2009, 6). The interior spaces were arranged around central courtyard porticoes. Often decorated with freestanding sculptures, carved stucco reliefs, fresco paintings and mosaics.

The particularity of these buildings as they represent the governmental and the administrative centre in the *Badiya*, the rural Islamic region of Greater Syria, appears from the unity of the internal and external architectural form with different variation of sizes and scales, but with permanent square form and orientation. They are characterized by clarity, identification, reflecting the image of power of Islam from the outside, and the luxury from the inside, according to the new life style of the Umayyad (Haddad: 2009, 1,7).

The heritage of Umayyad palaces has become vulnerable because of the rapidity of transformation processes resulting from many factors; pollution, modern use, using insufficient maintenance of vulnerable materials or inappropriate conservation, lack of awareness and often neglect. In fact, many Umayyad palaces in Jordan have suffered from serious damage and deterioration due to natural and environmental factors; like earthquakes, structural deterioration, weathering, bio-deterioration and other such factors. Considerable decay is evident in many of lime based stone Umayyad palaces, especially in aggressive polluted environment (Elgohary, 2008).

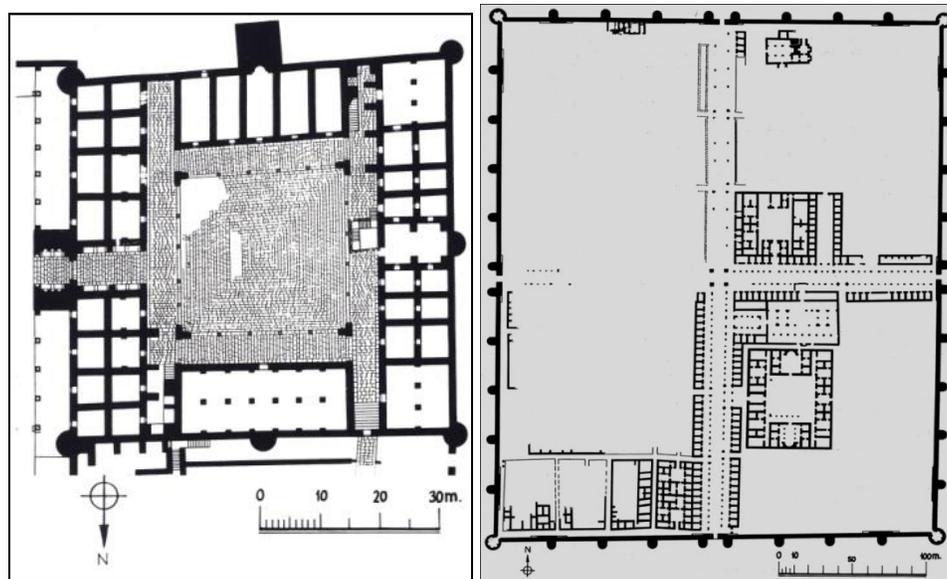


Figure (5) Plan of Qasr al-Majjar in Palestine (left)and of in Lebanon(Haddad,2009).

To conclude, these palaces and the other structures of the 'Nomad Villages' from the Umayyad golden age to testify Jordan identity as a politico-economical centre and as a major stop on the

caravans' route. They demonstrate a face of the Umayyad life at the Middle East, which is not widely seen elsewhere, and few hold a perfect condition of preservation which is quite astonishing taking into account their vast epoch.

3.3 The Khans:

Many Khans have been recorded during the Umayyad period; at Qasr al-Sawb (51.00 × 51.00) (Poidebard 1934), Dawqi/ura (Field 1960; Adams *et al.* 1977), Jabal Seys (Sauvaget 1939; Brisch 1965), and perhaps also near Qusayr 'Amra fig (Musil 1902; Almagro *et al.* 1975: fig. 2).

All of these sites located in the east of the *Harra* and may have been connected by ancient roads and ar-Risha belong to them also while only two of them –Jebel Sais and perhaps also Qusayer 'Amra- are part of large settlement. the so-called *Castillo* on a low hillside some 500 meters north-west of Qusayr 'Amra (**fig4** : 27.00 × 32.00 m² or 32.00 × 33.00 m² with projections), though undated. it has cells around three flanks (one flanks deeper, as at Jebel Sais) with a central courtyard and one doorway.

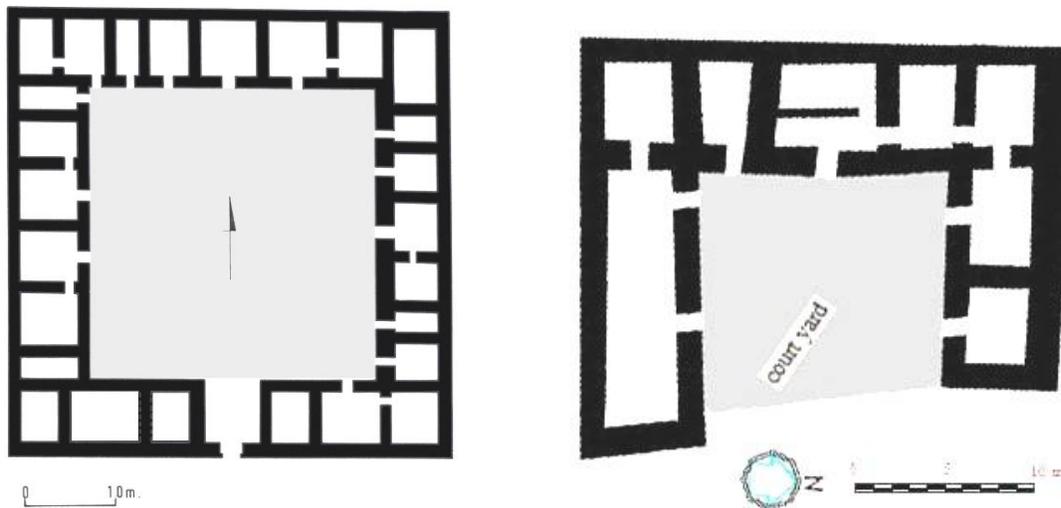


Fig 6: Castillo near Qusayer 'Amra (left). (Helms 1990: Fig: 39, P: 95). and Structure no 19 at al-Hallabat settlement (Jalboosh,2009)

Structure no 19 at al-Hallabat settlement (seventh or early eighth century A.D.), represents an architectural type which fits as (Khan). The geographical location, and its relative position within the overall archaeological site makes potentially this structure as important addition to

our knowledge of early Islamic architecture. Direct parallels for structure 19 have been recorded at ar-Risha and Qasr al-Hayr al-Gharbi (Creswell 1989).

4. Umayyad Houses in Jordan

There are few examples of Umayyad houses which have survived in their entirety in Jordan. Excavations have clarified the nature of Umayyad occupation in Transjordan concentrated on larger urban sites, e.g., Amman, Jerash and Tabaqat Fahl. Other remains of small early Islamic settlement in Jordan valley were discovered during survey and excavation and studied by Kareem (1987) while the early Islamic settlement at ar-Risha was studied by Helms (1990). These can be categorized as simple houses without courtyard, with courtyard and the Complex House. The Complex House may be divided into two groups:

- The urban apartment house, where the dwelling units are composed around one or several courtyard.
- The rural farmhouse, consisting of several dwelling units and wings composed around a central courtyard. This type of houses were found at al-Hallabat settlement

These Umayyad courtyard and the Complex House sites in Jordan, have several common features. Each has a courtyard, generally irregular in form, functions as an element of distribution. While all of the house rooms have either direct or indirect access to the courtyard where at least one main room open directly to the courtyard. Access from outside the house or from the street is gained through one sole exterior doorway and a series of hallways and small vestibules.

Meanwhile the entrance from the outside is direct to the courtyard, since no L-shaped passages are used to obstruct the vision of the visitor. Another common feature is the hierarchal arrangement in the remaining rooms, of which many are only indirectly connected to the courtyard by way of other rooms (Almagro ,1992). However, the Hallabat settlement provided the opportunity to investigate the cultural significance of Umayyad residential architecture in relation to Hallabat palace. More analytically;

4.1. The Umayyad House in Jerash

Umayyad residential quarter was found recently on the north side of the South Decumanus inhabited from 660 to 800 AD (Gawlikowski 1986:107-136). This Umayyad apartment house about 600 m², coexists as 5-6 separate house units belonging to families that shared the same courtyard. The dwelling units laid around a courtyard are with one main entrance through a passageway from the colonnaded street in front of the house, which its remains were in use serving its original purpose along the lines of shops. The complex extends northwards behind three shops that directly faced the street Southern Decumanus and formed the façade. The house does not appropriate the shop space for its residential use (Gawlikowski 1986:111, 113). The shops were entirely restored, including the upper foundation courses, found in the fill of a cistern, without any major change in layout (**fig. 7a,b**).

The entrance passage led directly from the street to an irregular shape courtyard. In the back of the courtyard there was another opening that led through a staircase to the street north of the complex. The courtyard's irregular shape was the result of the intersection of the Roman period foundations walls with Umayyad period houses, as it is clear by a room which intrudes into the middle courtyard space (Gawlikowski 1986:113). The rooms are arranged in two wings east and west of the courtyard, where the depths of the rooms of the west wing vary according to the already existing conditions that the builders encountered in the area. The eastern wing also is not arranged symmetrically and many rooms are not aligned on the same axis (**fig.4a**). The arrangement reflects the division of living quarters. Rooms are grouped in pairs; there are three sets of two-room suites (Gawlikowski 1986:114,419). The front room earmarked for daily use and the back darker one used for sleeping. The layout of the units/ apartments reflects a homogeneous pattern.

A sewage drain extends from the end of the courtyard to beneath the entrance (Gawlikowski, 1986: 113). This serves as the only sanitary facility in the household. An earlier sewage drain runs from the end of the courtyard and beneath the entrance. Some walls are preserved up to 3 m. above the floor, though the ceiling could not be lower than about 3.5 m. The walls are probably mud-plastered, while the roof is supported by wooden beams. An upper story may

have existed, but no evidence could be determined (Gawlikowski 1986: 114). In this complex there is no indication of *bayt* layout.

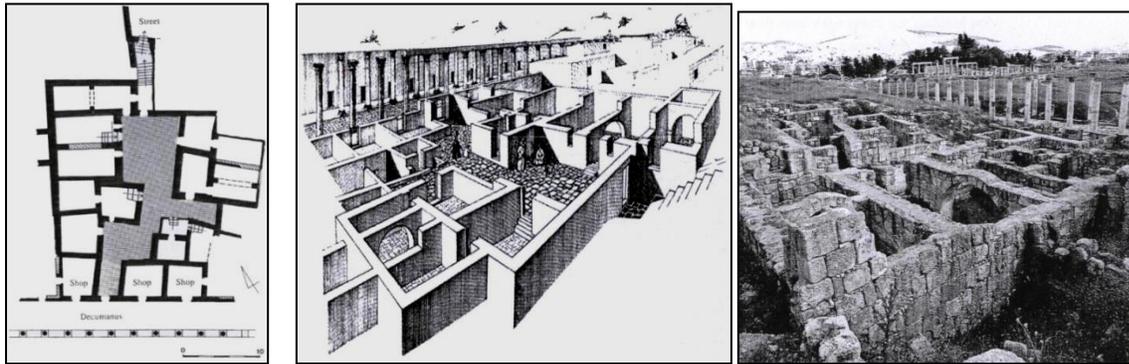


Figure (7): plan of an apartment house at Gerasa, seventh-eighth centuries A.D.(left)(After Gawlikowski, 1986). Umayyad Houses restitution at Jerash (Zayadine, 2000), and Umayyad House, general view of the house, in Jerash (right).

4.2. Jabal al-Qal'a(Citadel) Umayyad houses in Amman

The Umayyad palace complex at Jabal al-Qal'a, the Citadel at Amman, differs in its layout and architecture, from the rest of the desert palaces in Jordan; it was the administrative centre and residence for the governor of the region. The main area of the urban reform at Jabal al-Qal'a, undertaken by the Umayyads, was the public space layout in a new urban concept to accommodate the organization of the newly created architectural elements, and the reuse also of pre-existing features (Almagro and Arce 2001: 662). It also included the construction of separate courtyard house units of a variety of sizes, ranging from two rooms and a courtyard, to seven rooms, a latrine and a courtyard, meanwhile the residential units of the palace, one structure has ten rooms, a latrine, a staircase and a courtyard (Northedge 1992:157).

Excavations uncovered a number of upper class residences from the 7th-8th centuries, and the sudden collapse of the building may be attributed to the earthquake of 749 (Northedge, 1992:142). The main house (380 m²) over the Museum site is preserved to a height of about

2.5m built around a closed inner courtyard (fig. 8). The courtyard (8.6 m wide) has a cistern with a shaft (Bennett and Northedge, 1976: 176). Plastered drains in the north-east and north-west corners of the courtyard conduct water from the roof to the cistern (Harding 1951:7). The cistern appears to have been constructed originally in the early Byzantine period.

The room which faced the courtyard with a wide entrance, was considered by the excavators to be a *diwan* (a reception room in the tradition of the Roman-Byzantine triclinium) (Bennett & Northedge 1976). This possibly reception room, had a laid clay floor. The other lower-story rooms apparently served as storerooms and workrooms. According to Harding (1951), parts of a mosaic floor were found on the upper story, which apparently contained the living quarters. However, Northedge (1992:143) assumed that the building was apparently single-storey, as no evidence has survived of the roofing technique of a second storey or of staircases to the roof. He speculated that the roof may be barrel-vaulted, similar to another building in the same area. The rectangular shape of the rooms would have accommodated barrel-vaulting, even at the expense of the regular thickness in the walls.

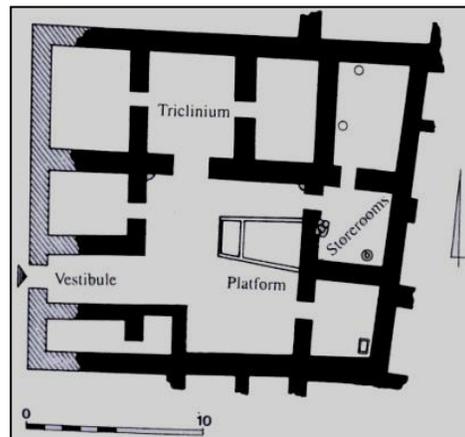


Figure (8) : plan of a courtyard house at the citadel of 'Amman, seventh-eighth centuries A.D. (After Harding, 1951).

4.3. Tabaqat Fahl (Pella) Complex Houses

Pella, was an administrative district in the military province of Jordan in the early 7th century, to serve the link between Damascus and Jerusalem; the two most important centers in southern Greater Syria (Walmsley: 2008, 244; 1988, 144). Between 659-60, the damage and the partial collapse of the domestic quarter of the main mound from an earthquake is evident, as seen in the complete destruction, as well as from neighbouring sites. This led to an urban re-organization, translated by a rebuilding program, which produced large houses and encroachment on public areas, that continued until the end of the Umayyad period (Watson 1992: 163-164; McNicoll et al 1982).

Six courtyard houses dating to the seventh and eighth centuries, were completely destroyed in the 749 earthquake. Generally, the houses at Pella, at ground floor level, represented the mixed function of the household; living arrangements accommodate animal stables, storage of foods, workshop production, and some aspects of daily living (cooking, transit accommodation). In the upper floor spaces much of the social activities took place, and perhaps three at least with roof-top access. (Walmsley 2007:131). The upper floor could be reached through the courtyards by means of stone-built staircases (Walmsley 2008: 251). One of the well preserved examples of those houses is the two-storied courtyard house G (230 m²) (Hirschfeld 1995) (fig. 9a), whose corner entrance led to a simple rectangular courtyard to the east. The rooms on the lower level were used as storerooms and stables. The presence of carbonized wooden beams, suggested the roofs were made of matting over oak beams, sealed with clay (Walmsley 2007:130). The upper storey floors may have been carried on timber joists (McNicoll et al: 1982,131).

An out of the ordinary house dated to the late 7th century, destroyed in the severe earthquake of 749, represented a fine example of an urban complex house. The complete ground plan remained unknown. It was a large complex (560 m²), with two courtyards. The front façade of the house had three doorways opening on to the street (fig. 9 b). The group of living rooms in the west side of the house had accessibility from the main entrance through a small entrance hall. The eastern entrance was used to connect the two courtyards, meanwhile in the western side a separate space was probably also used as a shop (McNicoll et al: 1982). The excavators explained the parallel existence of the two courtyard return to the extended family daily life activities that occupied the

house, where the closest courtyard to the street belonged to the men's wing. The large room which was built in the outer courtyard was a guest room, while the inner courtyard and the rooms surrounding it, may have served as the women's wing.

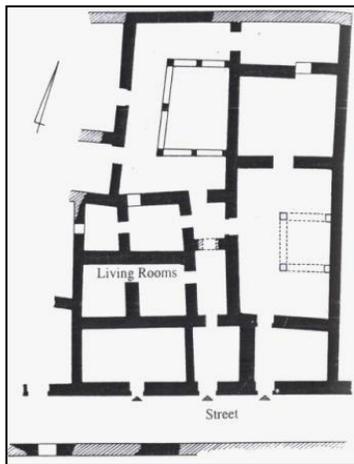


Figure (9): Apartment house at Pella, seventh-eighth centuries A.D. (After A. McNicoll et al., 1982).

4.4. The Residential settlement around Qasr Al-Hallabat (Ghrayib, 2003, Jalboosh,2009).

It has been wisely said that the traditional courtyard house is never a complete project. While the most striking feature of all Islamic architecture is the focus on interior space, the most typical expression of this feature is found in inner space of the Muslim house. Rectangular dwelling units typically are organized around an inner courtyard.

Meanwhile the facade of this house offers high windowless walls interrupted only by a single low door (Grub, 1978). Often these courtyard houses are clustered together into a walled complex to serve the needs of extended families. The entrance to the complex leads to a passageway from which the individual dwellings can be reached. All these characteristics, now can be seen and detected in a recent Master thesis entitled "The Architecture Of The Umayyad Settlement Around Qasr Al-Hallabat- Jordan, (2009), by Fatima Jalboosh under supervision of Dr Naif Haddad .



Fig(10) Views of the Hallabat Umayyad houses

The thesis studied the architectural features of the al-Hallabat archaeological site with emphasis on the Umayyad Period. However, the first part of the study consisted of unpublished material and results of the excavation of those Umayyad houses, where permission for publication was obtained from the project director Mr. Romel Ghrayib.

In spite of the great historical and archaeological values of this Umayyad site in Jordan, it had not been given the appropriate interest which it deserved. The whole area should be transformed into a well-organized Umayyad archaeological park, in addition to the Hallabat palace, the Hallabat Umayyad houses illuminate and disseminate the nature and density of Umayyad early Islamic occupation in Jordan **Fig (10)**. In all the houses of Hallabat, we can find similar architectural features and types; each house consists of a group of rooms surrounding the open central courtyard, with a well planned water distribution system which served the entire settlement. Every house had a cistern or a well nearby. The bell-shaped cisterns had been dug into the bedrock and were completely plastered. Typologically, the settlement is featured by two main architectural categories: a) Residential complex house. b) Isolated houses (Jalboosh,2009).

