FROM ROMAN TO UMAYYAD: THE FORMATION PROCESS OF THE GREAT MOSQUE OF DAMASCUS AND OF THE SURROUNDING URBAN TISSUES

A Thesis

by

Louai Al Hussein

Submitted to the
Graduate School of Sciences and Engineering
In Partial Fulfillment of the Requirements for
the Degree of

Master of Science

in the
Department of Architecture

Özyeğin University
December 2021

FROM ROMAN TO UMAYYAD: THE FORMATION PROCESS OF THE GREAT MOSQUE OF DAMASCUS AND OF THE SURROUNDING URBAN TISSUES

Advisor: Assoc. Prof. Alessandro Camiz

Co-Advisor: Assoc. Prof. Giulia Annalinda Neglia

Approved by:

Assoc. Professor Alessandro Camiz,
Advisor,
Department of Architecture
Özyeğin University

Professor Alper Ünlü,
Department of Architecture
Özyeğin University

Date Approved: 28 December 2021

Professor Banu Manav,
Department of Interior Architecture and Environmental Design,
Kadir Has University

To my parents &

to the city of Damascus

ABSTRACT

This research reconstructs the formation process of the Great Mosque of Damascus and the surrounding urban tissues by reinterpreting them as a result of continuous transition from Roman to Umayyad phases. The imperial palace mentioned in early sources, located within the church's enclosure requires further attention (Sack, 1989) as part of the Mosque resembles the layout of a Roman *praetorium* as well as the arrangement of the palace of Theodoric depicted in the mosaic of St. *Apollinare Nuovo* in Ravenna (Camiz, 2008). Process-based morphological analysis (Maffei & Maffei, 2018) revealed that the *temenos* is part of a larger organisation derived from Roman headquarters (Burns, 2003). Similar arrangements of fortified enclosures located at the *Strata Diocletiana* with the parts of the Mosque and the surrounding urban fabrics supported the presence of partial transformations which took place during inter-transitional phases. Thus, this study hypothesizes that the temple's outer enclosure of the *peribolos* was enlarged during the empowerment of the military structures in the region under the reign of Emperor Diocletian in late 3rd century.

The other part of the study investigates the pre-Islamic building forms and their transformation processes by analysing the current urban context including remaining monuments and examining other building variants in the Syrian region. This part of the study revealed that the inner architectural order of the western side of the Mosque is remarkably similar to the remains of the western arcades still visible outside the walled enclosure.

Finally, this study represents phase plan diagrams on the transformation process of the Umayyad Mosque and the surrounding urban tissues by combining historical sources and synthetical morphological analysis observed on the current urban structure as well as the architecture form of the Great Mosque of Damascus.

ÖZETÇE

Bu araştırma, Şam Ulu Camii ve çevresindeki kentsel dokuların biçimlenişinin Roma İmparatorluğu döneminden Emevi dönemine kesintisiz bir geçiş sürecinin sonucu olarak yeniden yorumlanmasını amaçlamaktadır. Erken dönem kaynaklarında adı geçen ve kilisenin çevresi içinde yer alan imparatorluk sarayı, caminin bir parçası olarak bir Roma praetorium planını ve Ravenna'daki St. Apollinare Nuovo (Camiz, 2008) mozaiğinde temsil edilen Theodoric sarayı ile biçimsel benzerlikler taşıdığı için detaylı bir araştırma gerektirmektedir (Sack, 1989). Araştırma kapsamında gerçekleştirilen süreç tabanlı morfolojik analiz (Maffei & Maffei, 2018), temenos'un Roma karargahından türetilen daha büyük bir yapının parçası olduğunu ortaya çıkarmıştır (Burns, 2003). Strata Diocletiana'da bulunan caminin bölümleri, çevresindeki kentsel dokular ve sur duvarlarının benzer düzenlemeleri, farklı dönemler arası geçişler sırasında kısmi mekansal dönüşümlerin gerçekleştiği varsayımını desteklemektedir. Yapılan bu tez çalışması sonucunda, 3. yüzyılın sonlarında İmparator Diocletian döneminde bölgedeki askeri yapıların güçlendirilmesi sırasında tapınağın Peribolos'unun (çevre duvarları) genişletilmiş olduğu ortaya koyulmuştur. Çalışmanın ikinci kısmı, Suriye bölgesindeki diğer yapıları ve günümüze ulaşan anıtlar da dahil olmak üzere mevcut kentsel bağlamı analiz ederek İslam öncesi yapı tiplerini ve bunların dönüşüm süreçlerini ortaya koymayı amaçlamaktadır. Bu kapsamda caminin batı tarafının iç mimari düzeninin, sur duvarlarıyla çevrili alanın dışında hala görülebilen batı revaklarının kalıntılarına oldukça benzer olduğu ortaya koyulmuştur. Son olarak bu çalışma, Şam Ulu Camii'nin mimari formunun yanı sıra, tarihi kaynaklardan edinilen bilgiler ve mevcut

kentsel yapı üzerinde gerçekleştirilen sentetik morfolojik analiz sonuçlarını birleştirerek Emevi Camii ve çevresindeki kentsel dokuların dönüşüm sürecini oluşturan farklı dönemleri gösteren plan şemaları sunmaktadır.

ACKNOWLEDGMENTS

I would like to express my deepest and most sincere gratitude to my research advisor, Dr. Alessandro Camiz, Ph.D., Associate Professor of Architecture at Özyeğin University, who did not spare time giving indispensable information and providing countless opportunities. Throughout the research, he provided an invaluable guidance and utmost inspirations on various topics without which I would not have been able to complete this research. He has taught me the methodology to carry out the research and to present it as clearly as possible. It was an absolute privilege to research under his guidance. I thank him for his friendship, empathy, and his unprecedented encouragements.

I am extending my thanks to my second research advisor, Dr. Giulia Annalinda Neglia, Ph.D., Associate Professor of Landscape Architecture at Polytechnic University of Bari in Italy, for her excellent support providing the necessary readings to construct the conceptual framework. I am grateful for her consistent presence and patience during monthly meetings. It is of my honour to know her and work under her guidance and supervision. I also owe a great appreciation to Dr. Ghada Bilal, Ph.D., Vice-President at the Regional Planning Institute at Damascus University, for her insightful directions and her coherent explanations to improve my thesis and supplying necessary drawings and photographs during the research phases.

I would also like to express my thanks to the reverent board members and the Administrative Committee at Özyeğin University for granting me a full scholarship to join the master's degree program at the faculty of Architecture and Design. My thanks are also extended to the library staff who worked endlessly during the hard times of the pandemic, as they were always there, very responsive, and cooperative.

I would also like to express my appreciation to Dr. Ross Burns for his remarkable collaborations and encouragements while we exchanged emails on different topics regarding the research study in which he guided me through his scholarly research. My thanks are also extended to each of the following persons for their distinguished collaboration and generosity in sharing and exchanging explicit knowledge: Dr. Alain Fouad George, Department of Oriental Studies at Oxford university, Dr. Attilio Petruccioli, Sapienza University, Dr. Nasser Rabbat, Massachusetts Institute of Technology (MIT), Dr. Simon O'Meara, SOAS University of London, Dr. Soulaiman Almhanna, Damascus University, Özge Özkuvancı, Özyeğin University, Elsa Zakhia, *Institut français du Proche-Orient*, and Hala Qasqas, University of Victoria.

I am extremely thankful to my parents Mohammed Al-Hussein and Thana’a Al-Khawam, for their tremendous love, prayers, caring and sacrifices which inspired me to complete my research. My heartful thanks to my brother Wael and my sister Aya for their countless support and motivations. I also wish to express my gratitude to my uncle Maher Al-Khawam for his tremendous efforts to reach locally published work and for connecting me with Syrian scholars through his network. I would also like to offer my special thanks to my friends for their keen interest to complete this thesis and for their kindest support and continuous encouragements.

TABLE OF CONTENTS

LIST OF TABLES

LIST OF FIGURES

LIST OF ABBREVIATIONS

This research is based on a number of primary sources enlisted below in a chronological order with their abbreviations and full references.

Source Abbr.	Full Source Citation	Originally Published/ Written
STRABO	Jones, H. L. (Trans.). (1930). *Strabo: Geography* (vol. VII, xv-xvi). Harvard, England: Harvard University Press.	I BC – I AD
MALALAS	Jeffreys E., Jeffreys M. & Scott, R. (Eds.). (2017). *The Chronicle of John Malalas*. Canberra, Australia: Brill.	527 AD
PASCHALE	Whitby, M. W. (Ed.). (1989). *Chronicon Paschale 284-628 AD. translated texts for Historians* (Vol. 7). Liverpool, England.: Liverpool University Press.	628 AD
ARCULF	Adomnán, S. (Ed.). (1889). *The Pilgrimage of Arculfus in the Holy Land*. London, England: Adelphi.	670 AD
AL-BASAWI	Al-Basawi, A. (1989). *Kitab Al-Ma'arefah wal Tarikh* [Book of Knowledge and History]. J. Al-Nahawi, & A. Al-Umari (Eds.). Medina, Saudi Arabia: Maktabet Al-Dar.	890 AD
AL-BALADHURI	Al-Taba'a, A. & Al-Taba'a O. (Eds.). (1987). *Futuh al-Buldan: Tasnif Al-imam Abi Abbas Ahmad bin Yehya bin Jaber al-Baladhuri* [Conquest of Countries: Classification of Al-Baladhuri]. Beirut, Lebanon: Mussaset Al-Ma'arif.	891 AD
Al-TABARI	Karami, A. (Ed.) (2009). *Tarikh al-Umam wa al-Muluk: Tarikh Al-Tabari (224-310 Hijri)* [History of Nations and Kings: History of Al-Tabari (224 – 310 Hijri). Amman, Jordan: Beit Al-Afkar Al-Duwaliya. [838-922 AD].	IX-X AD

Al-MAQDISI	Al- Maqdisi, S. (1906). *Ahsan al-taqasim fi marifat al-aqalim* [The Best Divisions for Knowledge of the Regions]. M. J. De Geoje (Ed.). Leiden, Netherlands: Brill.	X AD
SCYLITZA	Ioannes, S. (1126). *Synopsis historiarum*. [Biblioteca Digital Hispánica].	1126 AD
Al-IDRISI	Al-Idrisi, M. (2002). *Kitab Nozhat al-Mushtaq fi ikhtiraq al-Aafaq* [The Excursion of One Who is Eager to Traverse the Regions of the World]. Cairo, Egypt: Maktabet Al-Thakafa Al-Diniyyah.	1154 AD
IBN ASAKER	Al-Umrawi, O. (Ed.). (1995). *Ibn Asaker: Tarikh madinat Dimashq* [Ibn Asaker: The history of Damascus city]. Beirut, Lebanon: Dar Al-Fikr (80 vols.).	1163 AD
IBN JUBAYR	Broadhurst, R. (Ed.). (2020). *The Travels of ibn Jubayr: A medieval journey from Cordoba to Jerusalem* [EBSCOhost]. London, England: I.B. Tauris. [1144-1217 AD].	XIII AD
AL-DHAHABI	Al-Dhahabi, S. (1985). *Duwal Al-Islam* [Countries of the Islam]. Beirut, Lebanon: Muassaset Al-Almi lil Matboa’at.	1345 AD

CHAPTER I

INTRODUCTION

Traces of many civilizations discovered in various studies placed Damascus as the oldest still populated capitals in the world (UNESCO, 1979). Performing readings on the urban tissues and building typologies is considered a hard task for specialist researchers due to the different layers possessed in its urban fabrics and the ongoing process of population made the scene harder for historians and archaeologists to perform physical explorations on its hidden layers.