The houses had been transformed along the time since evidence of enlargements had been observed. They were built directly on the bedrock. The building material was stone of different kinds, mainly limestone and re-used basalt blocks as walls fieldstone. The stones are undressed and a coating was used in order to hide the irregular surfaces of the walls and reinforce the structures (Ghrayib, 2003). They appeared as spontaneous elements, which grew in the shadow of the Qasr. The analysis of pottery confirmed that the houses belonged to the Umayyad Period and that they were built in a limited period of time, as proved by the type of vessels, which were reserved to domestic purposes, like cooking pots, jars, bowls, casseroles, storage jars (Ghrayib, 2003).

The impressive architecture of the Qasr and the mosque, in addition to the houses which belonged to the same period is a unique example of Umayyad Jordan. We believe, the importance of the site led to its selection for WP 5.3 *"Launch of Cultural Itinerary of Umayyad: cross border cooperation between PPP"* of our project.

5. Al-Hallabat Archaeological Site: Cultural Significances

Al-Hallabat settlement provided the opportunity to investigate the rich cultural significance of Umayyad domestic architecture which is limited in Jordan.. Rural settlement expansion, actually, in the seventh and eighth century in Jordan as shall be presented in al-Hallabat agricultural settlement, may have also created an atmosphere conducive to a process of ruralization of urban space

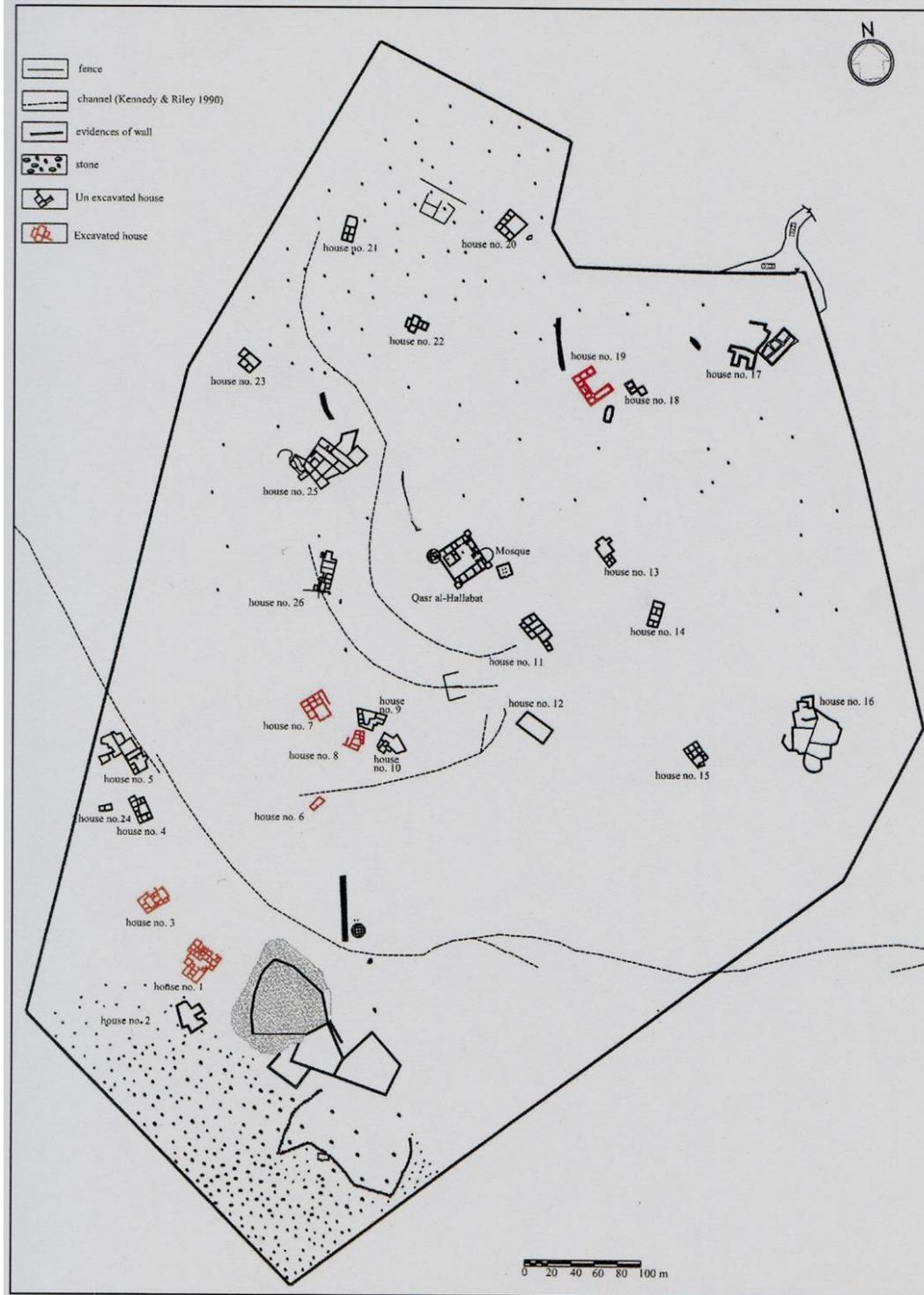


Figure (11) Site plan of the Umayyad houses around Qasr at al-Hallabat (Jalboosh, 2009).

Al-Hallabat archaeological site(JADIS 2716.001; Qasr al-Hallabat; Map 3254.II; UTM Zone 37; UTME 2479; UTMN 35540; PGE 275.500; PGN 167.200), (fig. 6a) and the complex of its Qasr is located 60 km northeast of Amman (Arce 2007: 325), 25 km to the northeast of the city of al-Zarqa, on the southeast edge of the modern town of al-Hallabat al-Gharbiyya (Ghrayib 2003: 65), and about 16 Km from the Via Nova Traiana (Kennedy 2000: 90). Al-Hallabat was built on a gently sloping ground, dissected by shallow rainwater gullies which drain the land to the south. The site lies on the top of a mound situated in a semi-arid zone with annual precipitation rate of less than 100 mm (Bisheh 1985:265).

The complex occupies an area of 50 acres with an area of numerous springs and water sources, with the Qasr located on the top of the mound, dominating the site (Ghrayib, 2003), built from black basalt and honey-colored limestone, with inscribed blocks and architectural elements (Kennedy, 2000). Meanwhile the mosque dominate the site from the top of the hill, the nearby baths at Hammam as-Sarah. The remains of several Umayyad houses are still visible on the slopes of the hill and in the valley (**Fig 11**), in addition to a complex water system with channels, cisterns and a big reservoir cut in the bedrock down in the valley (Arce, 2007). There is a huge reservoir (**Fig.12**) and numerous cisterns in the wadi to the north and west and the channels system were probably connected in order to store the water and distribute it to the Qasr, to the houses, and to the agricultural land (Bisheh, 1989), (Harding,1984).



(Fig.12) The reservoir in Al-Hallabat archaeological site

Since 2002 and until now restoration the Qasr and the mosque are ongoing through a partnership project between the Department of Antiquities of Jordan, the Ministry of Tourism and the Spanish Embassy under the technical and scientific direction of Architect Ignacio Arce (Arce, 2007). This cooperation of Jordan and the Spanish Historic Heritage Institute, and Ministry of Culture, aimed to qualify the site for tourist improvement with full respect to the archaeological features. Accordingly, a visitor centre was constructed and the preservation, consolidation and restoration of the Qasr and the surrounding settlement was in progress. The Department of Antiquities of Jordan under the direction of Mr. Romel Ghayib carried out a season of excavation in 2002. Several houses of the Umayyad settlements had been completely unearthed and the area of the water reservoir had been investigated (**fig 12**). The 2003, 2004 and 2006 seasons were focused on the preservation and restoration of the houses and the water reservoir.



Figure (13): View of al-Hallabat palace (left) and Mosque

5.1 Qasr Al-Hallabat:

Al-Hallabat is situated on the top of a mountain overlooking a broad area to the southeast towards 'Azraq, from which travelers would have been observable for many kilometers approaching the plateau along the Amman-Busra- Damascus route. Qasr al-Hallabat history goes back to the Nabataean period when it was a station on the trade routes. During the Roman period it was a Roman fort constructed in the second or third century AD, as a military station on the road between Bosra and Aqaba to check and control raiding by the desert tribes (Harding, 1984).

This unique site while featured as a military fort, lies on the top of the hill and was rebuilt several times, as attested by several identified phases of development, at least two of which were fundamental (Kennedy et al., 1990). It is located in an area of numerous springs and water sources, and includes a complicated water system, a huge reservoir, at least five large cisterns and an elaborate bath complex (*Hammam as-Sarah*) all richly decorated, displaying the Umayyad celebration of their water infrastructure and their control over water resources (Alhasanat et al ,2012). *One of the cultural significance of Al-Hallabat is as a landmark , situated on the top of a mountain to monitor and control route along the Amman- Busra— Damascus route.*

The castle/ palace was reused and probably enlarged during the Byzantine period (Glueck, 1940), and subsequently during the Umayyad period and was rebuilt under the Umayyad Caliph Hisham ibn 'Abd al-Malik. New construction works were made to the ground plan of the site in additions to the largely re-built on it(**Figure 10**) (Gregory, 1997). It is square structure of 44.00 m length, with square towers projecting at the angles. The inner structure measuring 16.25 X 16.20 m. (Butler, 1909). The ruins of the fortress preserve one story in totality. Each tower once had several slit windows to permit missile fire (Parker, 1986).

By the end of the Umayyad period and in the middle of the eight century as result of the Abbasid annexation and also climatic changes, the Qasr was abandoned except to probably some traveler or passing Bedouins (Bisheh, 1980).

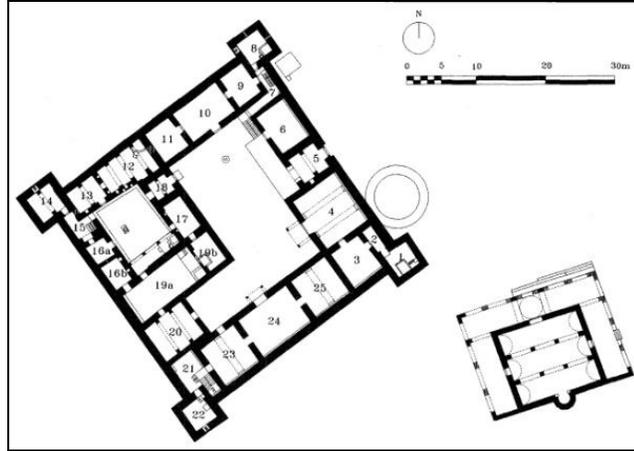
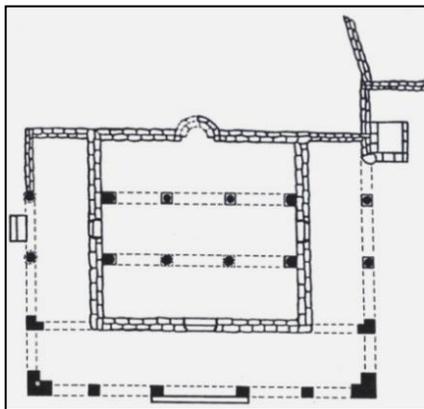


Figure (14) Aerial view of Qasr al-Hallabat before the intervention (Kennedy et al., 1990), and plan of Qasr Al-Hallabat (Arce, 2007)

5.2 Al-Hallabat Mosque:

The mosque is the smaller square structure of the Qasr built in 8th century A.D, of excellent workmanship, built of well-dressed limestone blocks, located 14m southeast of the Qasr (Butler, 1909) (**fig 13**).

The mosque features were similar to first architectural Islamic style in North Africa and Spain (Glueck, 1940). The plan is rectangular measuring 11.77m internally and it is divided into three aisles. It has three entrances, and the floor is paved with mortar and pebbles covered with thin layer of plaster (**fig 15**). The walls were rubble core 0.86-0.88m thick, roofed by tunnel-vaults running parallel to the *qibla* wall. The *Mihrab* was built in the center of the south wall, its concave part measures 1.78m in width and 1.50m in depth (Creswell, 1958).



Figure

(15) :plan of the Mosque (lift) (Bisheh, 1980) and general view of the Mosque

Qasr Al-Hallabat complex

Located in the eastern desert, the Qasr was originally a Roman fortress, build in the second or third centuries AD, under the reign of Emperor Caracalla (Wan Hussin, 2010). The reason for building the fortress was to protect its residents the attacks of Bedouin tribes (ArchNet, Qasr Al-Hallabat, ND). It was one of the many stations on the Via Nova Triana Roman highway.

The Umayyad Caliph Hisham Ibn Abdulmalik ordered the demolishing of the fortress in the 8th century AD and redevelop a grand palace instead (Wan Hussin, 2010). The palace was constructed using basalt and limestone. It has a square plan with a tower on each corner. The entrance in the eastern wall lead to an open paved courtyard surrounded by square and rectangular rooms from three sides. The northwestern quadrant contains an inner structure of a central courtyard surrounded by rooms also from three sides (Bisheh, *Forum Castellum to Palatium: Umayyad Mosaic Pavements from Qasr Al-Hallabat in Jordan*, 1993). Each courtyard had a cistern. Around 400 m to the east of the palace, the remains of a mosque (10.70m x 11.80m) were found (ArchNet, Qasr Al-Hallabat, ND). It was constructed of limestone and has two arching riwaqs inside dividing it into three sections. Three tunnel vaults support the mosque roof, and are surrounded by a portico from north, west and east. An enclosed structure was also found on the site, which was probably used for agricultural purposes (e.g. cultivating olive trees).

The mosaics (**fig 16**) that covered the floors of the palace were excavated and thoroughly scrutinized, whether in fragment or in more complete status (Bisheh, *From Castellum to Palatium: Umayyad Mosaic Pavements from Qasr Al-Hallabat in Jordan*, 1993). It was revealed that the mosaics contained several types of designs using geometrical shapes or flora and fauna to make up the external frame or internal separations. Human depiction was also evident. Plants and fruit were commonly introduced to the mosaic floors, such as vines, lotus, and fruit (pomegranates and lemons).

There were also a number of animals appearing, such as ducks, ostriches, rabbits, Oryx, camel, leopard, lion, wolf, snake, bull, goat, and a ramp. Some of which were skillfully positioned in an animated-like movement. The Oryx, for example, seemed to be walking slowly with head

uplifted, while the wolf was running fast. The rabbit was peacefully nibbling on grass, while the leopard was in an aggressive position. Each room had mosaic floors that differed in quality and topic. Fragments of fresco were also uncovered, holding mostly floral images as well as some human faces, an animal (jackal or dog) and a griffin.

The palace also had a water system with five cisterns and one reservoir, and a bath complex commonly known as Hammam al-Sarrah two Kilometers to the east of palace (Wan Hussin, 2010). It consisted of a rectangular residence hall and a bath, as well as an alcove which lead from the audience hall to two small side rooms lit by three narrow windows for each. It is very similar to Qusayr Amra in plan (ArchNet, Qasr Al-Hallabat, ND). The Hammam was once decorated with marble, mosaics and fresco (ArchNet, Qasr Al-Hallabat, ND).



(fig 16) The mosaics that covered the floors of the palace

In conclusion, the particularity of al-Hallabat settlement is that it had a pre-existing Qasr located on the top of the mound, later on surrounded by the houses and the hydraulic system. Looking to other Umayyad settlements in the region, mostly the Umayyad palaces were built on flat area without houses surrounding them, such as Qasr Kharana and Mushatta, or we can find

small flat settlement without such palace such as at ar-Risha (c. 5ha, lies 165 km north-east of the Azraq Oasis and 35 km north of the small Baghdad Highway town of Ruwayshid). On the other hand, the non excavated Khirbet al- Askar (c.33 km south-east of Kerak and 10 km east of Muhai), according to Kennedy (2014,107: table 1), have the same area (c.35 ha) with dimensions (c. 1100 x350= 385000m²), but with 45 structures. Analogous situation, till now, to our case is found at al-Qastal south of Amman and Jabal Seys in Syria where the Qasr was surrounded by houses and other installations.

5.3 *Hammam Es-Sarah*

The castle also had a small but stylish bath house, known as Hammam Es-Sarah (**fig 17**), dated back to 725-730 A.D, and located 2 kilometers south east of the Qasr Al Hallabat (Bisheh, 2000). It included the usual complement of the typical Roman *therme* , including from the main entrance on the south the following:

1. an entrance/audience hall (8.95× 7.90m), with a recessed fountain pool with traces of marble cladding; an alcove flanked by two smaller rooms (A and A1) each with its own latrine and drainage pipes;
2. the changing room which also served as the cold room, the *apodytarium* (B), (2.50 × 3.45m), with traces of its original tunnel-vault roof and wall plaster; the moderately cross- vaulted hot room.
3. the *Tepidarium* (D) (3.40 × 2.20m), with grooves and ceramic pipes in its upper wall for ventilation, and a tunnel-vaulted recess, 1.70m wide and 1.20m deep, that may have been a basin for bathers;
4. the hot room, or *caldarium* (C), adjacent to the furnace at the north end of the baths, with its raised floor under which the hot air circulated , it has a dome on spherical-triangle pendetives roof (rebuilt), and two small semi-circular recesses basins which the bathers used to splash water on themselves (Creswell, 1989), (Bisheh, 2000).

The bathhouse was also decorated in fine marble, mosaics and painted plaster like Qusayr 'Amra. It must have been built for an Umayyad prince for his own personal use (Creswell, 1989).

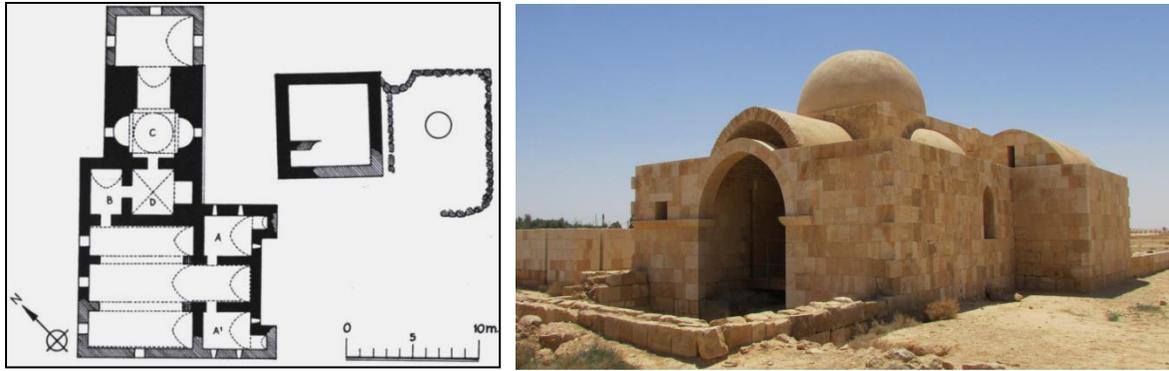


Figure 17 ; plan of Hammam-Sarah (Creswell, 1989), and general view of Bath

5.4 The Reservoir:

The pottery shreds of the Umayyad period found in the mortar between the stones courses indicated that the reservoir was reconstructed, if not actually built, during the Umayyad period (Bisheh, 1980). All the area of the valley around the reservoir was constructed of quarried stone blocks of different sizes (Ghrayib, 2003). The reservoir (had an area of 2059.905m² and had an irregular shape (**Fig. 12**). The structure consisted of a rubble core wall built of local well-squared limestone blocks. The filling consisted of small stones and concrete (Ghrayib, 2003). It's possible that the reservoir had been restored or partially reconstructed along the time, as attested by the pottery, which was mixed to the mortar in the western wall (Bisheh, 1980).