Since the area of the Great Mosque is the oldest spot in the old city centre, it displays outstanding evidence of many civilizations including elements dating to Aramean, Greek, Roman, and Byzantine eras. Umayyad Mosque of Damascus is considered one of the key elements of the city's landmarks and built landscape. Its location is considered at the heart of the old city and meeting point for new and old visitors. Since very early times of its construction, the site of Umayyad Mosque was considered as a holy precinct serving the Aramean, Greeks, Romans, Byzantines, and Islamic empires. Its dimensions and architectural elements established a module for subsequent Mosques across the region.

One of the main ideas that brought this thesis into realization is the typological similarity of the Mosque with other buildings preserved across the Syrian region. Although previous studies outlined that the Mosque was a religious enclosure since ancient times, however, this research discusses the possibility of including different building program inside the enclosure. Initially, we aimed to represent some of the most influential architectural elements and their specifications to infer through this method the foundations of the Mosque and its historical development with insights on its spatial relationship with its surrounding urban tissues.

This thesis hypothesizes that the Roman built a larger complex area during 3rd century by extending the main *peribolos* enclosure and including it as part of a defence strategy for the city. Hence, the area was enriched by many imperial buildings located inside and around the enclosure since most buildings surrounding the Mosque were dated to different phases.

Many scholars argued that the Mosque was built by demolishing the church entirely and building the Mosque from the scratch. However, in this thesis I am raising a controversial issue; What if al-Walid did not demolish the church, but rather he continued the formation process? If so, how the Mosque was constructed to be formed as it is seen today?

Early Arab scholars wrote about the Mosque and the old city in 9th – 10th centuries; they claimed that the building was constructed by the 7th Umayyad Caliph Al-Walid ibn Abdul-Malik by demolishing the Byzantine church of St. John stood in the inner enclosure without defining its exact location. However, it was observed through *in-situ* elements of the remaining structures inside and outside the Mosque that the usage of similar elements of Roman speciality indicated a level of continuation and relation between the Mosque and the surrounding urban elements. Therefore, the objective of this thesis is to discuss theories of the continuation process of the former structures previously located at the inner enclosure of the current Umayyad Mosque.

Methods used in this thesis include a combined review on the textual data and physical sources. The textual data include historical sources, references, and manuscripts. Meanwhile, physical sources are cartographical, iconographical, and archaeological sources. In parallel, morpho-typological analysis on the Mosque and the Surroundings will be investigated to identify the area of the Mosque in relation to the contextual urban elements to shed the light on the nature of the formation process starting from early phases.

Since parts of the Great Mosque resembles the layout of the fortified enclosures related to the Roman era, the analysis will cover explorations on well preserved examples of the former *praetorium* structures located in the suburban towns of the Syrian region along the border line of the southern Roman outskirts across the *Strata Diocletiana* (Arce, 2015). This will lead to widen our prospective by discussing the idea of the inclusion of the temple's enclosure as part of a larger complex built in the Roman Imperial era.

Previous studies investigated the formation process of the old city of Damascus focused on its Graeco-Roman origins by observing the *in-situ* fragments and associating the old city of Damascus with other historical cities in the Syrian region (Sauvaget, 1934; 1949). This thesis utilizes digital methods of architectural and urban survey plans to explore the potentiality of the evolution process of the Mosque as part of the historical urban development of the old city from Roman to Umayyad eras.

1.1 Scope

The objective of this thesis is to study the formation process of Umayyad Mosque and its surrounding urban tissues by reinterpreting them as a developing structures. Furthermore, this thesis examines various building typologies sharing similar features with parts of the Mosque's layout. This thesis discusses the history of the Syrian region in relation to the old city of Damascus and the ancient enclosure of Umayyad Mosque. This will synthesize the logical transformation process of the ancient enclosure of the Great Mosque through phase diagrams in relation to the chronological narratives of the elements still observed in the surrounding remains of the Mosque.

This study also compares the construction elements of the Umayyad Mosque and some of its architectural and structural elements with several Roman military buildings located alongside the military supply lines of the East Roman Empire. The purpose of this comparison is to investigate the potential similarities and variations between these two typologies to support the theory which suggests that the construction of the Mosque was an extension of imperial buildings primarily erected during the Roman era.

For this purpose, this study focuses on the architectonics of the Mosque's structures and compare them with some of the remaining structures which still preserved in the surrounding area. Thus, this research includes complete descriptions on the Mosque's components such as towers, minarets, walls, interior halls, arches, columns and their details, central dome, and pavement floors.

This thesis analyses parts of the surrounding urban tissues of ancient phases by referring to the previous archaeological excavations, morphological features, and typological plans. The analysis of urban morphologies on the surrounding tissues involves examining the connecting routes, orientation of blocks, important landmarks, archaeological remains, and geographical terrains.

1.2 Structure

This thesis consists of 6 chapters:

Chapter I includes an introduction to the research problem, structure, scope, and contents. In addition, this chapter discusses the adopted analytical methodologies and the successive steps relied on. This chapter also includes the limitations which are not addressed in this thesis for various reasons.

Chapter II covers the literature review based on theoretical framework of previous scholars and bibliographical sources. In parallel, this chapter includes an introduction to the historiography of the region in relation to the development process of the city, the Great Mosque, and the former structures. This is followed by presenting major events and mapping each phase from Roman to Umayyad and addressing the research problem from the viewpoint of history.

Chapter III includes important descriptions of the main building elements related to the Great Mosque based on digital survey plans, sections, and elevations. This is followed by reviewing the chronology of each Architectural elements of the Great Mosque by approaching them through the review of historical and modern literatures. This chapter describes the surrounding urban tissues including the Graeco-

Roman building remnants, connection routes, building typological and functional plans of the blocks surrounding the Mosque.

Chapter IV explores the first hypothesis on the possibility of having a military enclosure in parts of the mosque and the surrounding urban tissues. This chapter presents the systematic analysis -based on the adopted methodology- on several levels and scales, starting from geographical settings of the region, the city, the urban fabrics, and finally to the building block and structural details of the Great Mosque. In parallel, this chapter explores the formation process of the Mosque as part of an enclosed space interpreted from textual and physical primary sources including an indications from Byzantine chroniclers of the late-antique periods, early Arab historians, medieval cartographical sources, and iconographical elements related to the 2nd – 3rd centuries. Finally, this chapter displays the morphological studies done on the architectural elements and the urban settlements surrounding the Great Mosque which indicates the presence of Roman headquarter in the area.

Chapter V demonstrates the stages in which the Mosque was formed since its early formation: from a Temple, to a *Praetorium*, to a Byzantine Church, and finally to Umayyad Mosque. This chapter demonstrates the phases relevant to the development process of special buildings in the Syrian region. In addition, this chapter addresses the Great Mosque structural details to examine the main attributes of its typological process. Finally, this chapter will include a comparative matrix showing the various physical similarities between the Mosque and the examined historical buildings.

Chapter VI concludes the study by outlining the overall results of the research considering the performed analysis and reviewed sources. This chapter discusses the development process of the Great Mosque and its surrounding urban tissues and proposes potential future studies and offers design opportunities for preserving the old enclosure of the Great Mosque and its surrounding urban tissues.

1.3 Methodology

Spatial transformations of the historical built environments investigated by Muratori (1959) were described as natural occurred process tracked by series of morphological analysis. This opened many discussions in the following decades in respect of understanding the process-based structure of historic built environment. Following Muratori's thesis, Caniggia and Maffei (2001) represented the spatial transformation of historical urban settlements and reinforced the metaphorical interpretations of buildings as a cyclical '*living organisms*. The method used by both scholars contributed to track the evolution process of buildings and their structural components by investigating their synchronic and diachronic variants. This methodology considers the presence of building aggregates as part of a larger organism that began with the simultaneous settlement of the territory formed by the very first urban routes (theory of territorial organism). Consequently, these routes formed the early settlements of building blocks located according to the poles and the anti-poles with the nodal points as a landmark of important buildings inside the enclosed city. As a result, this study encourages to investigate the building aggregates as part of an organised structure, connected with its surrounding urban tissues as one organism, therefore it is read by observing the entire structure. This method demonstrates the law of behaviour from the natural formation and mutation of manmade structuring on the built environments regardless of their scales and functions.

In this thesis, the adoption of this methodology aims to reconstruct the different phases of the ancient enclosure by observing the remaining structures of the Umayyad Mosque and its surroundings to constitute solid evidence of the evolution process.

1.4 Limitations

Since this research focuses on studying the transformation process of the Umayyad Mosque within a specific period from Roman era until the date of the Mosque's establishment, therefore, it is limited on a specific time period without addressing the subsequent periods of the Umayyad era in depth, noting that the later periods may contain important information in respect of physical transformations of Umayyad Mosque and its surroundings.

On the other hand, due to the prevailing circumstances at the present time in the Middle East especially in Syria, besides the global travel restrictions due to Covid-19 pandemic, I was not able to conduct on-site surveys. To compensate this shortcoming, I utilized digital cadastral plans produced by the Directorate General of Antiquities and Museums (n.d.), analysed the floor plan of the Great Mosque credited to Rabbat (2003), and reviewed 3D images captured by laser-scanned surveys produced by ICONEM (n.d.).

CHAPTER II

LITERATURE REVIEW

2.1 *Theoretical Overview*

The earliest visits to Damascus by the British traveller Pococke (1743-1745) provided a schematic plan of the mosque and the surrounding urban tissues. His study concluded that the mosque was entirely transformed from the building of a church by observing the style of the remaining structures. *Figure* **1** shows a reconstruction plan Pococke produced based on *in-situ* columns located around the enclosure, noting that most of the structures were built during Byzantine phase which dedicated to church of Saint John.

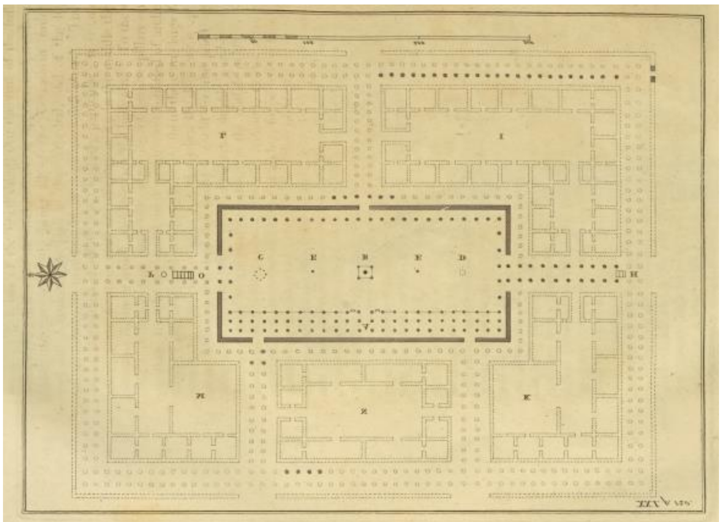


Figure 1. Urban plan of the Mosque and its surroundings. Adapted from *A description of the East: and some other countries,* (pp. 120-22), by R. Pococke, 1704-1765, London, England: W. Bowyer.

Almost a century later, a survey conducted by Porter (1855) included a precise plan of the mosque and its surroundings (*Figure 2*). Porter noted that the preserved arcades located at the western side of the mosque were dedicated to the former structure of the church (4th century AD). Likewise, he pointed out to an inscription to be read *"Thy kingdom, O Christ, is an everlasting kingdom, and the dominion endureth throughout all generations"* (p. 65) found at the southern part of the transept. This inscription provided evidence that the church was located inside the enclosure. He also argued that the church was enlarged to include an atrium space towards its southern part built under Theodosius' son, Arcadius (r. 379-395). This space included sets of arcades similar to the western side and parts of the inner enclosure were found similar to the 5th century churches located across the Syrian region (Butler, 1929).

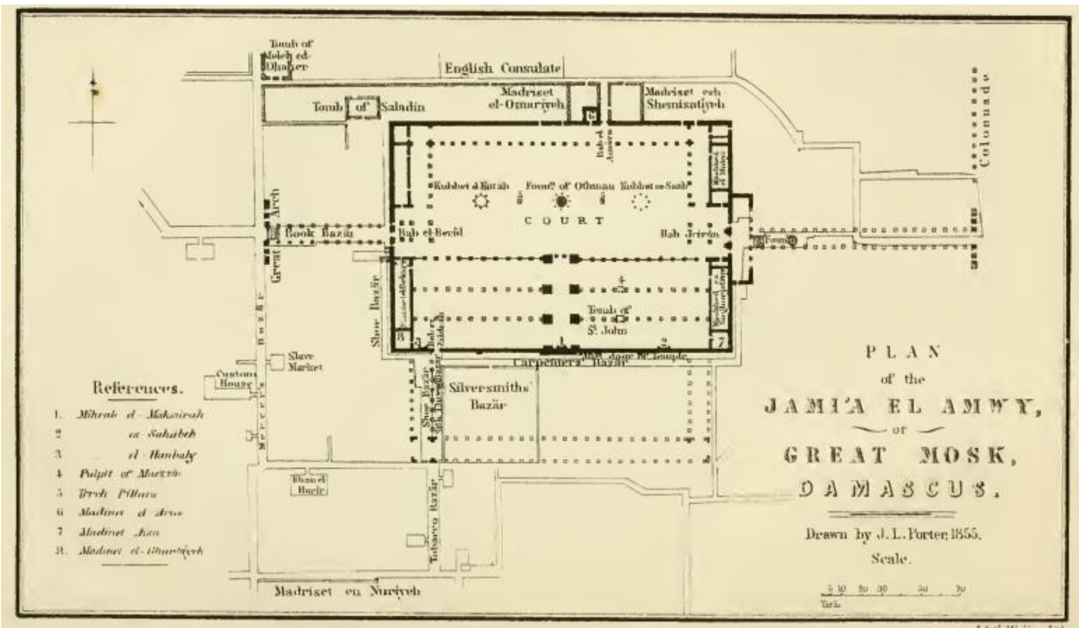


Figure 2. Reconstruction plan of the urban layout of the Mosque. Adapted from *Five years in Damascus* (vol. I, p. 62), by R. J. L. Porter, A.M., & F.R.S.L., 1855, London, England: John Murray.

Further studies by Spiers (1905) aimed to reconstruct the surrounding elements of the former temple. His study reconstructed the *propylaeum* located at the western side of the mosque (*Figure 3*). The reconstruction drawing outlined four large columns crowned with Corinthian capitals supporting "Syrian" pediment structure. These structural details suggested that this composition dated back to the middle of the 2nd century which was ordered by Emperor Trajan's (r. 98-117 AD) under the direction of the Architect *Apollodorus of Damascus*. Spiers (1905) believed that the form and structure of the transept at the prayer hall indicated a later phase of the Byzantine's origin (pp. 219-225).

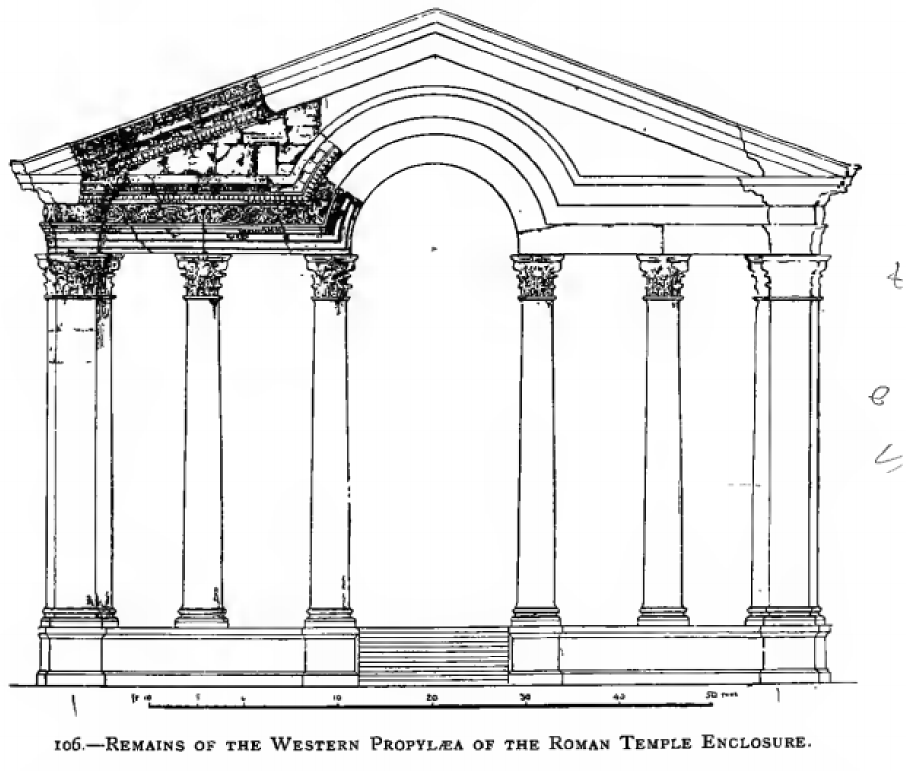


Figure 3. Reconstruction elevation of the *propylaeum*. Adapted from *Architecture East and West* (p. 225), by R. P. Spiers, F.S.A., & F.R.I.B.A., 1905, London, England: MCMV.

Further studies carried out by Watzinger and Wulzinger (1921) explicated the urban transformation of the city and the mosque during different phases, especially in the framework of settling a reconstruction plan of the Roman city. Their study demonstrated a reconstruction plan of the Roman temple as well as the surrounding urban fabrics by comparing them with similar Roman temples preserved in the Syrian region. They added that the typical plan of the Roman temple in Damascus consisted of outer enclosure *peribolos*, inner enclosure *temenos*, altar *cella*, market area of *gamma* (Γ), and two fountains *nymphaeum*. *Figure 4* illustrates the plan of the temple and the Roman monuments in the city of Damascus.

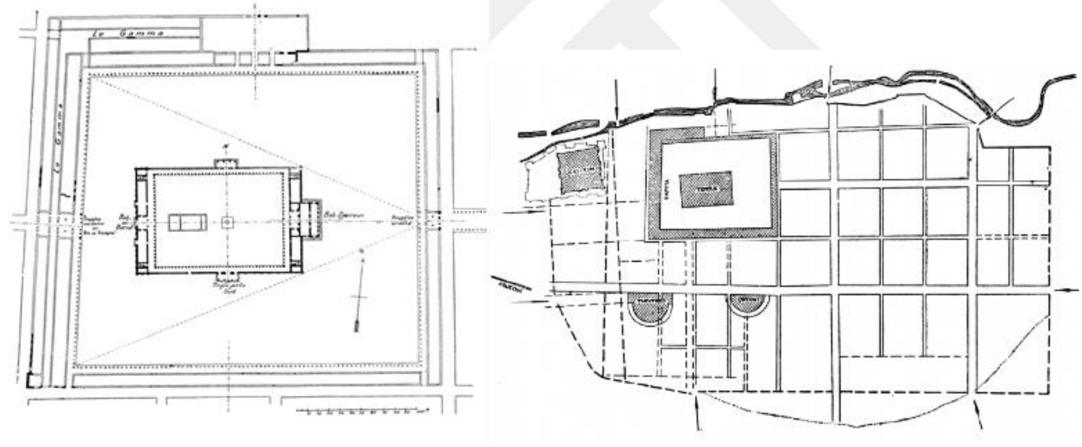


Figure 4. Reconstruction plan of the Roman city and temple of Jupiter. Adapted from *Damaskus: die Antike Stadt,* by C. Watzinger and K. Wulzinger, 1921, Berlin: de Gruyter.

Later studies demonstrated by Dussaud (1922) aimed to find the exact location of the Byzantine church. Dussaud argued that the mosque was entirely a physical continuation of the church which was built during the early Byzantine era. Dussaud added and later supported by Watzinger and Wulzinger (1921) that Emperor Theodosius the Great erected the church along the total area of the southern wall of the *temenos* with an entrance located at the middle of the current transept structure. According to Dussaud, the major transformation from the church to a mosque took place by dividing the space and adding the dome. *Figure 5* exhibits the formation process of the church in the 4th to 5th century and there it appears that the mosque was not build nor demolished, however, it was entirely transformed from the structure of the former church.

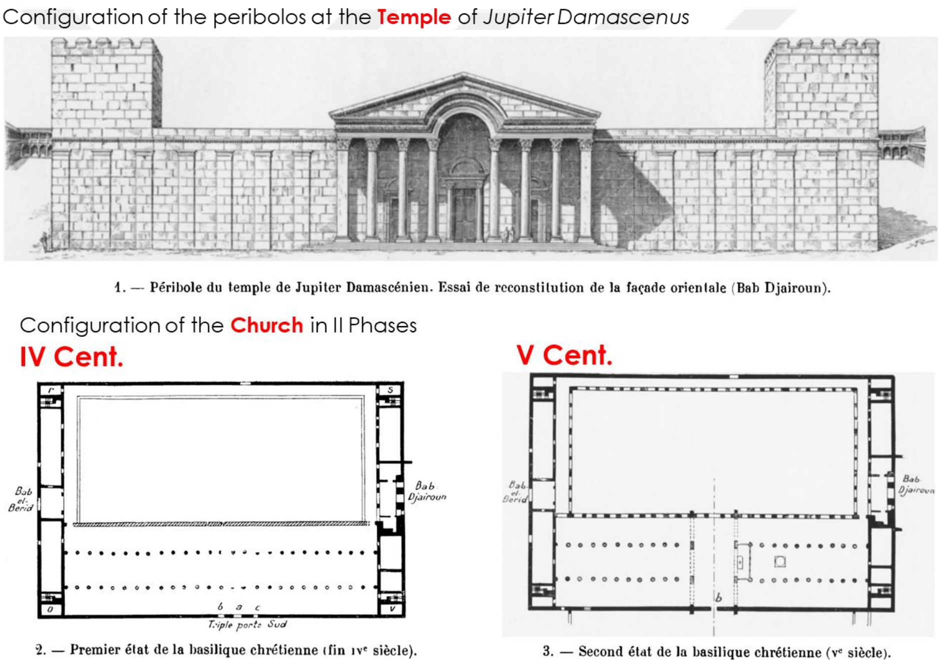


Figure 5. Hypothesis of transformations from a Church to a Mosque. Adapted from "Le Temple de Jupiter Damascénien et ses transformations aux époques chrétienne et musulmane," by R. Dussaud, 1922, *Syria*, *3*(3), p. 228.

Series of survey studies conducted by Creswell (1969, p. 68) on the Great Mosque and the ancient enclosure contradicted Dussaud's theory which suggested that the church was erected along the southern wall of *temenos*. Creswell argued that the church was located at the central part of the *temenos* on the place of the altar. *Figure 6* outlines the placement of the church according to Creswell (1969).