5.5 The Agricultural Enclosure and the Houses

Located about 400m to the west of the Qasr, it measured about (270×220m). (Bisheh, 1982. Excavations of a number of sluices and water deflectors confirmed that this was an agricultural enclosure (Bisheh, 1980). The enclosure collected the water which came to it from two wadis (Bisheh, 1982).

5.6 The Houses

The 26 Umayyad houses, from which (6 houses) were excavated and the other (20 houses) surveyed recently at al-Hallabat archaeological site, have provided useful data for establishing general classification of the various house-types (**fig 18**). Al- Hallabat Umayyad 'Nomad Village' houses represent and disseminate the nature and solidity of Umayyad early Islamic occupation in Jordan. They might be considered as immediate predecessors of wealthy rural houses of late

Antiquity, whatever form their layout variety, scale, accessibility, and function arrangements that may have had in the seventh and eighth centuries. The general typological patterns at al-Hallabat houses layout seems to be very close to that at ar-Risha and Khirbet al-Askar, which their peak was also in the Umayyad period. There is absence, however, of the so called *bayt unit* in the residential structures of the those houses, with the exception of the houses at Amman citadel. The main layout of most of al-Hallabat Umayyad modest house is very similar, an inheritance from the early Byzantine and earlier periods. Many houses' layout which can be found during the early Byzantine period continued to be used, with slight changes at al-Hallabat during the Umayyad period. For example the complex house no.(1) at al-Hallabat has analogous layout to the house at Umm el-Jimal (houses XII and XIII).

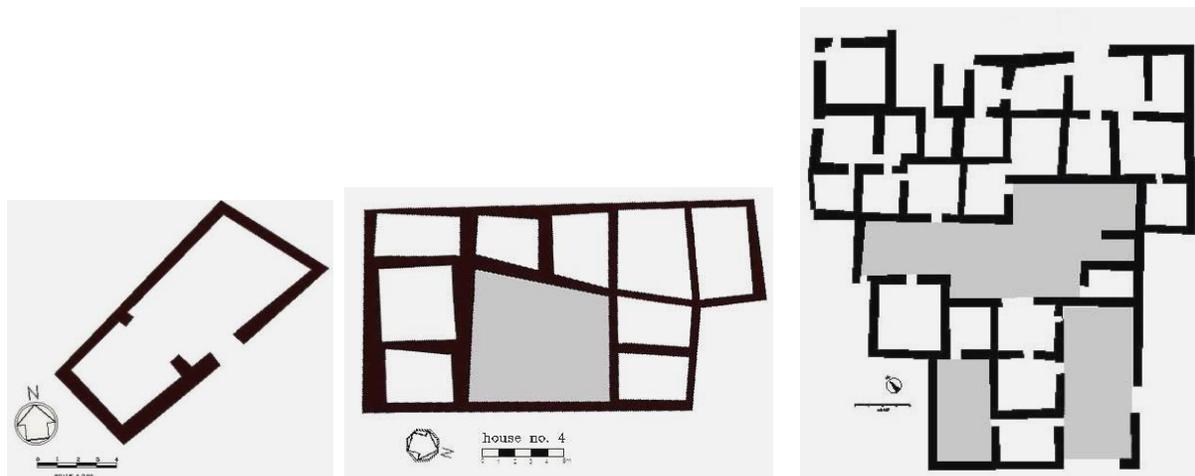


Fig 18 Examples of a. houses at al-Hallabat archaeological site. a-Simple, b- Courtyard , 3- Complex house no.(1). (After Jalboosh,2009)

The houses revealed primary differentiation between dwellings, ranging from relatively simple one-room structures to Residential complex, multi-family dwellings positioned around a court. All have courtyard where **Table 3** presents houses classification at al-Hallabat settlement and the number of the courtyard in each category. The interior courtyard house is an expression of notions of privacy dictated by religious and social norms (Ahn 2010: 107) and according to Hakim (1986: 95-96) the courtyard house creates a physical setting suitable for the religious and social requirements of Islam: privacy, interdependence, and *Bātin* vs. *Zāhir*. The courtyard

house, however, is one of the oldest known architectural forms, particularly prevalent in the Mediterranean area and surrounding regions.

However, housing of the simple type were not always "simple" in their architectural formation, since many were impressive in size and in quality of construction. In both group, it is difficult to determine whether the compound was formed gradually or was originally planned as a single complex(*Jalboosh,2009*). At least some of the houses consisted of several units organically combined. More analytically:

1. the simple house (60m² - 230m²) is characteristic of private rural construction. It was the modest house.
2. The courtyard house (250m²-400m²) is more characteristic of private construction without porticos and used by the wealthy families.
3. The complex house (360-2200m²) can be divided into two groups: 1) the urban house, including several units around a common courtyard, or, in some cases around several courtyards, and 2) the estate house, including several units and various wings arranged around a spacious central courtyard. In both cases, the original house was clearly enlarged to suit the needs of the extended family.

House No	Area (m ²)	State	Type	Room No	Courtyard No	Function
1	724	excavated	Complex	24	3	Resedantial
2	517	Un excavated	Complex	23	3	?
3	362	excavated	Complex	11	2	Resedantial
4	280	Un excavated	Courtyard	9	1	?
5	721	Un excavated	Complex	11	3	?
6	72	excavated	Simple	1	1	Storage
7	290	excavated	Simple	7	1	Workshopes
8	175	excavated	Simple	6	2	Resedantial
9	322	Un excavated	Courtyard?	?	1	?
10	375	Un excavated	Simple	?	1	?
11	430	Un excavated	?	9	?	?
12	440	Un excavated	?	?	?	?
13	279	Un excavated	Simple	?	?	?
14	222	Un excavated	Simple	4	2	?
15	269	Un excavated	Simple	8	1	?
16	2200	Un excavated	Complex	25	2	?
17	1435	Un excavated	Complex	8	1	?
18	190	Un excavated	Simple	3	1	?
19	633	excavated	Courtyard	8	1	Khan
20	420	Un excavated	Simple	6	1	?
21	220	Un excavated	Simple	4	1	?
22	190	Un excavated	?	4	2	?
23	230	Un excavated	Simple	3	1	?
24	61	Un excavated	Simple	1	1	?
25	1558	Un excavated	Complex	27	4	?
26	465	Un excavated	Complex	24	3	?

Table 3): Houses classification at al-Hallabat settlement. (Jalboosh,2009)

5.5 The Quarries

According to results of the survey and the excavation, four ancient underground quarries and evidence of surface quarrying had been identified and recorded during the survey season 2002, (Ghrayib, 2003). The reservoir had been firstly exploited during the Roman period as an open quarry. Then its function turned into a water reservoir and it had been reused and restored along the centuries. At least one of the underground quarries was reused as a cistern, as well (Ghrayib, 2003).

PART TWO

6. Description and Significance of the Main Umayyad heritage Sites in Jordan

Introduction

In the second half of the seventh century A.D, the Umayyad dynasty, established a world empire that comprised half of the old Roman and Byzantine (from Syria to Spain) and the whole Sasanian Empires in addition to Arabia. Under the Umayyads (660 -750 AD),the Islamic state was transformed from a theocracy to an Arab monarchy. The scale and rapidity of the initial Arab invasions of the 7th and 8th centuries by a numerical minority made it inevitable that existing buildings were taken over, that local craftsmen were employed to construct new domestic quarters, and that these builders would be instrumental in giving architectural form to the germinal concepts of the new religion

For 90 years, the Umayyads were actively involved in shaping this synergetic cultural identity within strong Islamic and Arabic parameters. The buildings commissioned by the Umayyad dynasty of Great Syria constitute the earliest Islamic monuments, and illustrate the dynasty's appropriation and adaptation of the Hellenistic and Sassanian cultural traditions of the territories that were united into the first Islamic empire at Damascus. Generally we can categorize this influences into three groups;1- purely developments of Hellenistic and Roman/Byzantine architecture, (2- heavily influenced by Persian (Sassanian) architectural concepts, 3- and those combine both eastern and western traditions.

A number of architectural constructs, Grabar notes, go beyond the expression of power to offer personal expression. For example, the Umayyad palaces of Syria, Jordan and Palestine, offer a wealth of decoration. Walls are covered with mosaics, stucco or stone ornament whose representational themes primarily illustrate the private worlds of the Arabian occupants. The implication in almost all of these palaces," Grabar states, "is that their recognition as monuments of

official power lay less in their individual architectural characteristics than in their general presence as walled enclosures, separating the world of power from the world of the common man."

In Jordan, the Umayyad achievements are reflected in the ability of the dynamic Muslim culture to expand far beyond urban centers along the western hills of Jordan, to exploit in a creative management the reward of the agriculture and trade potential of formerly marginal frontier regions. The so called desert palaces were constructed within a 30-year period of time. Their remains were found mainly in the eastern desert of Jordan, and only a few in Syria and a couple in the West Bank. The desert Umayyad palace make for a very interesting tour into the barren wastes of Jordan. They demonstrate a face of the Umayyad life in the Middle East which is not widely seen elsewhere, and some authenticate a perfect condition of preservation which is quite astonishing taking into account their vast epoch. The complex of three palaces at Umm al Walid show an urban pattern of settlement which consists unifying enclosure and a common court. Other palaces, like Qasr Kharana , Qasr al Tuba, Qusayr Amra, al Azraq show the urbanization and the prosperity during the Umayyad period.

Recent results of GIS analysis show that Umayyad palaces are carefully situated at routes of transhumance and water sources. The distribution pattern of the Umayyad palaces is clustered at the outlet of Wadi Sarhan, and there is actually line-of-sight communication between Azraq, Amra, Haranah, Muwaqqar Umm al Walid, Mushatta, and Qastal. These prominent structures were strategically placed in the landscape for highly functional purposes, such as to carefully monitor and protect the routes that led to Damascus.

Though, the Umayyad period represents one of the most prosperous periods in the history of Jordan and the role of the Jordanian tribes was great in the establishment of the Umayyad period. In 750, Jordan shifted to the rule of the Abbasids after the Revolutions that was initiated from Humayma in the south of Jordan.

6.1 Qusayr Amra

The palace is approximately 85 kilometers east of Amman, and 16 km east of Qasr al Kharana. Amra lies on a slight elevation of the dry bed of the Wadi Butum, which runs into the oasis of

Azraq. Located on the north side of Jordan's Highway on the edge of a desert oasis, watched over Wadi al-Butm, leading south and west out of the Qa'al-Shaumari. Qusayr Amra (712-715) is a UNESCO World Heritage Site since 1985 (UNESCO World Heritage Website). Qasr 'Amra has been attributed to al-Walid I (86/705-96/715) under whose rule Umayyad power reached its zenith. (al-Asad and Bisheh, 2000)

It is small and well preserved bath complex contains an audience hall (measures about 8.50X7.50 m²) . As a hydraulic complex it had a water wheel worked by animal power. Recent excavations have brought to light additional buildings about 300 m northwest of the main residence. The discovered remains consist of another small castle with rooms arranged around a courtyard, a watchtower and a second watering system similar to the first installation. There are also mosaics pavements that have been found in two of the small rooms annexed to the audience hall. Other rooms paved with marble, and marble was also used to panel the walls up to a height of 80 cm.

Qusayr Amra is notable for the richly painted frescoes that decorate each of its rooms. It is considered one of the most important and rare examples of early Islamic art (fresco painting) and architecture (Bianchin, et al 2007). Approximately 350 m² of mural paintings cover most of the interior surfaces, with Roman-Byzantine influence probably the most famous Umayyad artistry and ingenuity in Jordan include the triple-domed Qusayr 'Amra bath house (Kuhnel, 1966). These paintings depict a variety of subjects including hunting scenes, athletic activity, mythological images, and astronomical representations (Warren, 1978; Creswell, 1989; Al-Asad and Bisheh, 2000). The depict hall scenes, leisure activities, the Caliph sitting on his throne surrounded by kings of his time (e.g. Byzantine emperor Ceasar, King of Spain Roderic, Sassanian emperor Chosroe), hunting scenes with dogs, bathing scenes, dancing women, constellations and zodiac signs depicted on the interior of the Caldarium dome (De Palma, et al., 2012).

The importance of the paintings is reflecting a key period when early Islamic art in its formative stage (Bisheh & Vibert-Guigue, 2007). These images present a transition between Byzantine culture to an Islamic one, and influenced by Sassanian art and iconography (De Palma, et al., 2012). For instance, the life of a prince indulged in these leisure activities were common in the

Sassanian court and represented in Sassanian visual arts (Bisheh & Vibert-Guigue, 2007). There were also various crafts and activities related to the construction of the palace: Blacksmith forging metal, carpenters, masons squaring stone blocks, laborers preparing mortar and others carrying various tools, such as saws, punches and chisels (Bisheh & Vibert-Guigue, 2007). Surprising a presentation of a large number of nude or semi-nude women and marine scenes. Such images are unexpected to be seen in a work commissioned by a Muslim ruler in the first half of the 8th century (Bisheh & Vibert-Guigue, 2007). Different painting styles and various themes suggest that Amra paintings were applied by more than one artist (De Palma, et al., 2012). The images are constantly being revisited and interpreted by many scholars. It was suggested that some of the scenes could be visual translation of Arab poetic love genre with its attendant anxiety and distress (Bisheh & Vibert-Guigue, 2007).

Some gestures and facial expressions reflect emotional feelings and moods Love seems to play an important part in the dialogue between the main actors depicted on the central vault of the palace. In pre-Islamic Arab poetry, hunting scenes, which are prominently represented on the walls of the palace are usually associated with drinking wine (absent from paintings here), listening to music, and indulgent women who were often described as having plump ankles and rounded bellies (Bisheh & Vibert-Guigue, 2007).

The palace/path is similar to contemporary palaces around. Similar walls were found in Qasr Kharana and Amman Citadel palace, where the internal part consists of rubble, randomly placed in gray and friable mortar and ash mix (De Palma, et al., 2012). This limestone palace is small in scale, consist of two main components: an audience hall and a bath Near the palace there is artificial water well that serve the function of this Umayyad path. The main building entrance consists of rectangular vaulted audience hall in which stands an alcove with two little windowless rooms to either side, admitting light strictly from their entryways. The three rooms that make up the bath (*apodytarium*, *Tepidarium*, and *caldarium*, respectively) are situated to the east of the hall's main entrance: one of which is tunnel-vaulted; another that is cross-vaulted and the third contains a dome (Creswell, 1989; Ettinghausen and Grabar, 1987; Haddad, 2009).

Architecturally, Qusayr 'Amra's most impressive characteristic is its vaulting system, specifically in its use of pointed transverse arches. The northern block, two stories high, features a triple-vaulted ceiling over the main entrance on the east facade. The western wings feature smaller vaults or domes. To the east of the caldarium, a tunnel-vaulted passageway extends into a rectangular enclosed space that remains uncovered (Hillenbrand, 2000; Yeomans, 1999). The palace consists of an audience hall, a bath complex and hydraulic structures. The main hall is divided into three aisles covered by barrel vaults, which rest on the side walls and two transverse arches. Three windows are placed up high at the end of each aisle, and two windows in the eastern wall. The central aisle leads to two apsidal rooms with mosaic floors.

More of the designs on the mosaic floors are geometrical, except the apse sections of these rooms where vine scrolls grow out of an amphora and interlace with geometrical shapes with a fruit placed in a looped circle. A small shallow pool sits at the northeastern corner of the audience hall. To the left of the audience hall entrance is the bathhouse, encompassing three rooms, Apodytarium, Tepidarium and Caldarium (De Palma, et al., 2012).

The Apodytarium is covered by a tunnel vault and lit by a small window. A plastered bench is put against the south and east walls, which were probably used for disrobing (Bisheh & Vibert-Guigue, 2007). This room leads to the Tepidarium, cross-vaulted with a floor that rests on basalt piers allowing the hot air to pass to warm up the space above (Bisheh & Vibert-Guigue, 2007). The last room, Caldarium, is covered by a dome that rests on pendentives and has four small windows (De Palma, et al., 2012). Holes fill the walls of the room, which were intended to hold the marble facing (Bisheh & Vibert-Guigue, 2007). The floor of this room also rests on basalt piers, with two recesses that have lower floors than the room's floor, used as basin or bathtubs (Bisheh & Vibert-Guigue, 2007).

A tunnel-vaulted passage to the east side of the third room leads to the stoke-hole and furnace, with a water tank that used to be above it to supply the third room with water (Bisheh & Vibert-Guigue, 2007). A well and a water tank are located by the main entrance. The well has a system to withdraw water. Two pipes lead from the elevated tank to the shallow fountain in the audience hall, and tank above the furnace passage (Bisheh & Vibert-Guigue, 2007). The external wall is homogenous in colour due to a thin ochre patina carried by the desert wind (De Palma, et al.,

2012). Traces of plaster covering were found to the rear of the building. No gutters were found, only a slop in the spaces between the vaults to illuminate any water (De Palma, et al., 2012).

Today, Qusayr Amra is in poor condition, with graffiti damaging some frescos. However, restoration projects are underway. (Figure). Presently Ministry of Tourism and Antiquities in Jordan has implemented a project for executing visitor paths and the construction of a visitor centre. In addition, a local NGO implemented a project for greening (with indigenous native flora) the site, in corporation with Ministry of Tourism and Antiquities. An archaeologist assisted with 4 employees, is running the visitor centre.

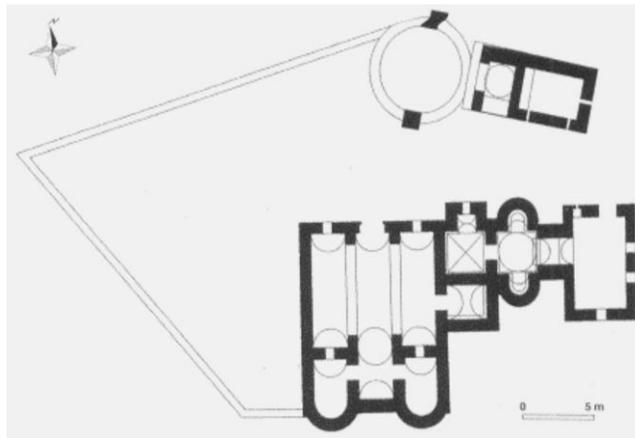


Figure 1 ;Plan of Qusayr Amra (Creswell, 1989)

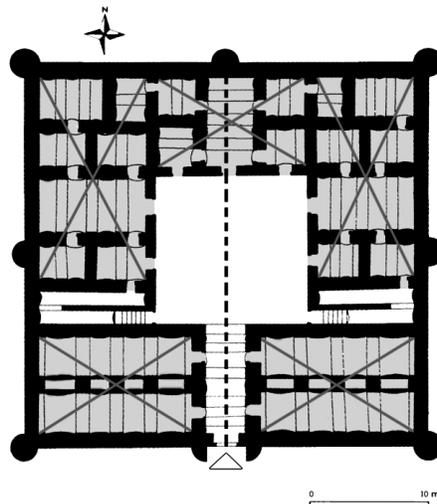




6.2 *Qasr al-Haranah*

It is about 55 km east of Amman on the north side of the road to Azraq. Qasr Al-Kharana is one of the best-known and well preserved of the desert palaces located in eastern Jordan. It is the earliest of the palaces built in the eastern Jordanian desert. its location was chosen for monitoring a wadi (Wadi Daba'a), which is an outlet from Wadi Sirhan via Wadi Ghadaf. It is also in the line-of-sight of communication with Muwaqqar, to the east, and Qusayr 'Amra's watchtower to the northeast.