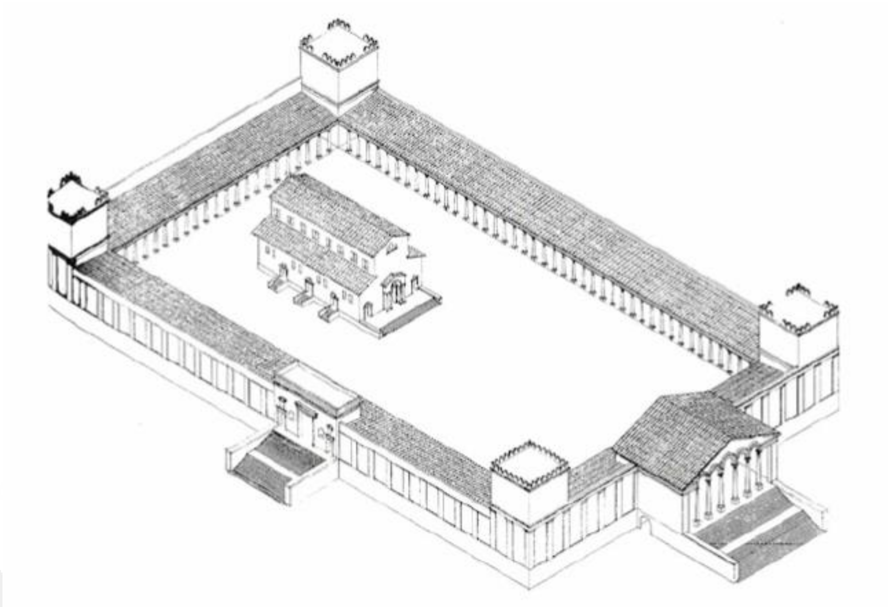


Figure 6. Location of the Byzantine church according to Creswell. Adapted from *K.A.C. Creswell Early Muslim Architecture* (Vol. I, Part I, Edition II, p. 195), by F. Shafey (Ed.), 1969, Oxford, England: Oxford University Press.

French scholar Sauvaget (1932; 1935; 1949) studied the formation process of Damascus city and the mosque with great attention to its Hellenistic features. He produced a reconstruction plan of the Hellenistic city (*Figure 7*) by examining the urban morphologies of the old city through persistence of ancient route networks and noting the preserved monuments. In his studies, Sauvaget explained the speculative dimensions of the Hellenistic city, parts of which was a place for the temple and the *agora*, which was located at the eastern part of the city opposite to the enclosure of the Hellenistic temple. *Figure 8* exhibits the fragments of the road that connected the temple with the *agora* which still preserved in the current urban plan of "*Street of Al-Qaimariyya*" (Neglia, 2012). This indicated that the eastern part of the Mosque with this connection route were dedicated to the Hellenistic era since the early foundation of the city in c. 1st century BC.

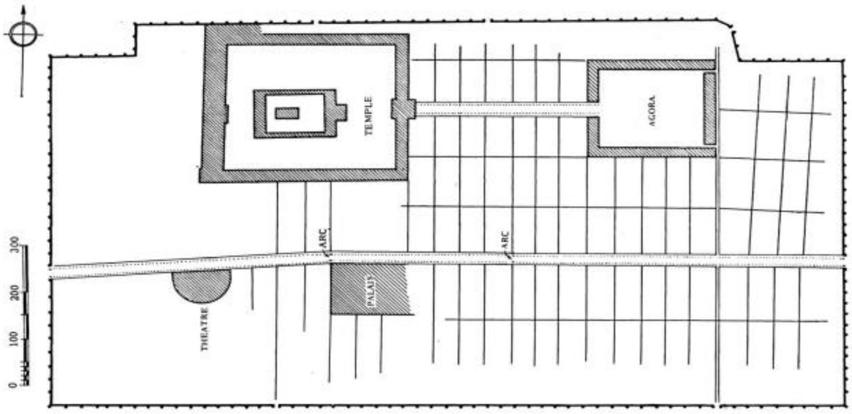


Figure 7. Reconstruction plan of the Hellenistic city and the temple of Zeus. Adapted from “La plan antique de Damas,” by J. Sauvaget, 1949, *Syria*, 26, p. 356.

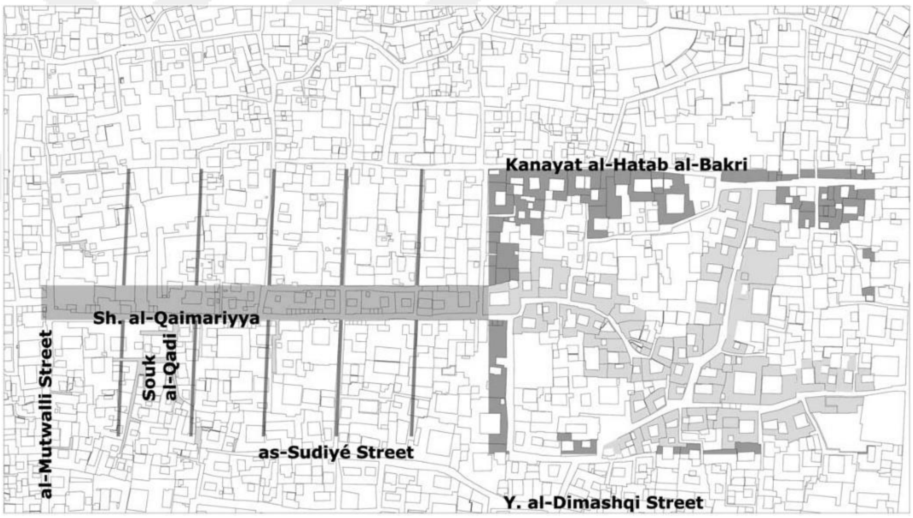


Figure 8. Fragments of the Hellenistic monuments. Adapted from “Processes of Formation of Ottoman Damascus,” by G. A. Neglia, 2012, *Bulletin d’études orientales, 61*, p. 238.

Herzfeld (1948) focused on Islamic monuments preserved in the city of Damascus with a brief overview on the Great Mosque (pp. 118-138). Herzfeld suggested that the form of the church located at the precinct of the temple was exceptional. The presence of the inscriptions located at the inner walls of the western minaret of *"Ma'dhanat Al-Gharbiya"* included symbols dedicated to the Seleucid's origins (3^{rd} century BC). In addition, the availability of an Arabic inscription to be read "*Allah pardon the Qadi Salman b. Ali*" written in Kufic Arabic indicated the late Islamic origins. *Figure 9* displays the inscriptions indicated the various layers of the adjustments made on the ancient enclosure.

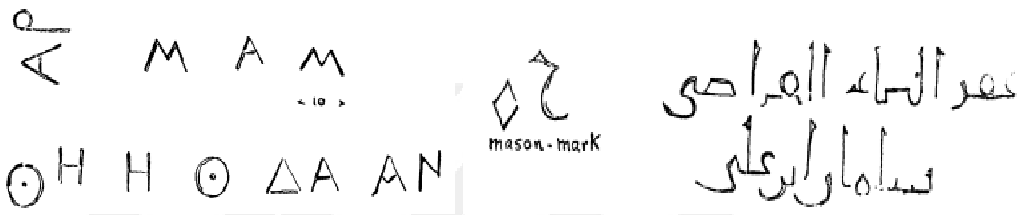


Figure 9. Inscriptions found by on the walls of the western minaret. Adapted from "Damascus: Studies in Architecture-IV," by E. Herzfeld, 1948, *Ars Islamica, 13,* p. 119.

Investigations done by Sack (1989) represented the city during different phases in which he added, as cited in Alsayyad (1991), that the Byzantine churches did not adhere to the grid urban plan but were built in contradiction to it. Likewise, the width of some straight roads was reduced to the third and sometimes to what they were in the grid projection. Sack believed that this approach made the Straight Street shifts its path when establishing new building to avoid passing from the older building blocks erected during the former Roman era. Similarly, the temple of Jupiter was transformed to a church and its outer enclosure was transformed as part of its facilities including a Byzantine palace since most of the arcades surrounding the Mosque were of Byzantine origin. Sack stated that the Byzantine city soon started to populate with buildings by demolishing the former structures or changing the original functions of some other buildings. As a result, vacant facilities and empty spaces were available and new typologies were introduced to the city such as churches, monasteries, and palaces. *Figure 10* shows the formation of the Byzantine city and the placement of churches and monuments in relation to the space of the *temenos* church according to Sack (1989).

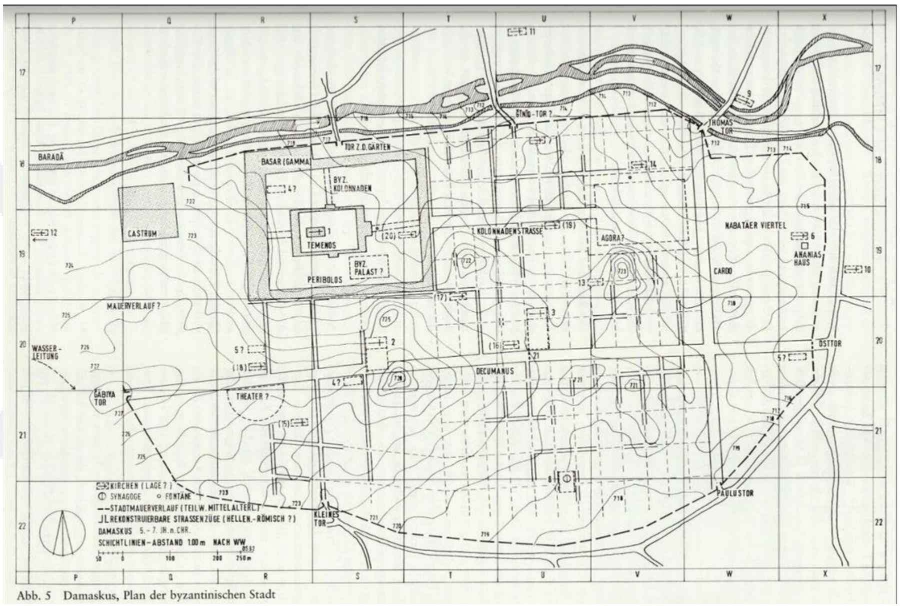


Figure 10. Reconstruction plan of the Byzantine city and church of St. John. Adapted from *Damaskus: Entwicklung und Struktur einer orientalisch-islamischen Stadt,* by D. Sack, 1989, Mainz, Germany: Verlag Philipp von Zabern

Extensive studies on the historiographical development of the city and the mosque done by Burns (2005) suggested that the city centre of Damascus which associated with the Cult of Saints was flourished under the Byzantine era. He added that the building aggregates surrounding the Great Mosque were built as early as the Byzantine period but were transformed for different uses during the Islamic era. Burns (2005) indicated that the palace built by the Byzantine governor in 495 AD which located at the south side of the mosque (Burns, 2005) was later used by Umayyads starting from 7th century and known as Al-Khadra Palace (Flood, 2001). This was further explained by a reconstruction plan done by Sauvaget, Mouterde, and Mouterde (1934) which showed the modifications of the street networks and their gradual transformation from linear to organic structure starting from the early Byzantine phases (*Figure 11*).

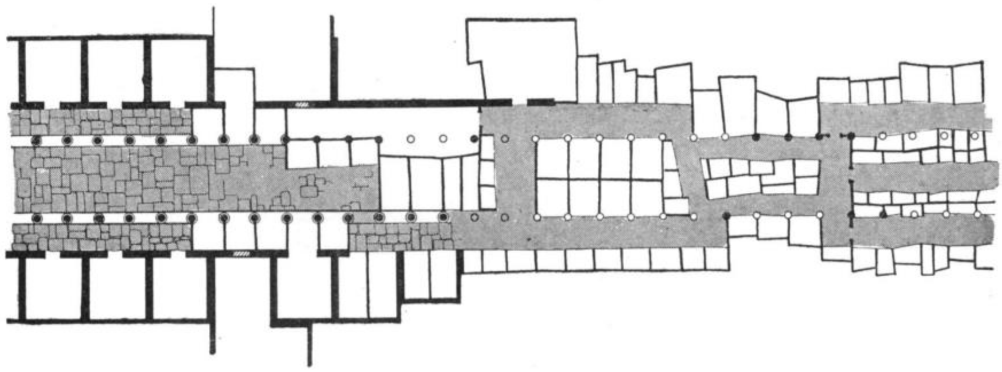


Figure 11. Gradual transformations of the Roman city plan. Adapted from “Le Plan De Laodicée-Sur-Mer,” by J. Sauvagt, R.P.R. Mouterde, and R. P. B. Mouterde, 1934, *Bulletin d'études orientales, 4*, p. 100. Retrieved from https://www.jstor.org/stable/41603141

The urban morphological analysis done by Neglia (2012) examined the medieval blocks surrounding the Mosque and had supported the existence of a *peribolos* enclosure. Moreover, a survey conducted by Uqayli (2008) on the Mosque and the surroundings remains revealed other physical evidence of the remaining structure of the *peribolos*. *Figure 12* shows the remaining columns and walls which indicated by Uqayli (2008, p. 28). Uqayli added that the Church of Saint John was built in the western side of the prayer hall alongside the southern wall up to the current space of the transept (2008, p. 46). He claimed that the area was more complying with the historical texts written by early Arab historian Ibn Asaker lived between 1105-

1175 AD stated, based on series of transitional system known as *Isnad*, that the church was entirely demolished by Al-Walid to be replaced with the construction of the Great Mosque as stated by Yehya bin Zakariyya (IBN ASAKER, II, pp. 249-256).

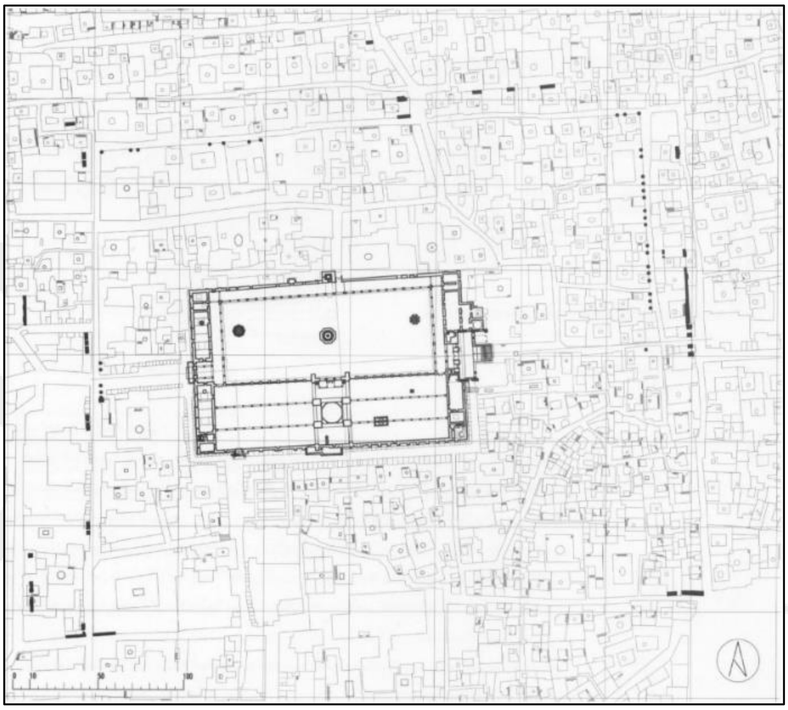


Figure 12. Remaining columns of the *peribolos* enclosure. Adapted from *Al- Jami Al-Umawi fi Dimashq* [The Umayyad Mosque in Damascus] (p. 28), by T. Uqayli, 2008, Damascus, Syria: Barnamaj Taḥdith Al-Idarah Al-Baladiyah.

Further endeavours by Alsayyad (1991) aimed to identify the early "Arab-Muslim" city. He argued that during the early arrival of Umayyads to the city, they did not bring major physical changes. He added that the architecture of the early conquered cities was subject to few physical developments on the general urban form as observed in the persistence of the major towns' urban characters. This process was best described by Flood (2001) as an inter-cultural translation determined by various factors such as the need to communicate with the wider non-Muslim audience, the nature of available raw materials, and the political aspirations of Umayyad caliphates taken from the Byzantine Emperors (Flood, 2001).

Recent book written by George (2021) represented the formation process of the Mosque through a comprehensive examination of early sources and physical evidence. His study focused on the development of the Umayyad Mosque by reviewing epigraphical sources and early Islamic poems during the time in which the Mosque was constructed. George suggested that the Great Mosque was built by demolishing the space of the church. His study included physical sources referring to the style of the early mosques by reviewing Umayyad Quran related to early 8^{th} century discovered in Sanaa. This Quran contained a “schematic renditions of a mosque and sacred architecture as imagined by Umayyad patrons in the first half of the 8^{th} century” (pp. 21-22). He also analysed archived records from *Aphrodito Papyri* of Middle-Egypt dating to the very early years of the Mosque’s construction and found that these papyri indicated the exchange of builders between Damascus and Egypt in addition to the cost of the construction.

2.2 Historical Context of the Region, the City, and the ancient Enclosure

Since the objective of this study is to reconstruct the transformation process of the Great Mosque of Damascus from Roman to Umayyad, I will focus particularily on these specific periods. *Figure 13* displays the explored chronology of the region, the city and their effects on the enclsoure of the Great Mosque. This has been made to understand the formation process and to reinterpret the transitional phase laid in between the major transformations. It is noted that previous studies focused on specific transitions related to the temple, the church and the mosque, however, this research will shed the light on the inter-trasitional periods preceded or followed these major transformations.

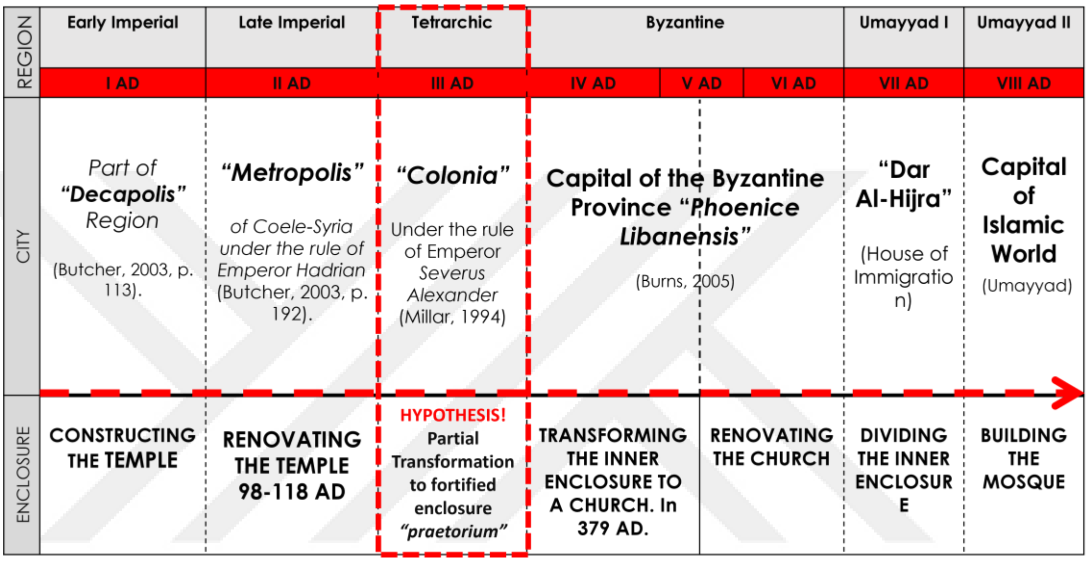


Figure 13. Chronological study of the region, city, and ancient enclosure.

For instance, previous studies mentioned that the temple was converted to a church in 4th century as derived from the textual sources, but this research will focus on the phases that preceded the building of the church (3rd century). This phase was important because it witnessed a stratigical transformations on a large scale of the Roman buildings in the Syrian region during the era known by the Tetrarchic period.

In each of the phases I discuss below, set of maps is examined to understand the limits of the Empire in relation to the context of Damascus city and the hypothetical physical change that happened on the ancient enclosure of the mosque and its surrounding urban tissues. The timeline showed in *Figure 13* displays the most important events occurred in each era as cited from the extended readings, respectively from the 1^{st} to the 8^{th} century AD. This timeline summarizes the major events as follows: (1) The construction of the Roman temple in 1^{st} century AD during early establishments of the Roman Empire in the region; (2) The expansion of the temple to include several elements during the imperial Roman phase in which the region witnessed intensive urban expansions during 2^{nd} century AD; (3) The adoption of Christianity by the East Roman Empire during the 4^{th} century AD where the area of the temple was converted to a church and major infrastructure were built inside the old city; (4) The arrival of Arab Muslim to the region where the city was recognised as Dar Al-Hijra [House of the immigration] and the inner enclosure was divided between Muslims and Christians during 7^{th} century AD, and finally; (5) The increase of Muslims population inside the city resulting from immigrants arrivals and the adoption of Islamic religion in the region. Subsequently, this led to complete the transformation process of the church to a mosque in early 8^{th} century AD.

Therefore, it is clear from the timeline diagram that there are some inter-transitional phases which are significant in relation to the architectural development of the Great Mosque due to the nature of their importance in relation to history of the region.

The late 3^{rd} century AD is the first inter-transitional period in which strong strategies were imposed to empower the military structures of the East Roman region. The year of 289 AD marked the incident of building arm factories in Damascus as stated by the 5^{th} century Byzantine chronicler John Malalas (MALALAS, XII, cccviii, p. 168). This incident was followed by major constructions of military infrastructures such as fortified enclosures and major military roads. These infrastructural buildings were established close to the city of Damascus and shared geographical importance with it since they were located at the *Strata Diocletiana* built by Emperor Diocletian during the same period. Thus, this phase clearly demonstrated major changes on the strategies of the Roman Empire especially in the Syrian province.

The 5th century period, which followed the transformation of the temple to a church as stated by the historical sources, was the second inter-transitional phase observed from the timeline. This phase also was prior to the transformation of the church to a mosque. During this phase, military buildings built in the 3rd century were further developed and many churches were erected or enlarged during the same phase.

2.2.1 Early Urban Foundations of Damascus City

In the first half of the first millennium BC, Damascus was the capital of a kingdom known as Aram-Damascus which was part of the Aramean states as seen in many references in the Hebrew bible (Pitard, 1987). Pitard added that Damascus became an Aramean state by the end of 11th century and the exact boundaries of Damascus were hard to track through excavations as it was politically insignificant. Aharoni (as cited in Pitard, 1987) argued that Damascus at that time did not seem to play a major role, however, it gained an increase in political and financial powers primarily when it was one of the hubs of several trade routes leading north-south from Arabia to northern Syria, as well as east-west from Mediterranean coast in the direction of Phoenicia and on to Mesopotamia. As a result, we note that the nature of Damascus' geographical location was more important when other kingdoms such as Judea, Assyria, and Mesopotamia were found, and the need for interconnections was increased by the establishments of crossed routes. During most of the time from the beginning of 9^{th} century until 6^{th} century BC, Aram (which Damascus was its capital) was a dominant military power in the southern confront along with other competing kingdoms surrounding the borders of the Aramean states (Pitard, 1987).