It was incorporated into the network of desert palaces designed by the Marwanid Umayyads (685-750AD), and was used during their reign, a fact secured by the presence of a very early Kufic inscription found within the palace in one of the reception rooms, refers to the local governor of Jund Al-Balqa, who served under Umayyad Caliph 'Abd al-Malik ibn Marwan. The construction of the palace has been more specifically linked to Caliph Al-Walid (711AD). A painted inscription in one of upstairs rooms is dated to 710 AD and names a certain Abdul Malik bin Omar, thought to be a member of the entourage of Walid I on his way back from a trip Mecca in 710 AD. The inscription on Umayyad pottery also ensure that Kharana's main period occupation was during the Umayyad period. It might be the result of two distinct building phases; possibly late 7th century (661-684) and around 710.



Qasr al-Haranah Haddad,2009)









It is a relatively well preserved square building The size of the palace is small (30.45x36.50 m²), with sixty-one rooms. and does not have the water infrastructure that the other palaces have, except the a rainwater cistern underneath. in the middle. It is a two-story building with high thick walls flanked by four round corner towers and intermediate semi-circular buttress towers, except for the entrance wall which has two quarter-circular solid towers, made of rough limestone blocks set in a mud-based mortar. The Qasr built of stone rubble and was once covered with a coat of mortar. The use of faced rubble and mortar masonry closely links it to series of buildings in Iraq. Its plan and internal organization is typical of buildings in greater Syria.

The four corners are distinguished by three quarter round towers and semicircular tower marking the middle of eastern, western and northern façade. (al-Asad and Bisheh, 2000). To the right and left of the main entrance gate, the rooms were used for storage and as stables. From the outside, the palace appears like a fortified fortress or khan, built for defensive purposes. The palace's central courtyard (12.655x 12.9m²) is surrounded by rooms decorated with stucco.

Rooms on the second story were living units, each consisting of a main well-lit room used for socializing and a smaller darker room used for sleeping or storage. The palace has some of the most impressive ceilings, such as semi-domed sitting on squinches and cross-vaulted ceiling. The vaults in Kharana and their use in every room is unique. An arched portico originally ran around the central courtyard holding a corridor above and gave shade to those standing underneath.

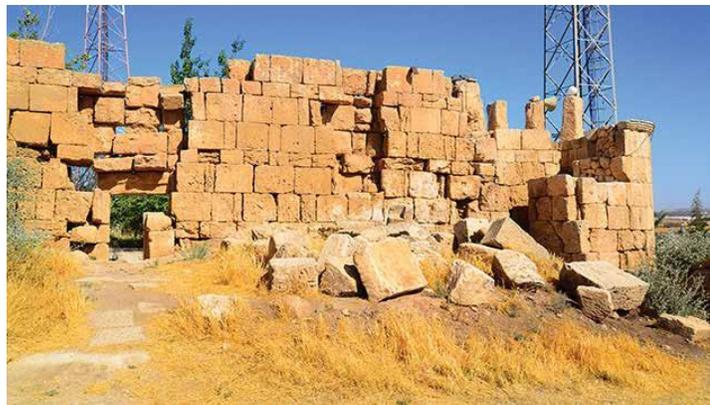
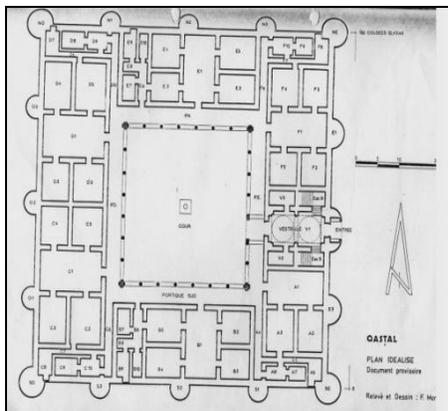
Kharana differs in size, construction method and decoration from later Umayyad buildings (almost one quarter of the area of other Qasr). Its fortified (non functional) image is characteristic of other later Umayyad palaces. Nevertheless, in spite of its fortress like appearance, the building was not used for military purposes.

The architecture provides a meeting place to form the new political order, where Umayyad princes met with local tribal leaders. Haranah was never intended for permanent residence. It is suggested that the palace was used as a 'conference centre' where caliphs met with the local Bedouins or between Bedouin tribes themselves to discuss matters and resolve disputes. Its architectural style and function is different from the other palaces, being built to give the impression more like a fortified khan than a palace, and does not have the water infrastructure that the other palaces have. However, Haranah was never intended for permanent residence.

6.3 The Umayyad complex at Qastal

The Umayyad complex at Qastal (25 km south of Amman) was built exactly on the famous hajj, or pilgrimage route. Qasr al-Qastal was in the line of site of communication with Muwaqqar and later, Mushatta. The whole complex was built exactly on the famous hajj, or pilgrimage route.

The main structures are a fort-like palace, a mosque, a water harvesting system and a bath house, reservoir, dams, cisterns, a cemetery and domestic quarters. The site of Qastal was occupied long before the Umayyad era. Yazid II could have undertaken the building program at Qastal, including establishing an administrative centre, exploring a meeting place for local tribe leaders and an additional station for caravans.



plan of Qasr al-Qastal

Al-Qastal is a large Umayyad complex with a palace (Qasr), a mosque, north of the Qasr, a bathhouse and an audience hall (dated between 720-850), a cemetery, domestic quarters and water harvesting systems (dam, cisterns). The bath complex is remarkably similar to that of Qusayr ‘Amra (Bisheh 2000), while the remains of the minaret at Qastal is especially important as it is the only one extant from the Umayyad period, making it one of the oldest minarets in the world. The mosque mihrab was originally rectangular and later converted to the typical semi-circular shape (Antiquities, 2013). It is reached by a spiral stair.

Like Qasr Al-Hallabat, Al-Qastal has a bath complex nearby, which was richly decorated with fresco, mosaics, marble tiled floors and carvings that depicted geometric, floral and animal motifs similar to those of Al-Hallabat (Antiquities, 2013). Marble columns and carved capitals flanked the mihrab at one point.

Next to the palace lies a very early Islamic cemetery. A number of its inscribed tombstones date back to the Umayyad and Abbasid periods, and are currently on display at the Madaba Archaeological Museum (Najjar, 2013). The Umayyad complex at Qastal until recently was thought to have been built as a Roman or Byzantine fort. However, recent research has shown that all the main structures date from the Umayyad period and is similar site to Hallabat. Only Traces of an ancient road from the Roman/Byzantine period have been identified about a kilometer south-west of Qastal, which until recently was thought to have been built as a Roman or Byzantine fort. Historical sources and certain stylistic features suggest 744AD as the date of the palace completion (Najjar, 2013). When Al-Walid II visited the area in 743-4AD, the palace was in existence. However, recent research has shown that all the main structures date from the Umayyad period and is similar site to Hallabat.

Moreover, the construction of the palace is very similar to others constructed under Yazid's patronage, such as Qasr Al-Muaqqar and the Umayyad Palace on the Amman Citadel. The palace is dated to the reign of Yazid II ibn Abdulmalik (720-740AD) based on a reference to a palace in a contemporary poem to Yazid written by Khthayyir ibn Abdurrahman 'Azza (644-723AD). The central palace complex consists of a square fort-like building ($59 \times 59\text{m}^2$) with four round corner towers and intermediate semi-circular buttress towers (Carlier, 1989), (King, 1989)., except for the eastern which has the entrance and two semi-circular towers. It is believed to have consisted of two storey's. Internally the building consists of a central courtyard ($\times 28 \times 28\text{m}^2$) surrounded by a portico opening on to six *buyut* (pl. of bayt) or houses arranged around a central courtyard. Each bayt consists of four rooms and a court. Probably the most impressive feature of the building was the large triple-apses audience hall, located directly above the entrance (Carlier, 1989), (Sauvaget, 2002). The palace was built of ashlar-cut limestone, fresco plaster covered walls from the inside. The layout of the palace (living quarters organized around

courtyards) is very similar to other Umayyad palaces of this period, such as Qasr Kharana (Najjar, 2013).

The water collecting systems include a dam located about 1 km to the east of the palace. The water infrastructure at Qastal was fabulous, and it is clear that its builders wanted to display the water. Surrounding the Qasr, six of these cisterns were excavated to reveal a system of channels and filters linking them to a spring on top of a hill above the Qasr. It is clear that its builders wanted to display the water. Surrounding the Qasr, six of these cisterns were excavated to reveal a system of channels and filters linking them to a spring on top of a hill above the Qasr. A cistern, which measures 30x22x 6 m, is located about 1 km to the northwest of the palace. A reference in a later historical account supports the suggestion that it was completed before 744 but the actual time of construction is difficult to determine.

The palace also has three large reservoirs which together held over (10000 m³ in total). One of these appears to have been associated with the baths. Under the central courtyard of the Qasr is a huge cistern, which once held over 1,000 m³. This cistern was also fed by roof and hardscape catchment. A water harvest system was put in place, channeling water from the roof down to cisterns using ceramic pipes. A system of channels link these cisterns to a spring on top of the hill. One kilometer to the east of the palace lies a 400m long and 4.5 m thick Umayyad dam with a capacity to hold 2 million cubic meter.

The intensive use of decorations, frescos, stucco works and mosaic floors, is similar to Khirbet al-Mafjar and other Umayyad palaces. Mosaics also covered the walls and the floors of the palace. The palace courtyard (40x40m) takes the centre of the complex, with six residential units organized around it surrounded by a portico. Each unit comprises 4 rooms organized around a rectangular courtyard (Najjar, 2013). Another six units were built on the second floor reached by twine staircases. The decoration within the palace is similar to that found at Hallabat and includes mosaics, stucco work and carved stonework. The palace was converted into domestic quarters during the Ayyubid/Mamluk period (12th -16th century AD) (Najjar, 2013).

Its congregational mosque indicates a greater use than a palace complex. The mosque is located to the north of the palace and has rectangular hall measuring 16X5m². entered through rectangular court measuring 17X10 m². It is built of the same stone cut in the same size and

shape as the palace. It is believed that the inner sanctuary of the mosque was covered over initially in wood but was replaced later by a stone barrel vault. The minaret with a spiral staircase of 6 m in diameter is still standing with a height of 6 m. Its minaret could be the oldest surviving minaret, in the Islamic world. The cemetery, which is the earliest Muslim cemetery in Jordan, is located to the southwest of palace. It was also reused as residential quarters during the Ayyubid and Mamluk eras. (al-Asad and Bisheh, 2000). Al-Qastal was reused in the Ayyubid and Mamluk eras. Unfortunately presently a modern house has been built on part of the Qasr.

6.4 The Umayyad Palace Complex in Amman Citadel

Positioned at the northern section of the upper level of the Jabal al-Qal'a in Amman . The Complex included a mosque, an Entrance Hall, residential and administrative buildings and a water cistern. After the Umayyad established their capital in Damascus, they claimed the Citadel in Amman as the governor's head quarters. It was used as administrative centre and governor's residence. Two gates open from the south and north sides and two benches flanking the south gate were probably intended for the guards. (Zayadine, et al., 2000).



The most remarkable thing is the Auditions Hall, a squared building with a high vault and plentiful decoration. A public square with many columns is also very remarkable. The mosque was located just outside the complex, and the non-religious section was accessed through the entrance hall where visitors were received. The Umayyad Palace is actually just the big house of the one of the Governors of the Territory of Jordan during the Umayyad Dynasty but it was also used by the subsequent occupiers like the Fatimid, Mamluk, etc. The site incorporates a palace with an audience hall, four vaulted assembly rooms, and a colonnaded road. Outside of its walls to the southeast, yet still an extension of the site stands a palace bath, mosque, and cistern in addition to several residential units which can be seen on the site .

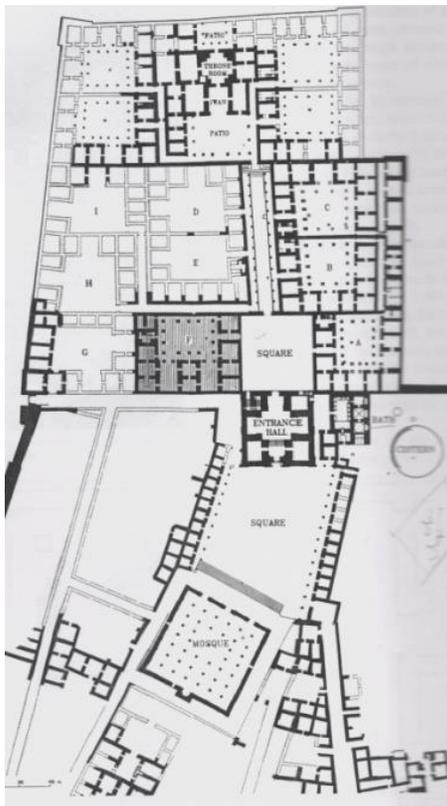
The best preserved structure, the square - now domed - edifice once served as the entrance hall to the Omayyad Palace Complex. It was completed with the rest of the Omayyad buildings in the Citadel, in 720 AD, on the foundation of a Byzantine church, which gave the structure its cruciform plan. The complex was probably built during the reign of Umayyad Caliph Hisham, between 724 and 743 (http://archnet.org/library/sites/one-site.jsp?site_id=7357).The palace build over the remaining of Roman construction rundown and exploited by the Umayyad by various building which were probably residential. The palace is composed of three main areas:

- 1-An open space (for gathering people) and a large pool of water (cistern)
- 2- Entrance Hall (general court) which is the most important part of the whole building, and is the best preserved structure in the complex. The rest lies mostly in ruins, but whose foundations are clearly visible. Beyond the Entrance Hall lies the Omayyad Palace Complex. The entrance to the hall faces the Omayyad Mosque further south, though the two have different orientations as the mosque had to face the direction of Mecca. While the Palace could just as well have faced Mecca, the fact that it utilized existing foundation made it difficult. The interior of the Entrance Hall has carved stone walls and a lofty courtyard with four *iwans* giving it the cruciform plan.
- 3- Nine independent building which represent the central part of the palace (Almargo A & Jimenez P & Navarro J, 2000).

6.4.1 The Audience Hall of the Palace

The most nice building in the Umayyad Palace Complex is the Audience hall. It has a Greek cross plan with a wall of 25m on each side, and with square central mass and four arms of equal length, less wide than the center space, these arms were covered by barrel vault, and the central hall with a stone dome. The walls of this building is decorated inside and trimmed from the outside, the plan was almost square 24 m east- west and 26m north – south (Almargo A, 1994). This hall is one of the most famous archaeological buildings not only in Amman citadel but also in all the kingdom, it was built by Abdel-Malik Ibn Marwan to be as a reception hall where he could meet his expeditions and army leaders (Almargo 1994), the Archeological excavations showed that this construction is due to the first third of the eighth century AD. (Almargo and Olavarri 1982, Olavarri 1985).

Upon the restoration of the building, archaeologists debated whether or not the courtyard was originally covered, but nevertheless decided to build a modern wooden dome to allow the structure to be used more easily for cultural events. In 749 AD a strong earthquake destroyed many of these building , a round a year later , the Abbasids overthrew Umayyad rule and renovated and re-divided the residential unit into smaller rooms using wall that where cruder than the previous one .



The general plan of the Umayyad palace with graphical reconstruction of the destroyed structure
Source : ADAJ 2000



6.4.2 *The Cistern (730 AD)*

This large cistern, located to the right of the vestibule, was the primary water supply to the governor's palace, measures 17.5 meters in diameter and its stone wall are up to 2.5 meters thick ,and 5 meters deep (<http://www.art-and-archaeology.com/jordan/amman/cit05.html>). The interior face was covered with a waterproof layer of plaster , the sloped floor collected unwanted silt at the bottom up to 1370 cubic meters of water could be collected in the cistern it was diverted there from the roof of the surrounding building and from paved surfaces through channel feeding into the north and west sides of the cistern(<http://www.art-and-archaeology.com/jordan/amman/cit05.html>).

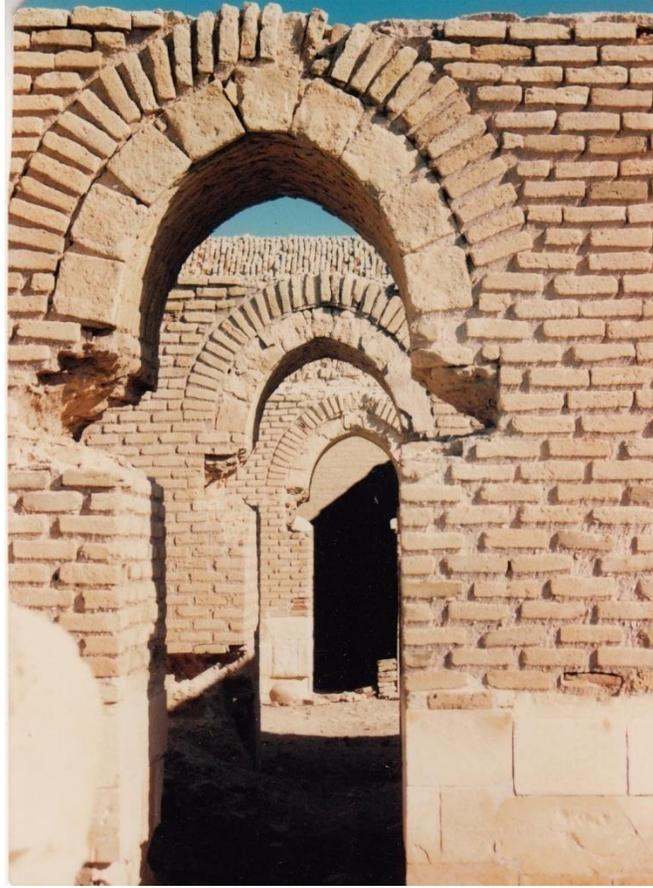
A column in the center measured the water level , the cistern supplies water to the paths , latrines and other area of settlement located partway up to the cistern wall , a hole leads to a shaft that discharged water through the east fortification wall (<http://www.art-and-archaeology.com/jordan/amman/cit05.html>).

6.5 Qasr Tubah

Tuba is located about 140 km southeast of Amman, and 70 km east of the desert highway at Qatrana, exactly in the middle of the routes around 52 km and is southernmost patrol station. It sits at the bottom of Wadi al- Ghadaf, one of the access routes from Wadi Sirhan onto the plateau. It seems likely that Tubah was placed in Wadi al-Ghadaf late in the construction of the Umayyad network—it appears that the constructions fanned out southward from ‘Azraq progressively observing one after another of the outlets from Wadi Sirhan.

Qasr al-Tubah was the southernmost patrol station, located exactly in the middle of these routes around 52 km. Several desert tracks lead here – from south of Azraq, from Qasr Kharana and Qatrana. It gives the visitor a feel for how isolated and quiet these retreats really were. However, only the northern wing was finished, perhaps because of the abrupt end of the Umayyad dynasty in 750 AD.

The unfinished Qasr al-Tubah believed to have been started under the patronage of Caliph Walid II ibn Yazid around 743-44 AD, and was almost certainly destined to be a caravanserai along established caravan route. The Qasr is defined by a large rectangular enclosure measuring 140X73 m², interrupted by semi-circular towers and entered by main gateways on the north side.





The unfinished palace Like Qasr Mushatta is reminiscent of Al-Mushatta, in terms of building material (brick placed on stone foundations), barrel-vaulted roofing. However, on doorways arches stone decorated lintels were used where apart from one lintel now is in the Amman Archaeological Museum.

To the north, near the now-dry riverbed, are many ancient covered wells—the water supply for the palace (<http://www.netours.com/content/view/266/30/>). Qasr al-Tubah has three enormously deep wells (Fig.), large pools for watering livestock, and a complex water-raising system unusual for that time period. It seems likely that Tubah was placed in Wadi al-Ghadaf late in the

construction of the Umayyad network—it appears that the constructions fanned out southward from ‘Azraq progressively observing one after another of the outlets from Wadi Sirhan.

North of Qasr Tuba, alongside the dry riverbed, is the palace's ancient water supply -three massive wells built of stone, with adjacent plastered pools and round structures designed for use by the animals that powered the water-lifting devices. North of Qasr Tuba, alongside the dry riverbed, is the palace's ancient water supply -three massive wells built of stone, with adjacent plastered pools and round structures designed for use by the animals that powered the water-lifting devices.(<http://www.saudiaramcoworld.com/issue/199005/qasr.tuba.htm>)

The northwestern quadrant is nearly intact and several lengths of curtain-wall exist on the western side. Inside the complex one can still see arched doorways leading into rooms and corridors. The rest of the building, which was never completed, is unpreserved(<http://www.select.jo/qasr-tuba.shtm>).

The size of the palace is 140x72m. The palace exterior wall is buttressed by 14 semi-circular towers except on the north side where the 2 gateways are flanked by 2 square rooms. The palace consists of two identical symmetrical and equal sized square structures ($72.85 \times 70.25\text{m}^2$) with central two also symmetrical living quarters courtyards ($29.6 \times 29.5\text{m}^2$), connected through a passageway/ corridor with an entrance. Each structure is flanked by two small squared rooms.

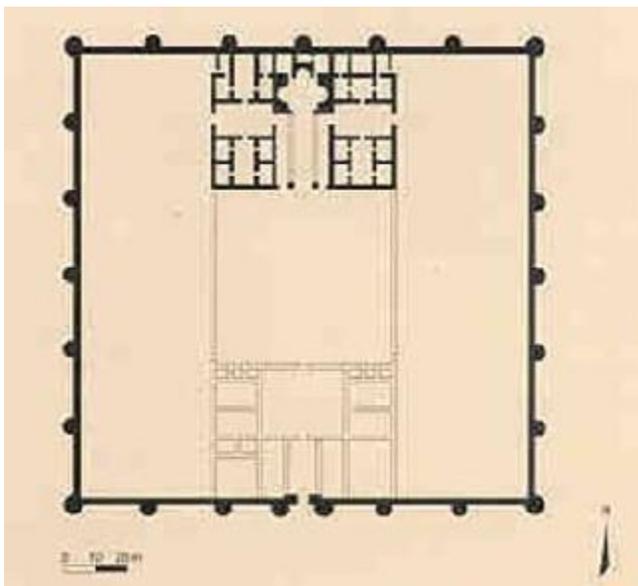
6.6 Al-Mushatta Palace

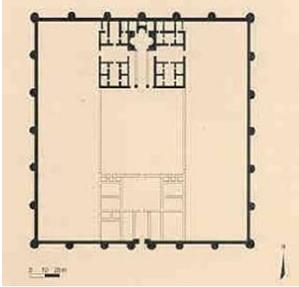
Al-Mushatta Palace is very close to the Queen Alia International Airport and about 35 km to the south of Amman, located between Qasr al- Qastal and Qasr al-Muwaqqar, placing it within the line-of-site of the communication network. Of interest that, the ‘patrol’ network of the Umayyad palaces could have been complete without Mushatta palace. It is the largest of the Umayyad Palaces in Jordan($144 \times 144\text{m}^2$), surrounded by an outer wall of 3-5.5 meters high with 25 towers, amongst which are four round corner-towers and two octagonal flanking the main gate.

It has at least 30 cisterns associated with it, and hosts a system of pools and elaborate pipes which may have been intended for a bath complex. It has been attributed to al-Walid II (743-744AD) as the builder of al-Mushatta and although there is no evidence to support the claim (al-

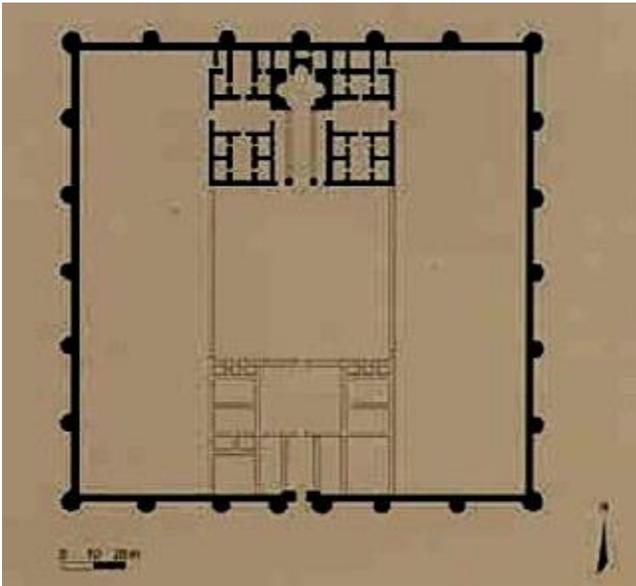
Asad and Bisheh 2000). It is suspected that the palace incompleteness was related to the political turbulence of that period, as the Abbasids took over the Umayyad rule and moved the capital to Baghdad .

http://archnet.org/sites/4135/media_contents/44539





<http://archnet.org/sites/4135>



http://archnet.org/sites/4135/media_contents/44539

Creswell, K. A. C. (1989), '**A Short Account of Early Muslim Architecture**'. Revised and supplemented by James, W. Allan, Scolar Press, Scolar Press, 201-214. particularly p.201.

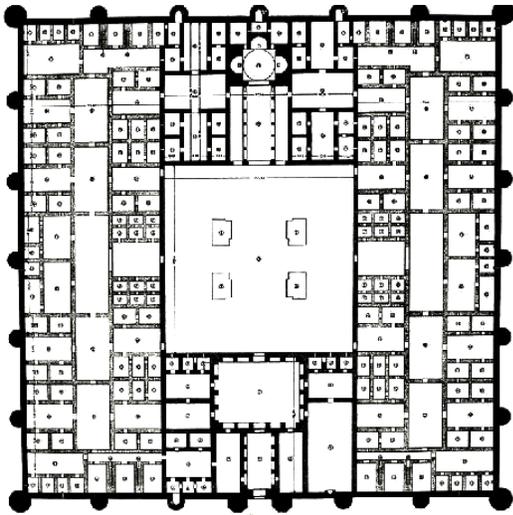


Fig. 3: Plan of the palace, Mushatta, Jordan. Begun 740s.

(Source: IRCICA, 2013) IRCICA. (2013). Registering The Islamic Architectural Heritage Around The World Retrieved 5/20/2013, 2013.





Al-Mushatta is considered a showcase of early Islamic combination of Limestone and brick work with carved plaster of floral, animal and geometric motifs . The lower courses of the walls are made of stone; the upper parts, the interior walls and the vaulted roof were built of fired brick. The complex contains an entrance hall, a small mosque to the eastern part (with a mihrab still

evident), an audience, throne hall and the residential quarters in western part organized around central courtyards (57.3x57.15 m²) dedicated for guards, dignitaries and royal cortege. The building was never completed.

It is believed that the palace intended to accommodate a large number of people, perhaps the whole Umayyad court. It was also designed for ceremonial grandiose ceremonial events and performance as reflected in the design of the throne room and basilica like hall. The towers give the appearance of a fortified palace, they were not designed for defense since four of the towers served as latrines and the remaining ones were solid.

The Palace has a mixed influence reflected in the planning, architectural and construction methods and details, decoration and use of building materials (stone /brick), with Byzantine and Sassanian influence. The building was never completed. It is divided into three sections, of which only the middle part is the most prestigious of the palace, consisting of the throne room and corresponding structures. A triumphal arch leads to the middle part. It rises on four pillars, giving its central arch a span of over 6.5m . Three rosettes decorated the upper part of the side arches. The throne room has a brick dome and is surrounded by 4 compounds for royal household and domestic use. Each compound comprises 2 barrel-vaulted suits lightened by 2 oculus windows, and shares a courtyard with another compound . This arrangement is based on a classical model that goes back to the 3rd century AD, and reflects a common plan followed in civilian Umayyad buildings seen in Syrian today.

A significant part of the southern façade wall was given to Kaiser Wilhelm by the Ottoman Sultan Abd Al-Hamid just before WWI, and now kept in the Pergamum museum in Berlin.

6.7 Qasr Burqu‘

Qasr Burqu is 30 km from Ruwaished and it is only accessible by 4WD. The harshness of the surrounding landscape, as well as the lack of properly graded roads, has acted as a strong deterrent against poaching. What makes this place so special is the apparent incongruity of the lake in the harsh desert which stands guard over the silent shores of Ghadir (Lake) Burqu. Built directly on a small lake where the northwest-facing wall of the Qasr actually disappears into the lake. It is still the only year round watering place in the northeastern Badia of Jordan. The reason

for the lake's existence is an ancient dam that was constructed by the Romans in the 3rd century as a means of securing water for caravans heading between Syria and Arabia.



It has tower which is constructed from coursed basalt forming a rectangle of c.12x8 m², some still standing to almost 12 m. There are three rooms at ground level. It is commonly regarded as the earlier part of the site. (Kennedy, 2000). However, it might assume that, the remoteness of the place is against the possibility of the tower as an official Roman military structure. The most recent interpretation suggests it began as a centre for Bedouin in what was essentially a no-man's- land between Rome and Persia. Later it was developed as perhaps a monastery and later still as a great meeting place for nomads as happens still nearby at ar-Risha (Helms, 1991) .The dating is insecure but the most likely sequence is of a tower and watering point of the 3rd/4th century AD or later being developed in the Early Islamic period(Kennedy, 2000).

The originally Roman structure, was reconstructed and improved and became a monastery during the Byzantine period. According to an inscription (708AD) found on site, the palace was restored and enlarged by the Umayyads and converted into a watch tower at the edge of the Harra, which is a black basalt desert resulted from the eruption of Horan volcano in Syria. It is thought that Walid I restore and rebuild parts of 'Qasr Burqu' because it is clearly part of the network patrolling the outlets from Wadi Sirhan, and Walid I was in charge of that region in 708 AD, his father 'Abd al-Malik's reign. On this evidence, it is thought that the tower may have been built in the 3rd century and the larger enclosure added in the Umayyad era. Another Arabic inscriptions dating to 1380 and 1409 have also been found on one of the walls of the fort suggests that it may have been occupied as late as 1409.

On the northeast side the longest room bears an inscription on the lintel which dates it to 700: “Oh God! Bismillah”. This is what Amir Al-Walid, son of the commander of the faithful, built: these rooms. Walid was later to become caliph – this mention is an example of continuing Umayyad involvement in the region. A second scrawled inscription above this, dated 1409, says that Haroun read the Kufic inscription. The longest room of the Qasr on the northeast side has several inscriptions. The small apsidal room on the left which a pointed arch has niches left and right. It may have been the reception hall, although there is also some speculation that it was a chapel. A cross decorates the lintel of the circular room on the southwest which is not bonded into the wall and may represent an earlier building phase. This room also has engaged pilasters on two sides. Between it and the tower in the courtyard is a cistern: the tower is an earlier building and more finely constructed. The area also has all the makings of a successful wildlife preserve, as it’s already home to gazelles, desert hares, foxes, hyenas and even caracals. The lake itself is home to a number of bird species and for this reason that the RSCN has been fighting to establish Burqu as a protected reserve, which would fit nicely into its plans to develop tourism in the Eastern Desert.

6.8 Qasr Muwaqqar

The Umayyad site of al-Muwaqqar on the fringe of the steppe east of Amman just 18 miles from the capital, once stood on an elevated mound surveying Qasr the desert and the cultivated lands to the west. The ruins are located about 2km north of Hwy 40. Muwaqqar was a rest house situated so as to link communications between ‘Amra/Haranah and Qastal. Its position is in the line-of-sight of communication with Qastal and Mushatta to the west and Haranah to the east, and it is actually visible at dusk on a clear day, which means it would have been visible to anyone travelling out of Wadi Sirhan toward ‘Azraq or the plateau. Qasr al-Muwaqqar is accompanied by important water infrastructure, and has a large number of cisterns, of which at least 18 still remain, along with a large reservoir. The buildings of al-Muwaqqar have been destroyed almost completely. A few remains still existed. Qasr al-Muwaqqar is the least-preserved of all the palaces. However al-Muwaqqar complex Umayyad site comprising of at least 2 reservoirs, 90 cisterns, a large Qasr or palatial residence, a second structure of unknown function, and what may be an associated bath-house with mosaics. Little remains of the palace

today except several capitals decorated with acanthus leaves and Arabic inscriptions, as well as a water gauge to measure the depth of water in the reservoir, were recovered from the site.



6.8.1 Al- Muwaqqar Water reservoir

The Qasr and the huge reservoir about 20 km, east of Amman. The vast reservoir is the most important remains of the Umayyad complex which is still in use. It probably served caravans passing through the area as well as the local inhabitants. There is also a capital belongs to a column part of which has survived that was once used to measure the water level in the reservoir.

The capital bears an Arabic inscription revealing that the reservoir was constructed by ‘Abdullah ibn Sulaym by order of Caliph Yazid II ibn ‘Abd al-Malik from 722-723. (al-Asad and Bisheh, 2000).A stone tower (10m) with Kufic inscriptions now stands in the National Archaeological Museum in Amman, and was found by archaeologists at the site.



6.9. 'Azraq Oasis

'Azraq lies on the edge of the black desert, or Harra, where black lava boulders cover the sand, very close together, making it extremely hazardous to cross by horse or camel; even crossing it on foot is slow going. The oasis settlement of Azraq is located at the eastern terminus of the highway from Amman/Sahab . As in antiquity today it is a key junction with other converging roads from Saudi Arabia, Iraq and Syria. Its importance was due to two key factors: its strategic location at the head of Wadi Sirhan, an ancient caravan route between the Arabia Peninsula and the lands of Syria and Jordan in the fertile crescent, and the immense, year round pools of spring fed fresh water now sadly depleted. Several substantial sites in the area with large quantities of flint tools indicate the Azraq region was inhabited in the Paleolithic (Stone Age) period, hundreds of thousands of years ago. (Koura, 1988)

Azraq occupies what was once a large oasis, second only to the one at Palmyra. It is located on the north edge of Wadi Sirhan, a great desert trade route enabling connection with Arabia and the Persian Gulf. Therefore, it would have been nearly impossible to reach Damascus quickly or without being detected unless one circumnavigated the Harra.



The need to control and protect Azraq has been paramount since the time of the Romans, if not earlier. (A stepped dam may go back to the Nabataeans) Judging from Latin and Greek inscriptions from the 3rd and 4th centuries referencing Diocletian, the Romans built a fortress here. In the Umayyad period, the journey from the Jauf oasis in Arabia to Great Syria ended at ‘Azraq, where travelers could rest, replenish their supplies and water their livestock.

In the Umayyad period, the journey from the Jauf oasis in Arabia to Great Syria ended at ‘Azraq, where travelers could rest, replenish their supplies and water their livestock. What is also interesting is that the Roman and Byzantine armies fortified ‘Azraq: they saw ‘Azraq and the western rim of Wadi Sirhan as the outer edge of the Roman frontier (the *limes exterior*). The Umayyads did not fortify it and they seemed not to have re-used the old Roman fortifications.

It is reasonable to suppose that Umayyads saw Wadi Sirhan, and of course the oases at Jauf and ‘Azraq, rather as the central corridor of the Islamic world and the conduit between Arabia, Iraq and Syria (al-Madinah, Kufah and Damascus). Umayyads used ‘Azraq for recreation, rest and relaxation, and they patrolled the traffic that went beyond ‘Azraq. all the water points on routes leading out of ‘Azraq were patrolled by an Umayyad Qasr.



However, it is not known exactly what was built at ‘Azraq in the Umayyad period. There is a huge reservoir, as well as some strange, decorated pools and channels in an area called ‘Ain Soda. Based on basalt carvings from ‘Azraq and some of the paintings at ‘Amra, it seems that perhaps an Umayyad official, prince or caliph had built some kind of ‘water park’ at ‘Azraq, for water sports. There were also large, wealthy Umayyad farms with substantial houses around ‘Azraq(<http://www.netours.com/content/view/266/30/>)

The fort too has inscriptions of the early 4th century (287-305; 326/333; 333). Severan milestones again suggest an earlier occupation and surface pottery is of the 3rd to mid-4th century. It measures 79 x 72 m, 0.57 ha (1.4 acres) (Kennedy and Riley 1990, 179-181). The fortress eventually passed from the Umayyads to the Ayyubids, the Islamic dynasty founded by Salah Ad-Din (Saladin) , meanwhile it undertook a major renovation in 1237 as most of the design dates from this time, including the mosque in the middle of the courtyard.

During the Great Arab Revolt against the Ottoman Empire, Colonel T.E. Lawrence made his headquarters in this fortress, coordinating attacks with the Bedouins against the Turks from his office in the room above the entrance. Notable are the huge basalt doors in the west tower and at the main entrance. Constructed from a solid slab of basalt, they still swing from stone hinges set in hollows filled with oil—as they have for nearly two millennia.

6.10 Qasr Al-Hallabat(Qasr el-Hallabat)

Is about 65 km east of Amman, 25 km north east of Zarqa .Located in the eastern desert, the Qasr was originally a Roman fortress, on the road linking Azraq to the Via Nova Triana build in the second or third centuries AD, under the reign of Emperor Caracalla (Wan Hussin, 2010). The reason for building the fortress was to protect its residents the attacks of Bedouin tribes (ArchNet, Qasr Al Hallabat, ND).

It was one of the many stations on the Via Nova Triana Roman highway. It became a monastic establishment and an inscription recording this fact is now built into the main gate of the Arab legion camp at Zerka' (Fowden, 2004). The Umayyad Caliph Hisham ibn Abdulmalik ordered the demolishing of the fortress in the 8th century AD and redevelop a grand palace instead (Wan Hussin, 2010).

The building inscriptions date to 212-214 and 529 but may have been brought from elsewhere. The fully developed fort is 38 x 38 m, 0.14 ha (0.36 acres) (Kennedy and Riley 1990, 199-202).

Three or four architectural phases can be recognized in the construction, the last phase being Umayyad. It was completely rebuilt and provided with elaborate decorations in mosaics, carved stucco and fresco paintings (palatial residence). There were two inscriptions thought to be related to the architectural phases of the castles: one is in Latin, dated 212 and the other is in Greek and dated 529.

Excavations work within the castles uncovered a total of another 142 Greek inscriptions in addition to two Nabataean, one Safatic and one modern Armenian inscription. Most of these Greek inscriptions engraved on basaltic stone. Most of these stones were brought from a nearby settlement, possibly Umm al-Jimal, and reused building material during the Umayyad reconstruction of the castles. (al-Asad and Bisheh, 2000)

The creation of the complex was not a viable economic enterprise. The size of the agricultural enclosure (less than 60 dunms) was cultivated for subsistence, and even if combined with herding it was not the main factor in the creation of the settlement. Once the funds ceased, following the fall of the Umayyad dynasty, it was abandoned and gradually fell into decay, like other Umayyad buildings in the Badiya.