The site of Umayyad Mosque was believed as a site of a temple dedicated to *Hadad-Ramman* and considered the oldest evidence in the old city dating to the Aramean period. Archaeological evidence did not reveal much neither on the form of the temple nor on the exact location of the early settlements. Theoretical plan in *Figure 14* shows the Aramean city seen in the early sketches of Sauvaget (1932). The plan illustrates the location of the Aramean settlement which was located at the western part of the city, stretching towards north and south sides to include both gates of *Al-Jabiye* and *Al-Faradis*. This plan also includes a schematic layout of the temple of *Hadad-Ramman* which divided the two settlements in the city; the west belonged to the Aramean, while the east belonged to the Hellenistic. In addition, the plan includes the aqueduct constructed within the early settlements inside the old city parallel to Barada River (*Chrysorrhoas*).

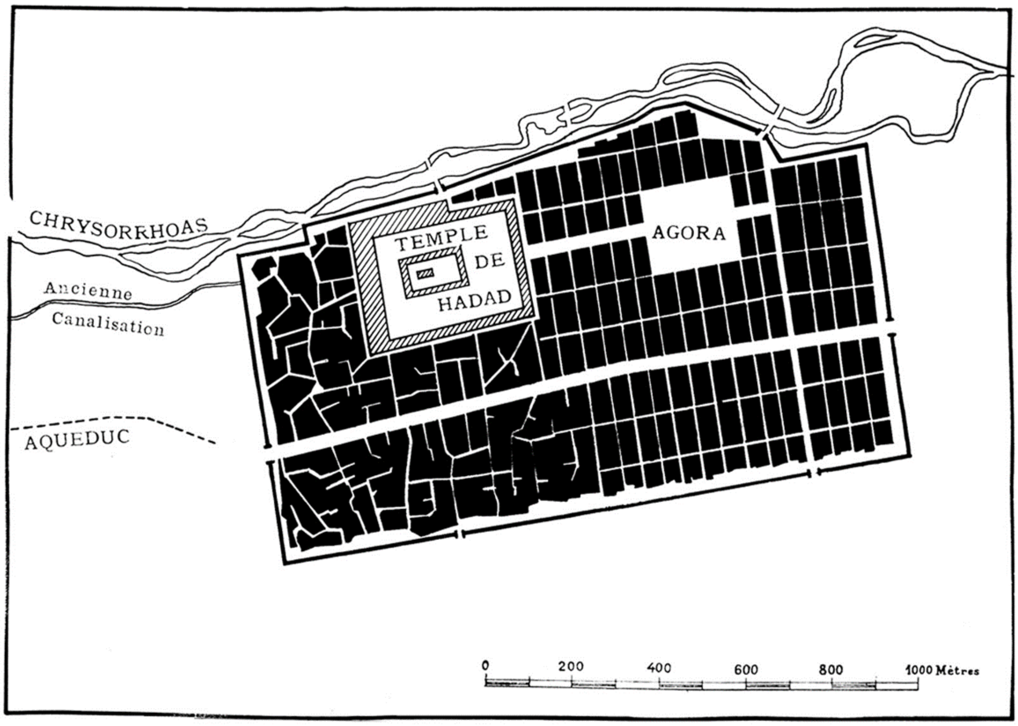


Figure 14. Early form of the Double-City (Aramean and Hellenistic). Adapted from *Esquisse d'une histoire de la ville de Damas,* by J. Sauvaget, 1935, Paris, France: P. Geuthner.

Other physical evidence of the Aramean period was also seen in a basalt sculpture currently exhibited in Damascus National Museum; it is measured around (70 to 80 cm) and around (31 to 51 cm) in depth. The sculpture was found at the northern wall of Umayyad Mosque between its stone ashlars, constitutes of a statue in a form of winged animal with a head of a man draped in an Egyptian-style headdress (Burns, 2015, pp. 16-22; Abd El-Kader, as cited in Uqayli, 2008). *Figure 15* shows the basalt with its placements on the enclosure.

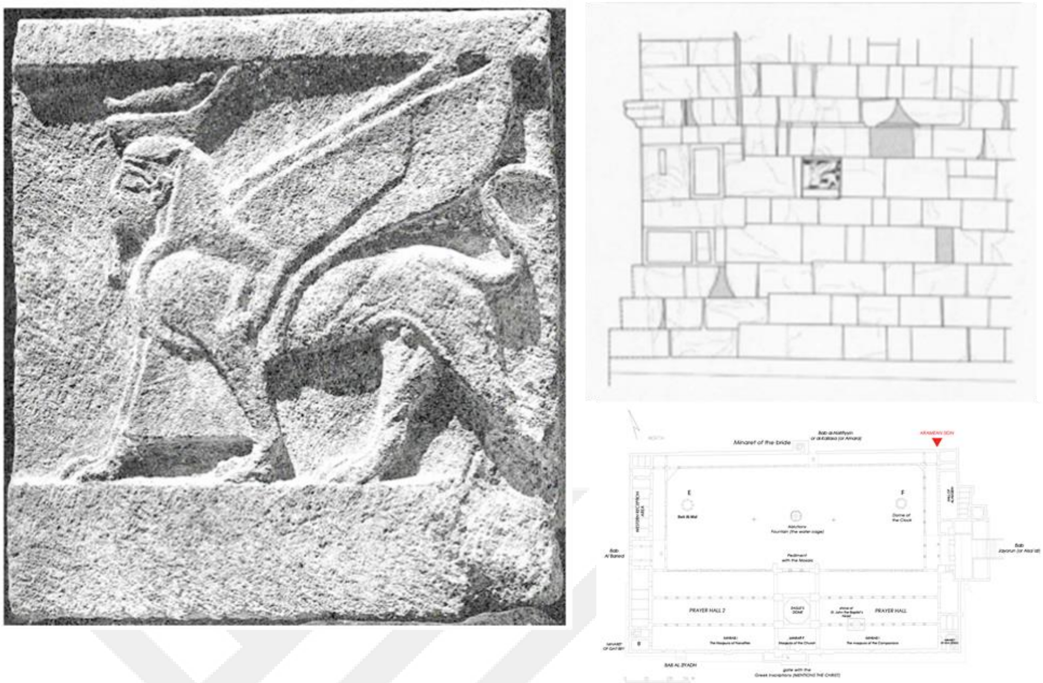


Figure 15. Basalt sculpture dates to Aramean era. Adapted from *Al- Jami Al-Umawi fi Dimashq* [The Umayyad Mosque in Damascus] (p. 22), by T. Uqayli, 2008, Damascus: Barnamaj Taḥdith al-Idarah al-Baladiyah.

2.2.2 The Hellenistic Kingdom (3rd Century BC – 1st Century BC)

In 3rd century BC, Syria was one of the outlying territories of the Ptolemaic realm along with Phoenicia, Cyprus, and Cyrenaica (The eastern coast of present-day Libya) (Burns, 2005). The town of Damascus at that time played a significant military role since it was located on the northern border facing the Hellenistic Kingdoms. Damascus was later ceded to the Seleucid *Antiochus II Theos* after the peace treaty signed in 253 BC after the second Syrian war (Burns, 2005). Following this incident, Damascus remained in the hands of the Seleucids until the *Ptolemy III Euergetes* retook it during the third Syrian war (c. 245 – 241 BC) and later it remained under the Ptolemies until the end of 3rd century. Burns added that the urban city of Damascus was neglected during Ptolemaic era with more importance given to the Pharaonic past and focused on the cities in the Egyptian region. Therefore, during this era, Damascus probably remained as a Semitic city administrated by outsiders rather than on common Greek ideals and a transplanted Greek population. As mentioned earlier, there were no evidence mentioned by historical sources neither on the city's urban institutions during this era nor the prominent establishments given to the city during the Ptolemaic phases.

Burns (2005) argued that by the end of 3rd century BC *Antiochus III* the Great determined to retake the Syrian lands by allying himself with Phillip V of Macedon for depriving Egypt (Ptolemies). After succeeding, *Antiochus III* had installed the Seleucid rule in all the Syrian coast. The arrival of Alexander the Great marked the beginning of the Greek influence on the old city of Damascus as well as the region. The sophisticated historical struggles between the Seleucid and Ptolemaic empires made the scene more complex for the secured settling due to the frequent conflicts. The city was refurbished again under *Demetrius III Philopatry* (r. 95 - 88 BC) who rebuilt the city according to the Greek system, renamed it as "*Demetrius*", and added the Greek features in the city centre including the construction of a Greek temple dedicated to Zeus (Burns, 2005). Sauvaget (1932) believed that this era represented the peak of the Greek presence in all the Syrian region which was strongly seen in the urban form of the major towns as *Figure 7* showed the Hellenistic urban plan of Damascus city as reconstructed by Sauvaget.

2.2.3 The Roman Empire (64 BC – 391 AD)

The early presence of Roman Empire dated to 64 BC by the invasion of the western coast of Syria by the Roman General, Pompey (*Gnaeus Pompeius Magnus*) (r. 106 – 48 BC). The Roman control lasted for three main successive periods in the Syrian region: the early establishment lasted from 1st to 2nd century AD, the expansionist imperial Roman period lasted from 2nd to 3rd century AD, and then the Tetrarchic period which lasted from 3rd until the 4th century AD. This was followed by the Byzantine states during late antiquity from 4th to 7th century AD. During these periods, the Roman Empire witnessed many conflicts which caused instability; it entered into continuous wars against the Parthians and the Sasanians in the eastern frontier (Isaac, 1990), and later against Arab tribes spread on the southern outskirts of the empire which eventually led to its shrink and fall.

2.2.3.1 Early Roman Period from Emperor Augustus (r. 27 BC – 14 AD) to Emperor Trajan (r. 98 – 117 AD)

The eastern region was newly dominated by the forces of the East Roman and the struggle began by defending the newly conquered territories. Syria became a Roman imperial province under Emperor *Augustus* (r. 27 BC – 14 AD) where governers chosen by the emperor himself. *Figure 16* shows the limits of the Roman territory during this era. Major Roman forces were stationed in north of Syria with no presence of military power in the south (Butcher, 2003, p. 39). During this stage, Romans continuously fought against the Armenian, Judean, and Parthian armies.