The site of Qasr al Hallabat comprises a conglomerate of separate and widely spaced units. These include: a Qasr (castle) 44m in length with square corner towers ,a mosque, a huge reservoir and eight cisterns dug into the western slope, cluster of poorly built houses, an irregularly shaped agricultural enclosure, west of the castle (less than 60 dunms,) and a small bath building, Hammam al-Sarah, 2 km east of the castle.

The palace was constructed using basalt and limestone. It has a square plan 44 m in length with corner towers which project from the face of enclosure wall. The entrance in the eastern wall leads to an open paved courtyard surrounded by square and rectangular rooms from three sides. The northwestern quadrant contains an inner structure of a central courtyard surrounded by rooms also from three sides (Bisheh, From Castellum to Palatium: Umayyad Mosaic Pavements from Qasr Al-Hallabat in Jordan, 1993).



Each courtyard has a cistern. Around 400m to the east of the palace, the remains of a mosque (10.70m x 11.80m) were found (ArchNet, Qasr Al-Hallabat, ND). It is constructed of limestone and has two arching riwaqs inside dividing it into three sections.

Three tunnel vaults support the mosque roof, and are surrounded by a portico from north, west and east. An enclosed structure was also found on the site, which was probably used for agricultural purposes (e.g. cultivating olive trees).

The mosaics that covered the floors of the palace were excavated and thoroughly scrutinized, whether in fragment or in more complete status (Bisheh, *From Castellum to Palatium: Umayyad Mosaic Pavements from Qasr Al-Hallabat in Jordan*, 1993).



It was revealed that the mosaics contained several types of designs using geometrical shapes or flora and fauna to make up the external frame or internal separations. Human depiction was also evident. Plants and fruit were commonly introduced to the mosaic floors, such as vines, lotus, and fruit (pomegranates and lemons). There were also a number of animals appearing, such as ducks, ostriches, rabbits, Oryx, camel, leopard, lion, wolf, snake, bull, goat, and a ramp. Some of which were skillfully positioned in an animated-like movement. The Oryx, for example, seemed to be walking slowly with head uplifted, while the wolf was running fast. The rabbit was peacefully nibbling on grass, while the leopard was in an aggressive position. Each room had mosaic floors that differed in quality and topic. Fragments of fresco were also uncovered, holding mostly floral images as well as some human faces, an animal (jackal or dog) and a griffin.

The palace also has a water system with five cisterns and one reservoir, and a bath complex commonly known as Hammam Al-Sarrah two Kilometers to the east of palace (Wan Hussin, 2010). This small stylish bathhouse was decorated in fine marble, mosaics and painted plaster. It is a smaller version of the baths of Qasr 'Amra. (Khoury, 1988). The plan of the Hammam is similar to Amra, though its masonry is better finished and consists of a rectangular residence

audience hall, as well as an alcove leads from the audience hall to two small side rooms lit by three narrow windows for each , and hydraulic structure. The dome of the caldarium was previously restored, and needs to be dismantled again. Hallabat has been included in a corporation agreement with Department of Antiquities for its protection and enhancement, to be financed by the Spanish International Agency.

The hall leads first to the Tepidarium and then the Caldarium and has two semi circular niches with a central window for each. The dome has 8 round openings and is covered with rose-colour cement on the exterior and shale on the interior. The Hammam was once decorated with marble, mosaics and fresco (ArchNet, Qasr Al- Hallabat, ND). The Hallabat settlement provided the opportunity to investigate the cultural significances of Umayyad residential architecture which is limited in Jordan.



6.11 Humayma

Located 45 km to the south of Petra and 55 km to the north of Aqaba. Humayma is an extensive archaeological site located in the hyper-arid region of southern Jordan. Humayma site was continuously occupied from 90 BC, by the Nabataean, Roman, Byzantine until the early Islamic period. Several remains and structures at this multi-period site have identified including a Nabataean cultic centre, Nabataean- and Roman houses, a large Roman fort (206 x 146 m²) with a bath, five Byzantine churches, an early Islamic palace (Qasr) with a small extra-mural mosque, as well as two reservoirs and more than 50 rock-hewn and built cisterns, wadi barriers and a dam.



It provides evidence for the most complex water management system known outside of Petra. An aqueduct 26.5 km long once brought water from three natural springs in Ras al-Naqab to an open reservoir at the northern edge of the site al-Humayma is situated on the main route from Petra to Aqaba.

The early Islamic palace, located at the eastern edge of the settlement, is a roughly rectangular building (61 x 50 m²) with up to six courses of masonry walls still intact. The entrance leads to a trapezoidal courtyard surrounded by up to three wings of rooms, different from the usual type of the square court yard Umayyad desert palaces.



One room in the western wing on the axis of the principal entrance contained numerous fragments of carved ivory furniture and colorful frescoes with floral and geometric motifs, all dating to the first half of the 8th century AD. There is a small mosque (about 5.75 to 5.60 m) Ten meters to the southeast of the Qasr; with a concave niche (mihrab) projects from the qibla wall. Another small mosque of a much later date is in the southwest .



6.12 Qasr Bayir

Qasr Bayir ruins are located 109 km NE of Maan, 70 km to the northeast of al-Jafr. The place was built in the Umayyad era by Al Walid II (743-4)AD before he become *khalifa*, among many other palaces built in the Jordanian Badia/desert. Before its destruction in 1931, its masonry was used by *Beake* Pasha to build an outpost of the Arab legion.

The palace was a tower fort type structure, with a rectangular plan shape length nearly 70 m. Consist of a wall with round towers and few chambers with 4-5 courses of masonry of sand-stone blocks at the foundations lower level. The northern corner foundation tower still exist as also small court with 3 rooms 'bayts' similar to Qasr Mushatta. The site also contain remains of several walls foundations with large blocks of sand stone, graves of the Huwaitat tribe, also a well still used among 30 other places for wells not used

A cemetery was located to the north east of the building, where a well (called the Snake Well) also existed, the cemetery included a big tomb, which was of Sheikh Asad, one of the Sukhur tribe ancestors, when the me of this tribe camped around Qasr Bayer, they sacrificed a camel, green boughs were also put to cover the tomb, these were usually to be carried off by Ghazzu (invasion by other tribes). Bedouin tribes usually have their cemeteries close to their camping grounds. These clans still include mobilizing Bedouins who continuously move from north to south of the sub-district and vice-versa, they occasionally camp in Bayir (70 km to the northeast of al-Jafr).

6.13 Qasr Mushash complex

located 40 km east of Amman in an arid zone. It is about 14- 19 km north east of Muwaqqar and 21 km north west of Kharana. The Qasr complex settlement was a caravan station on the route between Amman/Philadelphia and Wadi Sirhan. Ceramic finds point to an occupation since the 3rd century A.D. (DAI ,Dautches archeological institute).Research identified the remains of 18 structures built of locally quarried stone. These include the main Qasr or residential building with side of 26 m, with a central courtyard surrounded 13 rooms and a single entrance in the east wall.

The oldest part of the site is the Qasr itself in the East, had occupation since the 4th century AD, as part of the Roman guard posts in the Arabian desert . The complex was in further use in Umayyad times, for the same purpose. The sole historical settlement periods represented there are those of the early Byzantine and Early Islamic/ Umayyad times, between the 4th and 7th and the 7th and 8th centuries A.D. The ruins of this large complex (2 sq km) settlement was once a grand site in desert steppe, which probably served as a caravan station in Umayyad the 7th and 8th centuries. The structure designated as ‘caravanserai’, with a large courtyard, which is the largest of the total of four square complexes in Mushash.

The settlement complex has a large number of hydraulic systems in the form of reservoirs, cisterns and dams. It have several, spatially separate units of various function. the Qasr, the bath and one cistern with large number of hydraulic complexes in the form of reservoirs, cisterns and dams (DAI ,Dautches archeological institute). The large reservoir located in the west at a distance from the residential and functional buildings possibly used for watering animals.

There are two Qasr ;the west Qasr Mushash and East Qasr Mushash. The West one is a small square building located form the core of the complex and embraces an area of some nine hectares . By comparison the neighboring Qusayr Amra the bath is of rather modest design. The settlement section to the west of the central area with smaller, multi-roomed houses can be interpreted as a simple residential area, while the buildings northeast of the central area, differing noticeably from the western houses in size and internal division, might have served as representational structures(1).The medieval Arab historian el-Maqdisi mentioned that was one of the three routes from Amman to the Hijaz in western Arabia used by the Umayyad postal service. (Khouri, 1988)

6.14 Qasr Uweinid

Located on a low basalt bridge overlooking Wadi ‘Uweinid, at the Middle Badia, at Zarqa provision, 15 km southwest of Azraq, overlooking the Wadi Butm .It was built as a Roman Fort in the third AD to protect the source/ mouth of Wadi as-Sirhan in the 3rd and 4th Centuries AD. The medieval Arab historian el-Maqdisi mentions ‘Uweinid (“el-Awnid”) as being on the caravan and postal route from Amman to Arabia via Wadi Sirhan. (Khouri, 1988). Most of the

natural vegetation is still intact, climate is classified as a mid-latitude desert, and the soils dominated by calcium carbonate as powdery lime or concretions(Chinci world atlas web site).

The fort was designed with a central court and rooms on the inside of the outer walls .None of the buildings is reported to have stood more than one storey high, except for the tower inside the fort at Qasr Uweinid. The size of Qasr, is about 0.25 ha. (0.6 acres) in area(www.alextravelblog.co).The plan of Uweinid is irregular with a projecting bastion incorporating a small tower (about 8.5 m) at the south west corner, where a small entrance gate is located. Between the entrance and the tower lies the inscribed lintel . Qasr Uweinid must have been dependent on the large fort, Qasr Azraq, which stood a few miles away beside the northern pools at the heart of the Azraq oasis. Later during early Arab times, Uweinid is known to have been used as a caravan stop en route from Arabia to Amman(www.alextravelblog.co).

6.15 Umm Al Walid

The ruins are 15 km southeast of Madaba. The ruins of Umm al- Walid cover the length of a small hill (about 40 m). The site has been occupied since the Bronze Age, archaeological explorations have focused on the Umayyad period, specifically on the eastern Qasr and the mosque. (Bisheh, et al., 2000). Umm Al-Walid tells a story of integration rather than an attempt on the part of the Umayyad to live separately from the rest of the community (www.alextravelblog.co).The ruins consists of ruins of a mosque, an Eastern Qasr, a central Qasr, a western Qasr ,and two Roman temples. The complex of three palaces at Umm al Walid show an urban pattern of settlement which consists unifying enclosure and a common court. The most excavated feature is the Eastern Umayyad Qasr (2). The mosque and al Qasr were built at the same period while they share the same building materials and same architectural motives (The Umayyads; the rise of Islamic arts).The Umayyad mosque located to the southeast of M 15 km. it is dated (712-37) AD, at the 8th century.

The Qasr is a square enclosure, measuring 70 m on each side. It has round buttresses at each of its corners and three-half round ones on the sides between them, except on the east side, which has only two. The walls built of local limestone and also include some embossed blocks

apparently taken from earlier buildings (www.alextravelblog.co). The Qasr interior consists of 5 bayts arranged around a court yard, each bayt have 4-5 rooms. Some of the rooms were plastered, painted and decorated with stucco. Preserved example can be seen at Madaba archeological museum, as also ceramics and bronze vessels of the Umayyad period and millstone from basalt (The Umayyads; the rise of Islamic arts).

6.15.1 Umayyad Mosque in Umm Al-Walid

The mosque located about 60m to the east of the al Qasr . Actually, there were two mosques, where the second was an enlargement of the first. The mosque is with a rectangular shape (11.67x12.67m²), with mihrab, two entrances from the north and east sides, and with a remains of minaret alongside the end east wall (Creswell).The interior of the mosque, shows two phases of construction(www.alextravelblog.co). It is divided into nearly three equal parts by two arcades' of three arches(The Umayyads; the rise of Islamic arts).

6.16 Qasr el-Aseikhim (Qasr Aseikhin)

The this isolated site. The palace is located to the north-east about a distance of 15 km from Azraq Castle in *Alsafawi* detour to the east, a distance of close to 8 km. It measures c. 23 x 23 m, 0.053 ha (0.13 acres) (Kennedy 1982, 107-113).Its founding date is not known precisely. There are no inscriptions. Pottery collected at the site dates back from the early and late Roman and late Byzantine periods. (Khouri, 1988). Pottery of the 1st-7th centuries and must certainly have been occupied only when Azraq was (c. 200 to mid-4th c.) (Parker 1986, 16-17).



It sits atop a steep, prominent limestone dramatic hill with a basalt cap, which is visible from quite a distance. However, the hill on which the palace stands was used by the Nabataeans in the first century AD. The palace built over Roman/Nabataean ruins, from the black basalt stone, as a defensive protector of the Valley of Sarhan. It has a square plan with a side of 23.5m, still has walls standing 14 courses high in places and several intact doorways and arches.

6. 17 Qasr Mushāsh

Qasr Mushāsh is an Umayyad complex, located in Amman only accessible by 4WD, and can be reached via an access road along Hwy 40. It was built in the reign of Yazid II 724-725 AD, functioned as a rest stop for pilgrims. Today it is a decayed structure lying in virtual ruin. Although this rather large (2 sq km) Umayyad settlement was once a grand city in the desert, however, it's still possible to get a sense of the original consists two floors layout, and there are a number of impressive buildings left standing including the remains of a palace, multiple rooms around a

large central courtyard, baths, at least 6 cisterns and walls built to protect against possible flooding.

6.18 Khirbet Khan Ez-Zabib(Khann al Zabib)

Khan el Zabib was one of the Hijaz rail road stations , located near Qatrana, 35 km to the south the capital Amman . The caravanserai is 18 km south- east oh Khirbet ez-Zona and 5 km east of the Desert Highway, is well known and plainly Islamic. The materials and structures were the remains of a small late Roman town. Although now damaged, just beyond the north- east corner of Islamic caravanserai may still be seen the remains of a large rectangular structure. It is dated to(712-37) AD .The fort or caravanserai function is unknown. Further doubt has now been cast by Bujard arguing that, as at Umm el-Walid, all of these structures are Umayyad (Kennedy, 2000). Khann al Zabib Mosque is with a rectangular shape (11.20x10.38m²) and has two entrances from the north and east sides, with recess at the southern wall(Creswell).Qasr al Hammam is an Ancient Ruin located near Al `Amiriyah, and 7.5 km from khan el Zabib (M Bendi website :Qasr Mushash - Ancient Ruin near Al Muwaqqar, Amman, Jordan).

6.19 Udruh

Udruh lays 20 km. north-west of Ma'an and 10 km, east of Wadi Musa. Udruh Fortress is in Ma'an provision. it was a Nabataean settlement with temple, Roman fortress then the ottoman built a castle at the northern wall of the fortress. It purpose to protect the hajj railway (darb el hajj).The Roman fortress at Udruh s continuity throughout the Byzantine and Islamic periods, within this site of 4.7 hectares, surrounded by significant landscape , sophisticated water management systems, and irrigation techniques, watch towers, roads and stone quarries, and the Nabataean temple can still easily be distinguished. Southeast of the fortress walls the remains of an ancient and sustainable water management system were discovered.





6.20 Qasr 'Uweinid (-Qasr 'Uweinid)

This site is a palace built over a Roman ruins as fortification in Wadi al Sarhan located 15km SW of al Azraq. It is a desert Castle at the Northern Badia in Al Mafraq, lies on the new road to Al Azraq. Qasr 'Uweinid is of the Roman forts which protected the mouth of Wadi Sirhan in the 3rd and 4th Centuries AD. It is located on a low basalt bridge overlooking Wadi 'Uweinid, 15 km south-west of Azraq. This oddly shaped small fort seems from pottery to be 3rd and early 4th century AD, and two Latin inscriptions are of the period 200-202. It measures c. 65 x 44 m, c. 0.25 ha (0.6 acres) (Kennedy and Riley 1990, 159-161). The main fort is shaped like an irregular quadrangle, with a projecting bastion incorporating a small tower (about 8.5 m square) at the south west corner, where an entrance gate is located. The medieval Arab historian el-Maqdisi mentions 'Uweinid ("el-Awnid") as being on the caravan and postal route from Amman to Arabia via Wadi Sirhan. (Khouri, 1988)

6.21 Qasr 'Ain es-Sil (Qasr Ain Alssel)

This is a small Umayyad farmhouse with an adjoining bath house, located just 1.75 km north-east of Azraq castles. It is also known as Qasr 'Ain es-Sol. The excavations of the Department of antiquities in 1984 indicate or suggest that the Qasr 'Ain es-Sil was first built in the Umayyad period. It is a small size palace (4 rooms) built from the black basalt rock with a bath (Hammam). The main Qasr is an irregular structure, built of basalt blocks directly on bedrock without foundations. There are the remains of two olive presses in the Qasr. These two olive presses indicate that the natural agriculture for the site and spread of cultivate the olive trees. (Khouri, 1988).

6.22 Umayyad congregational Mosque (al-Husseini Mosque)

Lies in the heart of downtown Amman in the area, named by the mosque. This is an Ottoman style mosque which was rebuilt using striking pink-and-white stone in 1924 by the late King Abdullah I on the site of an ancient mosque built originally in 640 AD by Omar ibn Al-Khattab the 2nd Caliph of Islam and is thought to be the site of the Cathedral of Philadelphia.

The mosque went through phases in reconstruction, all mosque features suggest that its origin was Umayyad, and through its masonry and arches which are typically Umayyad, of the early period of Umayyad era as the 'dome of the rock'. According to descriptions, the mosque was measured 57.10 X 39.70 m², while the prayer hall was 39.70 X 14 m². The northern wall was built with finely dressed ashlar blocks and was 1.55 m thick. Three entrances opened onto a portico, originally covered by beams, which were wedged in the upper course. The niche also measured 3.58 m in diameter. The original construction of the monument was Umayyad, since the round arches of the portals are similar to the construction technique of the Umayyad mosque in Damascus, at Busra in Hwran and to the mosque of Qasr al-Hallabat in Jordan. The actual date for the Umayyad mosque has been suggested to be between the reign of 'Abd al-Malik Ibn Marwan and Yazid Ibn 'Abd al Malik (685-724). (Zayadine, et al., 2000).

6.23 Umayyad Mosque in Jerash (Gerasa)

Excavation have revealed the structure of the mosque which was constructed by making use of building materials from the Umayyad period containing Roman remains and architectural features of the Roman villa that stood once in its place along the eastern side of the *Cardo* not far from *Propylaeum*. Only the ground level pavement, bits of the first course of the peristyled inner courtyard, a niche still standing in situ at 1.50 m high, and some column drums survived of the earthquake in 749 (Zayadine, et al., 2000).