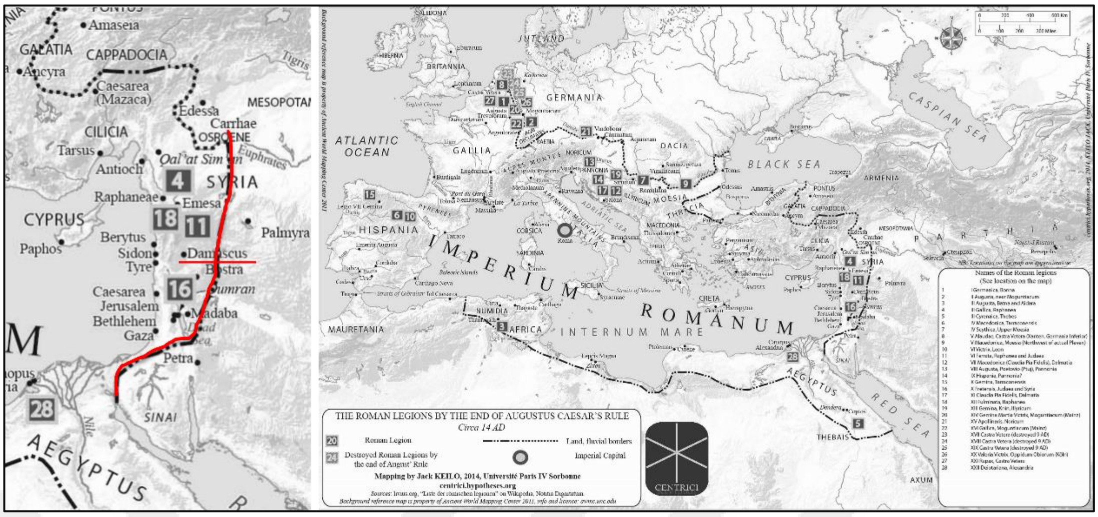


Figure 16. Limits of the Roman Empire during 1st century AD. Adapted from *Mapping Roman legions: how "limits" tell about the centre*, by J. Keilo, 2014, Retrieved from https://centrici.hypotheses.org/572

Archaeological excavations provided glimpse of the Roman influence over this region mainly from 1st century onwards. Military structures constructed in major cities where adequate infrastructures for supplies existed. In addition, major roads were paved to improve the military communication and supplies of the Roman army (Butcher, 2003, p. 43). These roads assisted the military empowerement in the region and brought stabilization to the major cities. For instance a military road constructed in 75 AD by Emperor Vespasian across the Syrian steppe between Palmyra and Sura on the Euphrates was an evidence of the great imprvovement of the Roman military acitivity in the region. The influence of the Roman rule reached to various parts of the region including Damascus which was under Nabatean control for most of the 1st century AD before it became under the rule of the Romans in 63 AD.

The city of Damascus during that time was among the ten major cities of *Decapolis* when it was seized by the Romans. The term of *Decapolis* was given to cities[1] which had high influence of Hellenized features over the urbanized areas. The dominence of the city by the Romans brought major physical transformations in respect of establishing major buildings and monuments with Roman style. Hence, it is worthnoting that most of the noticable landmark during this period was the reconstruction of the Greek temple by converting it to temple of Jupiter.

2.2.3.2 The Imperialist Roman era from Emperor Trajan (r. 98 – 117 AD) to Emperor Diocletian (r. 284 – 286 AD)

Roman traditions prevailed across the Syrian region from 2nd century onwards; the Syrian region adopted Roman culture, politics and religion in major cities and towns. The limits of the Roman territory during this era continued to be close to Damascus city from the eastern steppe. Regional archiectural styles replaced by Roman traditions with more homogeneous imperial forms began to appear across the region. As a result, cities started to form in a 'Graeco-Roman' style declining the former structures and several facitilies soon began to locate in the urban fabrics of major towns including public squares, fountains, amphitheatres, hippodromes, and colonnaded streets. In addition, portraits of Roman Emperors became commonly used on local civic coingages in Syria and were struck in major Syrian towns.

During the early phases of the imperial Roman era, Damascus was extensively flourished for three successive centuries. In about 125 AD, the Roman emperor Hadrian (r. 117- 138 AD) promoted the city of Damascus to "*Metropolis of Coele-Syria*" seen on a coin found in Damascus (Kiwan, 2010). The use of *metropolis* as a

[1] The cities of the Decapolis region: Damascus, Canatha (Qanawat), Scythopolis (th Shean), Pella (Tabaqat el Fahil), Gadara (Umm Qais), Hippus (Qalaat el-Husn), Dium (Tell Ashari), Philadelphia (Amman), Gerasa (Jerash), and Raphana (Butcher, 2003, p. 113).

title revealed the pre-eminent importance which the city of Damascus had possessed during this era (Butcher, 2003, p. 192). As a result, Damascus was an important destination given its geographical position for trade routes and its religious value hosted by temple of Jupiter. Furthermore, the Romans aimed to establish imperial structures to leave architectural imprints of their presence on parts of the city. We can notice this approach of urbanizing the city through the observation of the still-preserved historical monuments displayed in the old city, some of which are still present in the surroundings of the Umayyad Mosque and other parts such as: *Bab Sharqi* area, the Straight Street of "*Decumanus Maximus*", as well as several other civil elements preserved on the ancient urban fabrics represented by previous studies as mentioned in previous chapter.

In the light of the major construction works began during this phase, the surrounding monuments still preserved around the enclosure represented a clear evidence of this era. The western *propylaeum* opposite to the western gate of the Great Mosque which belonged to the temple of Jupiter was built under Emperor Septimius Severus (r. 193 – 211 AD) including the construction of the eastern *propylaeum* mentioned in early sources where only fragments of this monument were seen from the survey plan done by Pococke (1704-1765 AD) and archaeological excavations made during 1961-62 (George, 2021). These two structures were seen as parts of the enlargement phases of the Imperial Roman era by building several structures around the temple, altering the plan of the *peribolos* by adding the space of the *gamma*, and constructing various other functions in the surrounding urban tissues including the enhancements of the eastern columnated road leading to the *Agora*.

2.2.3.3 *The Roman Empire during Tetrarchic period from Emperor Diocletian (r. 284 -286 AD) to Emperor Theodosius I (r. 379 – 395 AD)*

During the early period of the 3rd century, the Roman presence expanded rapidly across the Syrian region. The Roman army reached to Armenia and northern Mesopotamia gaining the upper hand on the region. By late of 3rd century, two incidents occurred which seemed to affect the general strategy of the East Roman Empire: 1) Alexander divided the province of Syria into two regions; one known as Syria-Coele located in the north, and the other part known as Syria- Phoenicia located in the south. This aimed to reduce the power of the governor and to forbid the potential military revolts against him. 2) Military attacks of Palmyrene Empire on the Roman province of Arabia (south of Damascus) in the year of 270 AD at the time of Aurelian's accession (r. 270 – 275 AD) (Butcher, 2003). After these two incidents, the Empire started to lose control over the area and new strategy was needed to regain the power.

The arrival of Emperor Diocletian (r. 284 – 305 AD) marked the recovering of the Roman power in the region by ordering wide-ranging changes on the administrative and military organizations. This possibly led to a shift in the urban fabrics of the old city of Damascus. According to Butcher (2003) number of imperial capitals increased with the city of Rome lost its importance as the centre of power since Emperors started to move around and took up residence in different provinces (Butcher, 2003, p. 61). The Roman military presence during Emperor Diocletian until the 5th century was expanded to include different remote areas of Syrian towns. In addition, regional routes with fortified enclosures were constructed along the northern east and southern outskirts of the empire aiming to improve military communications between soldiers and provide security for traders.

Moreover, during the early decades of 3rd century, the city of Damascus acquired the title of *Colonia* in the early rule of Emperor *Severus Alexander* (r. 222-235 AD) (Millar, 1994). Millar suggested, based on textual sources, that major cities were further empowered by building military infrastructures and army headquarters and improving the city walls of major cities especially during the reign of Emperor Diocletian. It was emphasized by Burns (2003) that previous studies did not specify the nature of the Roman military presence in Damascus, however, the 6th century Byzantine Chronicler Malalas gave a glimpse of the military organization built in the city of Damascus during this era by stating

"He [Diocletian, year of 289] built three arms factories for the manufacture of weapons for the army, and he built arms factories in Edessa too to supply weapons for local use. Equally he built arms factories at Damascus, bearing in mind (308) the incursions of the Saracens" (MALALAS, XII, cccviii, p. 168).

Millar (1994) added that during the end of 3rd century onwards, strong military operations against Saracens were led by the *limes Orientis* and *Arabicus* took place at the steppe south of Damascus. Major fortified enclosures (Burns, 2003) preserved close to the borders between Syria and Jordan investigated by Arce (2015) revealed that they dated to the same era but were later developed by Umayyads as garrison palaces. *Figure 17* displays the limits of the Roman Empire during this era.

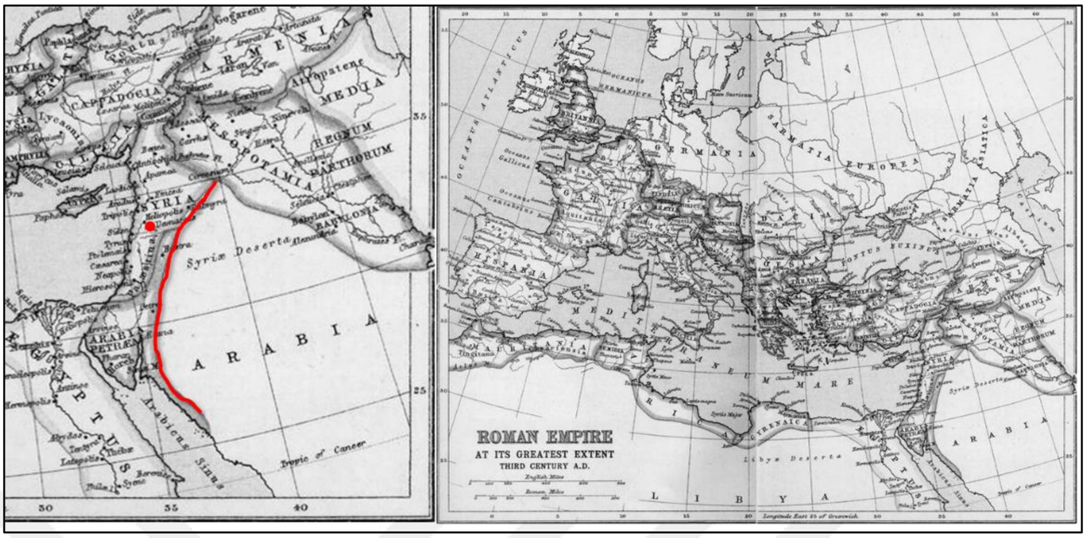


Figure 17. Limits of the Roman Empire during 3rd century AD. Adapted from *Atlas of ancient and classical geography*, (pp. 16-17), by S. Butler, 1925, London, England: Dent & Sons. Retrieved from https://bit.ly/3qXnHxa

2.2.4 The Byzantine Empire (391-636 AD)

The first decade of 4th century marked the beginning of the Byzantine era across the eastern Roman Empire. During this period, Emperor Constantine (r. 306 – 337 AD) adopted Christianity as the religion of the Roman states (Burns, 2005, p. 86). Both chroniclers *Malalas* and *Paschale* indicated the conversion from the temple to a Church by Theodosius the Great in the year of 379 AD.

Furthermore, the narration of the conversion by both chroniclers was mysteriously stated by referring to the conversion by the word “**made**”. As Malalas stated:

The emperor Theodosius razed all the shrines of the Hellenes to the ground. He also **destroyed** the large and famous temple of *Helioupolis*, known as Trilithon, and made it a church for the Christians. **Likewise**, he **made** the temple of Damascus a Christian church. He **made** (345) many other temples into churches and Christianity advanced further during his reign. (MALALAS, XIII, xxxvii, 37, p. 187).

Similarly, *Paschale* referred to the same conversion by indicating that:

The celebrated Constantine, while he was emperor, only closed the temples and shrines of the Hellenes; this Theodosius also destroyed them, including the temple of Balanius at Heliopolis, the great and renowned Trilithon, and **made** it a Christian church. Likewise too he **made** the temple at Damascus a Christian church. And Christian affairs were further exalted in the course of his reign. (PASCHALE, p. 50).