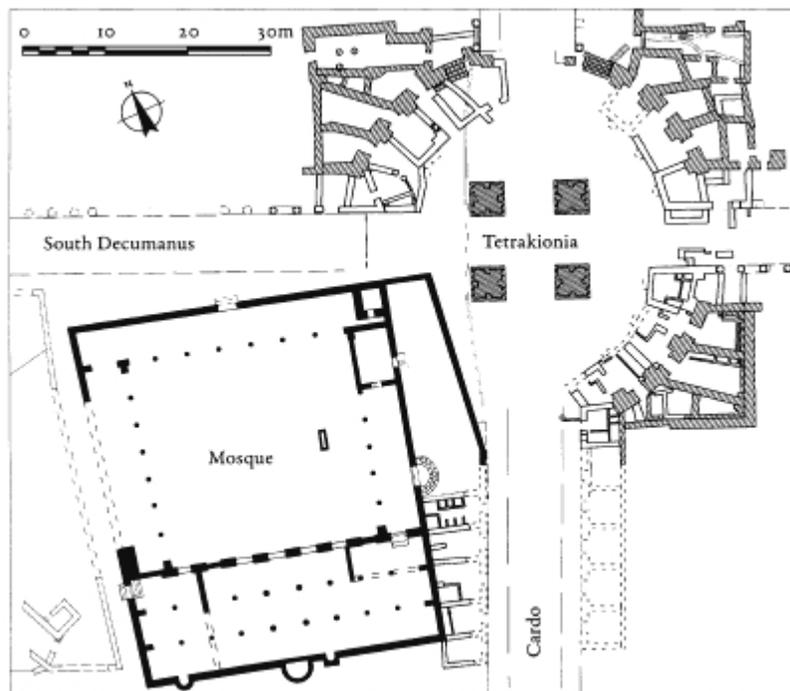


Figure. Plan of central Jerash in the mid-eighth century, showing the inserted mosque and related commercial structures, including new shops abutting the mosque's east wall (from Walmsley, "Economic Developments," fig. 20).

6.24 Qasr Al-Fudayn (Mafraq)

The site located in Mafraq where the roads branches north to Syria and east of to Iraq. The word al-Fudayn, diminutive of Fadan, is Aramaic origin meaning high wall or tall and elevated building. The site was occupied in the Neolithic and Bronze ages. In the Iron Age, possibly in the 9th century BC, a fortified structure measuring 70X50 m². was built to defend the area against

nomadic attacks. In the Byzantine period the site accommodated a monastic complex (al-Samra), which was transformed into a palatial residence in the Umayyad period.

The ruins which take the form of a rectangle (180X60 m²) consist of three main architectural units:1. A rectangular structure (70X47 m²) surrounded by substantial walls built of gigantic blocks, some of which weigh up to five tons.2. A structure measuring 40 square meters with a central courtyard was flanked by rooms of various sizes.3. A small square structure measuring 20X20 m² of fairly late date. Al-Fudayn belonged to what might be called privately reclaimed land, and it was referred to in the Arabic chronicles as an agricultural estate (Day'a) (al-Asad, et al., 2000)

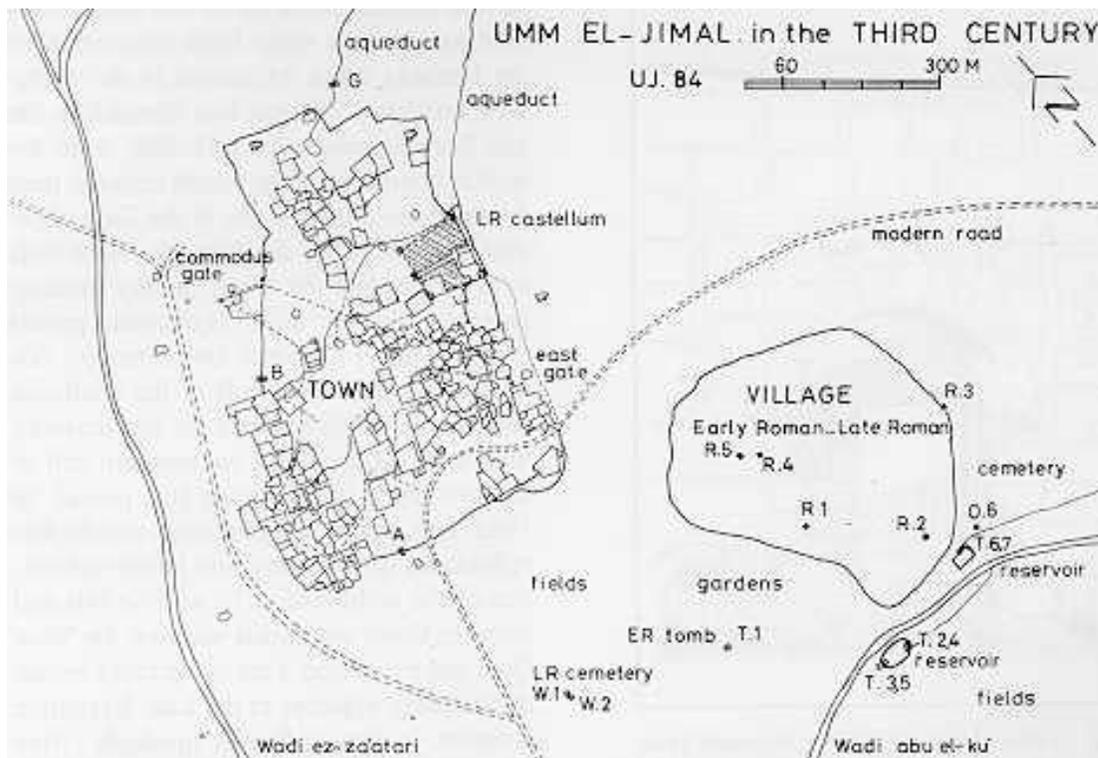
6.25 Um el- Jimal (Umm el-Jimal)

Umm el-Jimal is an extensive rural settlement constructed of black basalt in the lava lands east of Mafraq. The ruins are 20 km east of Mafraq. It is located on the edge of a series of volcanic basalt flows that slope down from the Jebel Druze, a mountain 50 km to the northeast. One of the most striking features of Umm al-Jimal is black basalt stone from which buildings were constructed. (al-Asad and Bisheh, 2000). This sloping black bedrock provided ancient Umm el-Jimal with two basic resources: stone for construction of sturdy houses, and water for drinking and agriculture. An inscription seems to imply a military structure as early as 177-180.

The irregularly shaped 'Castellum' is dated from excavation to the early 4th century and has sides of 95-112 m, c. 1 ha (c. 2.47 acres). The town of Umm el-Jimal is the best preserved among dozens of similar Byzantine sites in an area ranging from Umm es-Surab in the west to Deir el-Kahf in the east, Busra in the north to Qasr el-Hallabat in the south. the 'Barracks', dated archaeologically to the 5th century and epigraphically to c. 412. Next there is a *burgus* attested by an inscription of 371 and large enough to accommodate a regiment of cavalry (Kennedy and Riley 1990, 183-185; De Vries 1998, *passim*)

What survives above ground is an amazingly preserved Byzantine/Early Islamic town nearly a kilometer long and a half kilometer wide, with over a hundred and fifty buildings standing one to three stories above ground, with several towers up to five and six stories.

As one approaches, the stark skyline of somber stone at first gives the impression of a war-torn modern town. Only close up does it become apparent that this is not a modern war casualty, but the archaeological site include public buildings: Praetorium, Barracks, 15 churches from the sixth and seventh centuries, reservoirs, gates, 20 of its 131 houses, monumental tombs , gates and numerous reservoirs.



The standing town of Umm el-Jimal is the best preserved example of late-antique (4th-9th c.) rural domestic architecture in the Eastern Mediterranean. The adjacent, 1st-4th c. Nabataean and

Roman village, though totally ruined, is equally important as the only archaeological evidence for structured village life in North Jordan in the two centuries before the Palmyrene rebellion. In other archaeological contexts, settlement strata from the period of the Pax Romana have been severely disturbed by late-antique resettlement.

Umm el-Jimal, however, saw essentially one period of continuous occupation and is therefore particularly important for reconstructing regional history. Inscriptions indicate that the community was bilingual Nabataean-Greek. The stratigraphy covers the transition from Roman imperial to early Byzantine conditions on the Arabian frontier. The standing buildings are mainly the product of a rural agrarian culture that flourished in the Hauran from the 4th to the 8th centuries.

A major discovery was the identification of the 100 x 100 m² ruined area between the Roman reservoir and the East Church as a castellum built ca. 300 AD, and used as part of the Roman frontier defenses in the fourth century, and the Nabataean/Roman village buried under the rubble field (called al-Herri) adjacent to those reservoirs.

The town survived in somewhat diminished size through the Umayyad period, but after the catastrophes of the mid-8th centuries (plague and earthquake) human presence was reduced to squatting in the ruins for the next century. Then, after centuries of inactivity, this town enjoyed a brief revival when the Druze resettled it between 1910 and 1935.

The settlement of Umm al-Jimal consists of two parts. The first has survived in relatively good condition, the “town” of Umm al-Jimal. It was inhabited during the Roman, Byzantine and Umayyad periods. The second part is half the size of the town and has been called “village” of Umm al-Jimal. The village was inhabited during the Roman and Byzantine period. The town of Umm al-Jimal founded in the 2nd century was a Roman military and administrative centre.

In Byzantine period, the town probably served as a stop for caravan routes passing through the region and was a trading center for agricultural products grown in the area. The town Umm al-Jimal continued to be inhabited during the Umayyad period, but on a smaller scale than in the

Byzantine period. Umayyad to adapting existing structures mostly including the Praetorium. Most of the rooms of the Praetorium were re-plastered and a mosaic floor was installed in the “cruciform room”.





6.26 Aqaba (Ayla)Umayyad Period

Ayla being a Nabataean port was considered depending on the commercial prowess of Petra. The city was established over a Roman camp, where the most recent settlement is the castle of Aqaba where pilgrims to Mecca rested in Mamluk and Ottoman times. The plan of Ayla has both formal aspects, Roman and Byzantine style walls, towers, and street plan.

The original plan whether pre-Umayyad or Umayyad may have been more elaborated in the monumental and well-carved arched gateway, the arches of the pavilion building and the foundation of the large enclosure. The town is a combination of the experience of the late Byzantine city and the new Muslims attitudes towards urbanism. Briefly this is an early attempt at the realization of an Islamic city.







6.27 Qasr El-Bai'j(Qasr el-Baij)

The 'Gate of Commodus' at Umm el-Jimal opened onto a road that led north-west to other ancient villages and towns. Most seem to have been purely civilian but one, just 5 km from Jimal, was certainly military. (Kennedy, 2000). A building inscription dates to 410 and there seems only a single building phase. The structure measures c. 41 x 41 m, 0.17 ha (0.42 acres) (Parker 1986, 16-17). This site with certain military structures.(Kennedy,

6.28 Qasr Bashir

This is probably the best-preserved Roman fort in Jordan. Test excavation has suggested that the site began as a Nabataean tower, the Roman fort was then built in the late 3rd / early 4th century, occupied throughout the 4th and perhaps into the 5th. Umayyad pottery indicates re-occupation

and Gregory has argued that this involved actual reconstruction of at least the gateway. (Kennedy, 2000).

6.29 Deir el-Kahf

About 45 km due north of Azraq are the extensive remains of a major Roman fort at Deir el-Kahf “the monastery of the caves”. Probably early 4th century in date (an inscription of 306) but with a possible Severan origin, this two-storey fort measures 60 x 60 m, 0.36 ha (0.89 acres) (Kennedy and Riley 1990, 178-179). The basalt side fort measures some of 61 m, has a main entrance in the east wall, and three storey-high corner towers and interval towers on the north and west walls. Pottery collected at the site by Dr. Tom Parker dates from the Roman, Byzantine, Umayyad and Ottoman periods. This could be the site of the Roman fort of Spelunca, which means caves in Latin (Khouri, 1988).

Umm el-Quttein

This is undated rectangular fort, but may be of the 2- 3rd c. AD. Its dimensions are c. 156 x 120 m, 1.87 ha (4.6 acres) (Kennedy and Riley 1990, 141-143).

Qaryat el-Hadid

The site consists of several components, some of which are certainly military. First, a rectilinear structure, c. 115 x 130 m, c. 1.5 ha (3.7 acres). Second, a larger rectilinear structure roughly 170 x 210 m, c. 3.57 ha (c. 8.8 acres). Finally, a small rectangular structure, c. 23 x 11 m. None is dated but early reports and a few sherds point to the Roman period (Kennedy, *forthc.* b).

Deir el-Qinn

Pottery is of the 1st-4th c. AD (Falkner in Kennedy and Freeman: *in prep.*) and there is an illegible Greek graffito. It measures c. 73 x 56 m, 0.41 ha (c. 1 acre) (Gregory and Kennedy 1985, 251-253; 412; Kennedy and Freeman, *forthc.*).

El-Qihati

Pottery extends from 1st c. BC to 7th c. AD but the site commands the road below which has Diocletianic milestones (Kennedy and al-Husan 1996, 259-262). It measures c. 39 x 37.5 x 38.5 x 33.5, 0.14 ha (0.35 acres).

7. Umayyad Houses in Jordan

The Umayyads in Jordan, despite the erection of the complexes on the fringe of the desert, substantial Umayyad large urban sites, e.g., Amman, Jerash and Tabaqat Fahl, and other urban towns existed at, Abila, Madaba, Hisban, Umm el Walid, Pella, Umm el-Jimal, Umm el-Risas, Aqaba and many other long established urban sites throughout the land of Jordan. However, there are few examples of Umayyad houses which have survived in their entirety in Jordan.

7.1 The house at Jabal al-Qal'a (citadel) in Amman

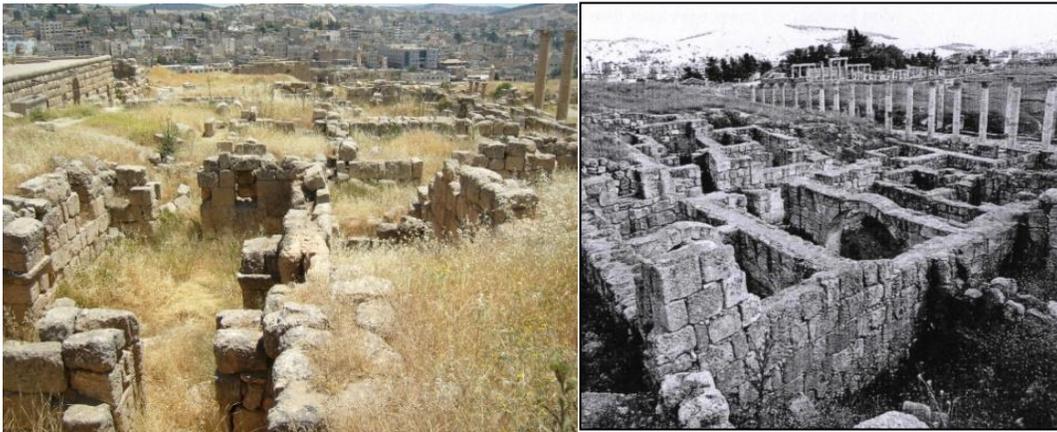
A number of upper class residences from the Umayyad period (7th-8th centuries A.D.). One of these residences preserved to a height of about 2.5 m, with a total area of about 380 m². It was built around a closed inner courtyard (fig). A room faced the courtyard with a wide entrance, was considered to be a diwan (a reception room in the tradition of the Roman-Byzantine triclinium). The other lower-story rooms apparently served as storerooms and workrooms. Sections of a mosaic floor were found on the upper story, which apparently contained the living quarters.

7.2 The Umayyad House in Jerash (Gerasa)

Is one of the very few existing early Islamic domestic complexes and probably the most complete known thus in Jordan. The large complex centered around an inner paved courtyard was founded directly on late Byzantine ruins of a similar residence. This complex building was dated from the main phase of the Umayyad residence to 660.

It was built by using the remains stone from Roman and Byzantine buildings. This Umayyad apartment house about 600 m² coexists 5-6 separate house units belonging to families that shared the same courtyard. The house consists of two floors and the largest house space measures as 13 m north-south and 21 m east-west. (Zayadine, et al., 2000).

The plan of the units/ apartments reflects a homogeneous pattern, while most of them were composed of two rooms; the front room earmarked for daily use and the back room for sleeping. The façade of the house faced the southern decumanus. (Three shops that directly faced the street formed part of the façade. The entrance passage led directly from the street to the central courtyard. The courtyard's irregular shape was the result of the intersection of the Roman walls with Umayyad period houses. In the back of the courtyard was another opening that led through a staircase to the street north of the complex.



7.3 Tabaqat Fahl (Pella) complex house

The city re-emerges in numerous historical account in the Hellenistic period, soon after Alexander the great conquered the middle east in 333 BC, and recent excavations have significantly expanded our knowledge of the city's fortunes in the Hellenistic period.

The occupation at Pella and he said that during the Persian empire Pella have been uninhabited, but with coming of Alexander the great he passed through Pella toward Egypt but there's no text or evidence founded, it's probably that it was found a Seleucid leaders who ruled Syria after the death of Alexander. Pella become one of their captured. Excavations revealed civic Complex domestic rooms and walls suggesting that the city reach the peak in the 2nd and early 1st century BC. There were a trading contact during this period that come from excavated coins, glass, loom weight, molded figurines, bones, iron and bronze cosmetic implements, lamps, and fine pottery

imported from Egypt, Rhodes, Greece, Syria, and Anatolia. During Hellenistic period two fortresses were built near Pella perhaps by Antiochus 3. One is a hill top fortress overlooking Wadi el-Hammeh, north of the site; the other is late Hellenistic fortress on the summit of Jabal Sartaba, two kilometers southeast of Pella (Khour,1988).

Of significance is a large complex (560 m²), with two courtyards dated to the late 7th century A.D, and represent a fine example of urban complex Umayyad house, and were occupied by an extended family. The front façade of the house has three entrances opened on the street. The group of living rooms in the west side of the house has accessibility from the main entrance through a small entrance hall. The eastern entrance was used to connect the house two courtyards.

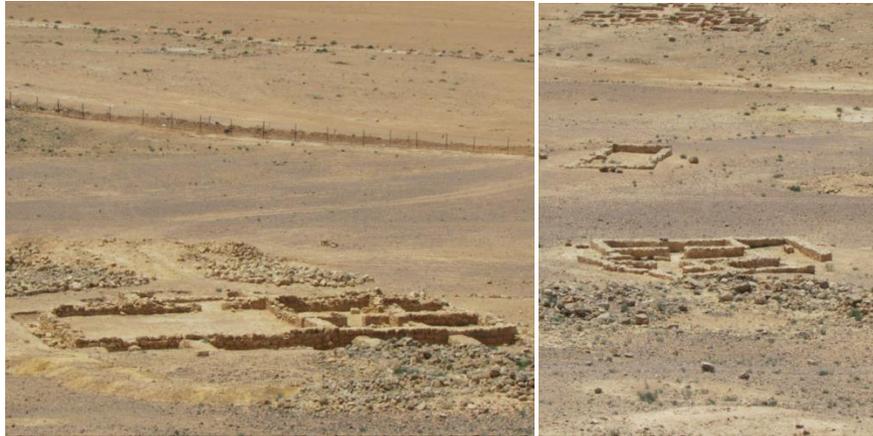


In the western side of the house a separate space was probably used as a shop. The parallel existence of the two courtyard return to the extended family daily life activities that occupied the house, as the closest courtyard to the street belong to the men's wing. The large room which built in the outer courtyard was a guest room, while the inner courtyard and the rooms surrounding it, may have served as the women's wing .The house was destroyed in the severe earthquake of 749 A.D.

7.4 The Residential settlement around Qasr Al-Hallabat

The impressive Umayyad architecture of the Qasr, the mosque, and houses is a unique examples of Umayyad Jordan for a well-organized Umayyad archaeological park. The Hallabat Umayyad houses illuminate and disseminate the nature and density of Umayyad early Islamic occupation in Jordan. In all the houses, we can find similar architectural features, types; each house consists of a group of rooms surrounding the open central courtyard, with a well planned water distribution system served the entire settlement. Every house had a cistern or a well nearby. The bell-shaped cisterns had been dug into the bedrock and were completely plastered. Typologically, the settlement is featured by two main architectural categories; residential complex house and isolated houses.

They were built directly on the bedrock. The building material is stone of different kinds, mainly limestone and re-used basalt blocks so as fieldstone. The stones are undressed and a coating was used in order to hide the irregular surfaces of the walls and reinforce the structures. They appear as spontaneous elements, which grew in the shadow of the Qasr. However, the Hallabat settlement provided the opportunity to investigate the cultural significances of Umayyad residential architecture in relation to Hallabat palace.



Hibabiya

The Hibabiya site lies 32 km north-west of the Azraq (**Fig.**). The remains dated to c. late sixth/early seventh to mid-/late eighth century AD' (Kennedy 2011: 254–256), and enclosed at least thirty individual “houses” varying in form are nearly totally destroyed (Kennedy, 2014,100). The location of this mudflat/seasonal lake is one of a succession stretching north-westwards from the Azraq Oasis and forming a natural route towards Qasr el- Hallabat and the fertile agricultural lands beyond (Kennedy, 2011: 257–258).

The mudflat floods seasonally create a shallow lake and today the mudflat has been utterly transformed into an immense olive tree plantation(Kennedy, 2014, 100). The site offers an interesting parallel for Ar-Risha (Kennedy, 2014, 100). A few of these structures are very large (about 40 x 50 m) (Kennedy 2011: 256). The structures are strung out in a roughly east–west line for c.750 m, mainly overlooking the mudflat below from the north. All along the edge of the mudflat are what may be the enclosures of small gardens.

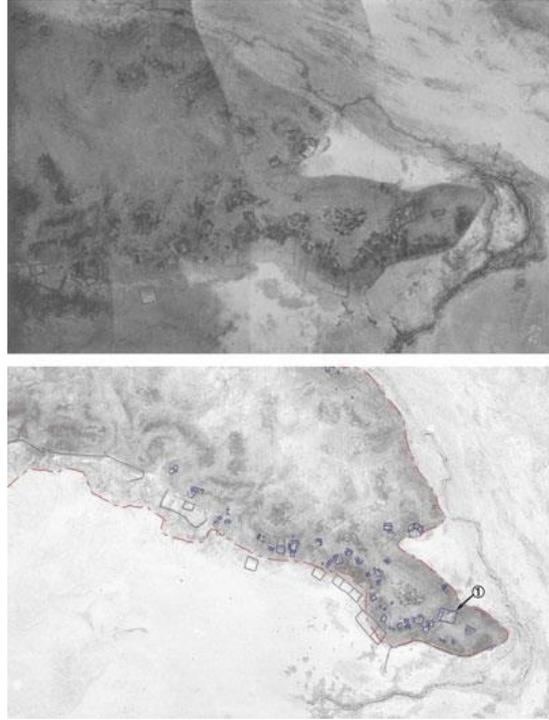


Fig. . UP. Aerial view of Hibabiya taken in the 1920s (from Rees 1930: pl. VII); DOWN sketch plan of Hibabiya (Kennedy 2011: 256, fig. 4; 2014, fig.5).

Khirbet al-Askar

Khirbet al-Askar lies c.33 km south-east of Kerak and 10 km east of Muhai, extending over an elongated area of c.35 ha. It is on the north side of the modern east– west road from Dhat Ras just before it reaches the Desert Highway (Fig.). Surface finds included glass and ‘numerous tesserae’ and 45 pottery shreds dated to Roman, Byzantine, early Islamic(35 pottery shreds of 45) and middle Islamic periods(Kennedy, 2014,104).



Fig. Kherbit el-Askar: aerial view looking south-east (After Kennedy, 2014,fig. 9)

The site has a very dispersed layout, with no formal planning and structures individually reminiscent of Roman farm buildings. Most structures are rectilinear courtyard-style houses, usually with low walls composed of fieldstones and set without mortar (Fig. 14). Several rooms partly line two walls and there is an adjoining large enclosed courtyard on the north. Some structures measure about c.49 x 49 m and c.30 x 25 m. There is a large reservoir (c.21 m² capacity is almost 900 m³), 1.5 km east of the village. It is in low ground between two converging wadis, which — after rain and floods — is carpeted in vegetation.

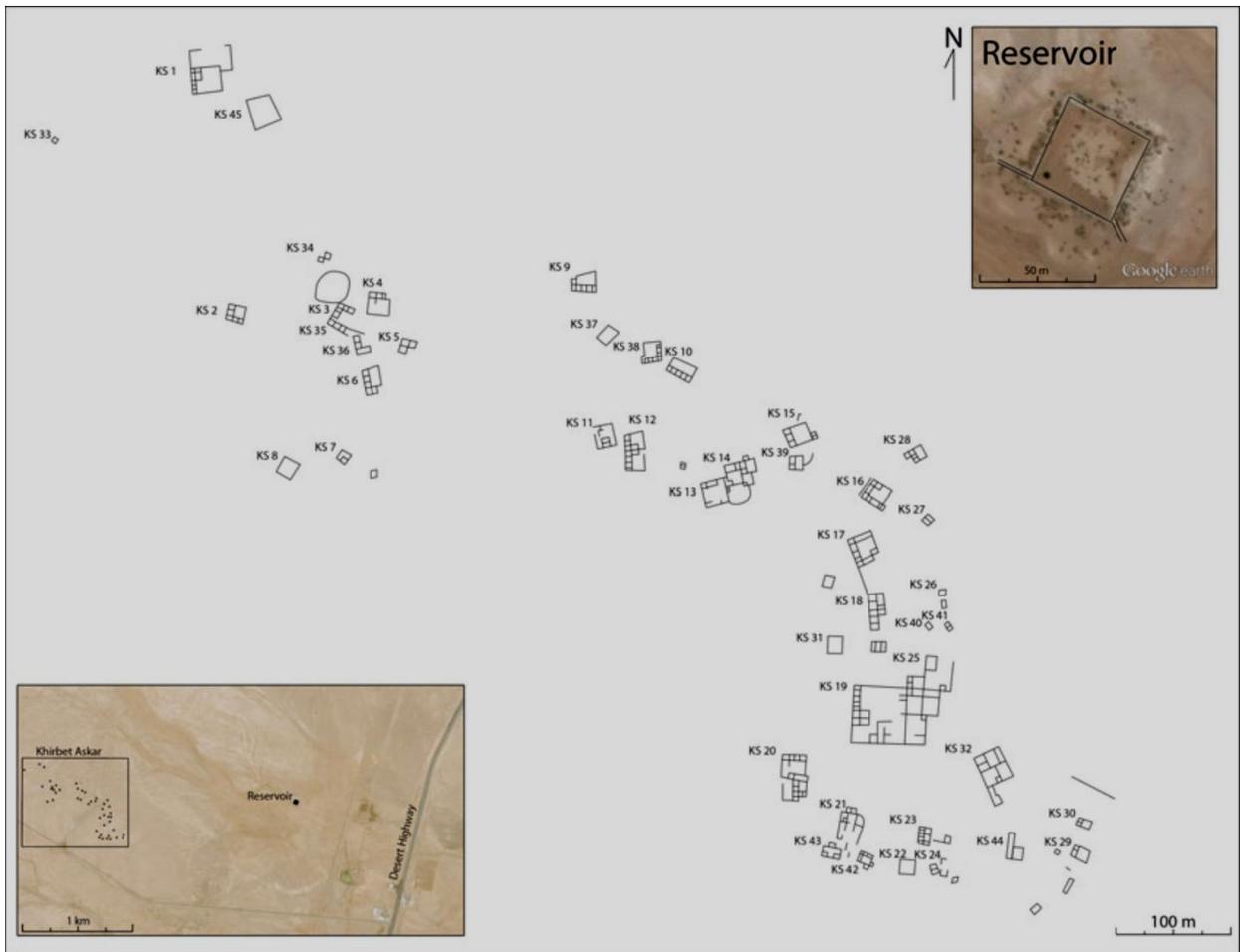


Fig. Kherbit el-Askar: site plan; (inset) location map (After Kennedy, 2014,fig. 8)

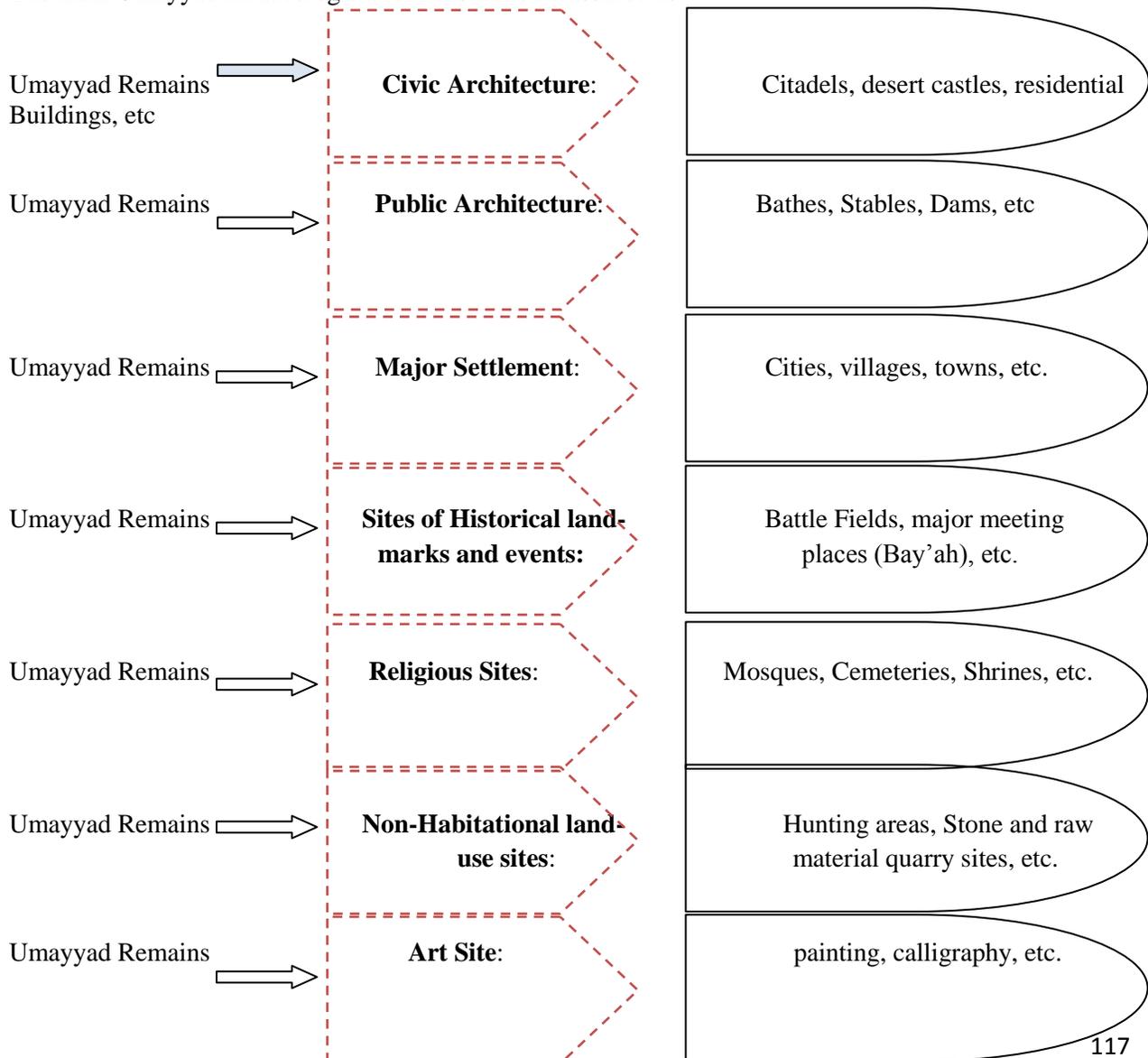
8. ANNEX 1

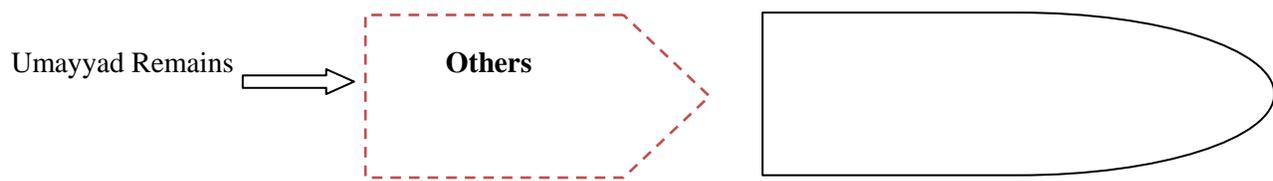
Categories of the Umayyad archaeological sites in Jordan: Categorizing the Umayyad Remains

By Bilal khrisat

The huge number of the Umayyad remains in Jordan forces a proper classification of the different types of Umayyad archaeological sites in Jordan. These classes can be used along with the distribution maps for the management of tourism trails in Jordan. The value, size, historic significance, etc. can be used to cluster those classes.

The main Umayyad archaeological remains can be classified as:





Each of the following class will be represented with a suitable icon to be placed on the GIS maps.

Geographical Distribution:

The Umayyad Palaces can be divided according to geographical location into the following:

1 - **North of the Gulf of Aqaba** : Bayer Palace , Tuba Palace, Udhruh , Jarba, Al Fudien and al Humaymma .

2 - **Jordan Valley** : Learn three of the Umayyad palaces in the area of the Jordan Valley, two of them at the Sea of Galilee and the third north of the Dead Sea near Jericho.

3 - **Jordan Badia** : many of the Umayyad palaces and facilities were built in the Jordan Badia. Due to their age and size, these palaces varying between small buildings and other huge lavish buildings. The Jordan Badia has been the focus for the Umayyads in this region since the time of Walid bin Abdul Malik until the fall of their state. The Umayyad remains in the Badia, including: Amra , Palace Aynd , Palace Mushatta , Palace Daher, Palace Kharana , Palace Qastal, Mosque Khan Zabib Mosque, Umm al-Walid Mosque (Cave of the cave sleepers), Zizia , Palace Jalut, Palace Alnoiggs , Azrqa , Shpaket Dahhaak , Palace Halabat , Sebaha Sarah , there are many Umayyad sites to the north and west of the region .

Categories of the Umayyad archaeological sites in Jordan

Umayyad archaeological remains in Jordan are mainly sites that were inhabited in the early Islam period that has continued to be settled during the Umayyad such as Tabaqat Fahl, and other sites reconstructed and used by Muslims. Various archaeological remains and sites of the Umayyad were discovered in Jordan which can be categorize as: cities and towns and villages, **residential houses**, desert castles, mosques, **bathroom** (Hammam), **streets**, army posts, cemeteries, water

installations (**water tanks and reservoirs**), battle fields, in addition to symbolic cultural landscape,

I. Desert Palaces

Qaser Ain Alssel (قصر عين السل):

Small size palace (4 rooms) built from the black basalt rock with a bath (Hammam). Located about 1750m NE of Azrqa fort.

Qaser al Qastal (قصر القسطل):

The site is made of deferent architectural units widely distributed which included: Palace, Hammam (Bath), Mosque, Village, Cemetery in addition to many water Reservoirs.

Qaser Tuba (قصر الطوبة)

The site Include a Palace that is one of the best preserved among the Ummayyad places as it is located in a remote area about 140km south of Amman.

Qaser Burqa, (قصر برفق)

The palace is located to the NW of the Al Ruished (H4). Built in 700AD from the black basalt rock on the western shower of Burqa Dam.

Al-zrqa Castle (قلعة الأزرق)

This site includes a fort, mosque and residential quarters built from black basalt rock on a Roman ruins. The fort was rebuilt during the Ayyubei period in 1237 as inscription on the main gate indicate.

Qaser Amra (قصر عمره)

The site is a palace famous for its small size and the wall paintings. The site includes a bath, and water management installations built about 711AD.

Qaser Aharana, (Kherana) (الحرانة) (الخرانة)

The site is fortified palace built in different multiple stories in 711

Qaser Halabat , (قصر الحلابات)

The site built from limestone and basalt rock over a Roman/Nabatean ruins, fortified palace with towers, residential areas, mosaic, water installations, bath, and agricultural terraces in 750-66 AD.

Qaser Mushatta (قصر المشتى)

The site is a fortified palace with residential complex, located North of the Queen Alia Airport. The palace façade was masterly decorated.

Qaser al Muaqar (قصر الموقر)

Qaser Mashash (قصر مشاش)

Qaser al Resha (قصر الريشة)

Qaser Umm al-Walid (قصر أم الوليد)

Qaser Khan ez Zubib (قصر الريشة)

Qaser Hisham

Qaser al Fudayn (قصر الفدين)

Qaser al Usaikhem (قصر الاصيخم)

This palace is located about 15km NE of al Azraq, built over Roman/Nabatean ruins, form the black basalt rock.

Qaser al-Oiyned (قصر عويند)

This site is a palace built over a Roman ruins as fortification in Wadi al Sarhan located 15km SW of al Azraq.

II. Cities:

Or Umayyad Complex which include Palace, baths, residential areas, Mosques, Market, etc.

Aqaba

Jerash

Al Humaimeh (الحميمة)

Abila

Pella

Amman (قلعة)

III. Baths

Hammam al Sara'h (حمام الصرح)

IV. Agricultural Villages:

Al Halabat

Rujum al Kursei (West Amman)

Umm al Summaq (South West Amman)

V. Mosques:

Amman Citadel Mosque (مسجد جبل قلعة)

Qaser Halabat Mosque (مسجد قصر الحلابات),

Qaser Umm al-Walid Mosque (مسجد قصر أم الوليد) (Cave of the cave sleepers)

Qaser Khan ez Zabiab, Mosque (مسجد قصر خان الزبيب)

VI. Battel Field:

Al Yarmouk

Muatta

Pella

VII. Symbolic Cultural Landscape major meeting marks and events: places (Bay'ah):

Adruh near Ma'an.

Sub Categories can be (need to be arranged with main categories):

- Agricultural Terrace,
- Animal Pen,
- Hamlet/Farmstead/Farmhouse,
- Mill,
- Press, Oil
- Stables,
- Water Structure,
- Water Structure, Well, Reservoir (Birket), Qanat, Dam or Barrage, Cistern, Aqueduct,
- Wall,
- Wali/Dharih,
- Storage Facility/Silo,
- Stone Fences/Enclosures,
- Souk/Market,

- Statue/Sculpture/Bas-Relief,
- Road,
- Public Building,
- Plaza/Forum,
- Mosaic,
- Monumental Gateway/Arch,
- Milestone,
- Macellum,
- Isolated Structure/House,
- Hijaz Railway Station,
- Frescoes,
- Domestic Installation
- Courtyard
- Cairn
- Bridge
- Baths
- Inscription
- Agricultural Structure
- Mosque
- Sanctuary
- Unspecified/Unknown Religious Structures
- Burial, Cairn/Tumulus
- Cemetery
- Grave
- Mausoleum

- Tower
- Caravanserai,
- Castle,
- Fortress,
- Latrine,
- Palace
- Rujm,
- Settlement, Fortified,
- Settlement, No Fortifications (Village),
- Tower,
- Unspecified/ Unknown Habitation/Military,
- Kiln,
- Mine,
- Quarry,
- Inscription, Arabic,
- Animal Pen/Shelter,
- Grazing,
- Irrigation,
- Terracing,
- Quarrying,
- Road Work,

- Trenching, Canal,
- Military Activities,
- Earthquake,

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