From this date onwards, the Roman traditions soon started to be replaced by the new religious orders adopted by Emperors of the Eastern Rome. As an expected result, many churches were to be erected with many military installations were further to be developed and used by Byzantine armies across the whole region.

Burns (2005, p. 86) suggested that "Damascus was major centre headed by bishop ranked immediately below the Patriarch in Antioch and the Bishop of Damascus attended the Council of Nicaea in 325 AD". He added that Damascus was also the capital of *Phoenice Libanensis* province during 495 AD. Furthermore, the area around the Church of St. John in Damascus constituted the place of the temple was associated with the cult of saints and enlarged by building many monuments around the ancient enclosure. We observe that the remaining arcades with arches located at the western side of the mosque were possibly dedicated to this era. In addition, and as discussed earlier, the southern and northern arcades were other physical evidence dedicated to this era by enlarging the enclosure and changing the urban structures.

By the end of 5th and early 6th centuries AD, the Byzantine rule in the Syrian region began to decline due to internal problems (Millar, 1994). During 6th century AD, the internal issues of the Empire left unsolved especially in the northern Syrian region, while the south was flourished with number of churches and civil buildings constructed by Ghassanids who adopted Christianity. *Figure 18* shows the limits of the Byzantine Empire during this era.

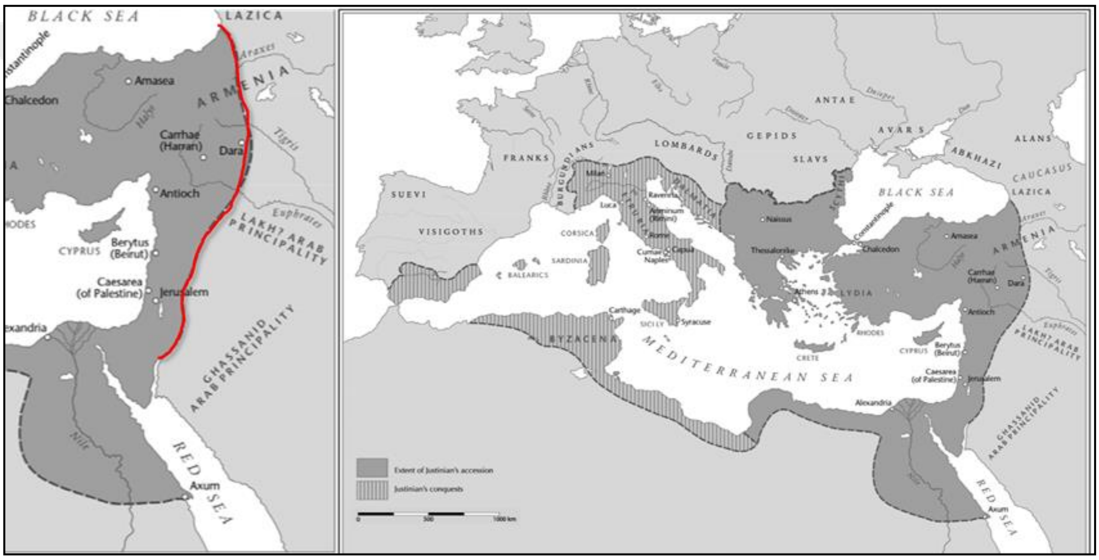


Figure 18. Limits of early Byzantine era, in the year of 550 AD. Adapted from *Eastern Medieval Architecture: The Building Traditions of Byzantium and Neighbouring Lands* (pp. 102-103), by R. Ousterhout, 2019, Oxford, England: Oxford University Press.

2.2.5 The Early Umayyad Caliphate (644 - 705 AD)

In the middle decades of 7th century AD, the Arabian conquerors under Caliph Umar Ibn-Al-Khattab and his Umayyad successors replaced the Roman Empire in the southern and eastern Mediterranean and the Sasanian Empire in the eastern limits of Syria (Marsham, 2020). Whitcomb (2016) suggested that the early Arabian conquerors – in the 7th century– are more accurately described as 'the Believers Movement' (*Al-Mu'mineen*) that preceded the Umayyad dynasty. When the first member of the Umayyad dynasty took power in 644 AD, garrison towns were established in different rural cities and members of the Umayyad tribe presided over an expanding empire for around 100 years (from 644 to 750 AD) controlling most of the region in the Mediterranean and the Arabian Peninsula (Marsham, 2020). The accession of Muawiya ibn Abi-Sufyan (r. 661–680 AD) at Jerusalem marked the beginning of Umayyad history which ended by the defeat of the Umayyad dynasty on the hands of their relatives and rivals, the Abbasids in 750 AD. *Figure 19* shows the early limits of the Umayyad phase during 7th century AD.

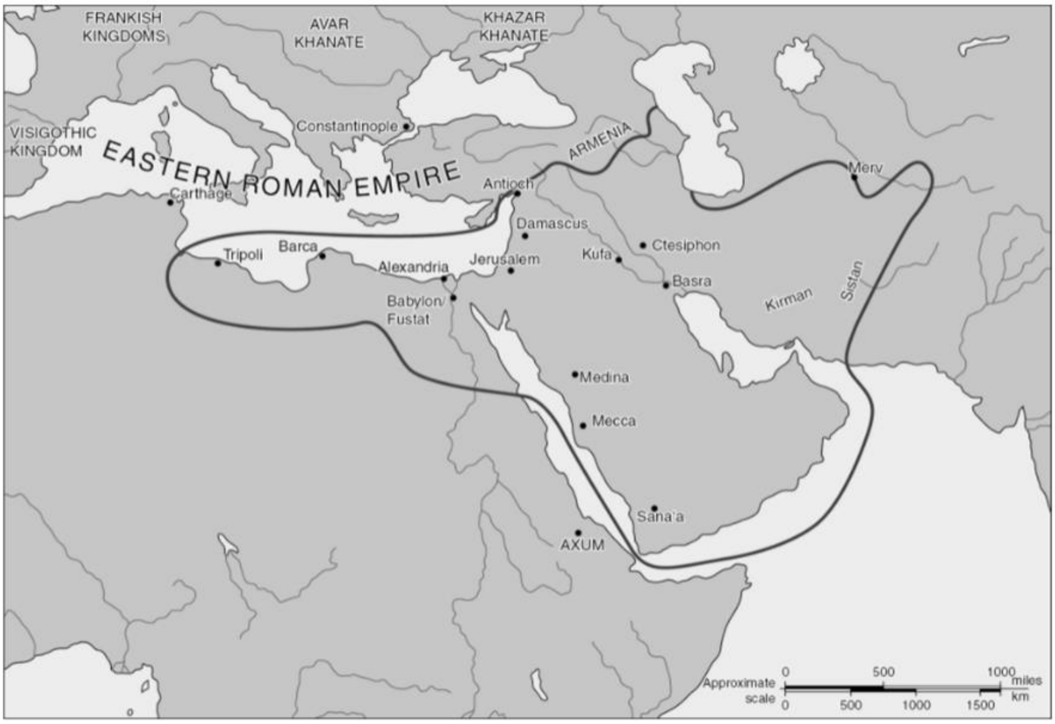


Figure 19. Limits of early Umayyad phase, in the year of 650 AD. Adapted from *The Umayyad World* (p. 6), by A. Marsham, 2020, London, England: Routledge.

The takeover of the city of Damascus by early Arab Muslims was narrated by the 9th century Abbasid historian, Al-Baladhuri who lived between 820-892 AD (AL-BALADHURI, II, pp. 165-166). The story indicates that the Muslim armies surrounded the city for 14 days by settling temporarily around the city at "*Al-Ghouta*". The forces were then divided into several groups with each group entered the city under different commander. It was stated that "the army which was commanded under Khalid ibn Al-Walid which was resided in the "*Al-Bab Al-Sharqi"* [The eastern gate] had entered the city by an agreement to enter peacefully without causing any destructions. He added that the other group under commander Abu Ubaidah ibn Al-Jarrah struggled to enter from "*Bab Al-Jabiye*" [Al-Jabiye Gate] as they confronted with the Roman army.

This story was contradicted by Al-Tabari who lived during the same century (839 – 923 AD) (AL-TABARI, p. 368). He mentioned that the Muslim armies captured the city of Damascus in the year of 13 Hijri (634 AD) and the army which commanded by Khalid ibn Al-Walid had entered by force and only then an agreement was signed between the citizens of the city and the Muslim armies.

My aim from the demonstrations of these two contradicted stories is to outline the level of complexity of the early building of the Umayyad Mosque constrcuted in the city as will be further explained in the coming chapters. The early Mosque in Damascus was mentioned by several sources to be located at the eastern part of the inner enclosure *temenos* facing the former Church of St. John. This was because of the agreement signed between the Muslim armies -supposedly the army entered from the west- and Christian population who resided in the city who surrendered and signed peace agreement after the long siege.

The division of the inner enclosure which took place during early Umayyad period was indicated by 7th century Frankish Bishop, Arculf, who toured the Levant during the year of 670 AD. During his visit to Damascus city, he recorded two major buildings inside the enclosure by mentioning:

"…The king of the Saracens has seized the government, and reigns in that city, and a large church has been built there in honour of St. John Baptist. There has also been built, in that same city, a church of unbelieving Saracens which they frequent". (ARCULF, p. 47).

Following the takeover of Damascus city and the division of the enclosure, Caliph Umar, appointed Yazid ibn Abi-Sufiyan to govern the newly captured city (Alsayyad, 1991). During this historical event, Damascus became as *Dar al-Hijra* [house of immigration] and Arabs from all over the peninsula started to immigrate to the city. Later, when Muawiya I (r. 661 – 680) became the Umayyad governor in Damascus, he shifted the capital from Medina to Damascus in 661 AD.

The earliest presence of the Muslim settlement within the city was probably located at the area near the eastern side of the ancient enclosure, bearing in mind that the eastern door of Umayyad Mosque with its limits was reserved to the Muslim prayers when the enclosure was divided between Muslims and Christians (Shboul, 1994, p. 93). Indeed, the whole area was considered as a centre of the city which included the nearby principal street (*via recta*) and occupied by administrative facilities, markets, palaces, and public buildings constructed since early phases. Shboul (1994) argued that early Umayyad presence at this area and the construction of the Mosque in the ancient enclosure was seen as a clear indication of the spread of political control rather than the desire of building large scale settlements. Moreover, several vacant houses belonged to the former Byzantine ruling elite were available to Umayyads in this part of the city with clusters of vacant properties formed the basis of the first Islamic Arab housing within the old city (Shboul, 1994, p. 93). This was seen in the archaeological remains discovered on parts of the surrounding urban tissues which indicated the transformation of many Byzantine facilities known as "*Balat"* (Whitcomb, 2007).

The takeover of the former Byzantine palace at the southern east area of the early Mosque was also seen as an indication of the minimum spatial interventions implemented by early Umayyads on the urban fabrics of the Byzantine city by keeping the original functions and the form of some structures (Shboul, 1994).

2.2.6 Late Umayyad Phase (705 – 750 AD)

During late 7th to early 8th centuries, Umayyads seemed to advance in the region by capturing more cities and establishing visual imprints across the region. *Figure 20* displays a map of late Umayyad phase and their extended limits. Flood (2001) argued that the Muslim possessed a visual culture through building monumental religious architecture during late 7th century AD. This was revealed by archaeological excavations of early constructed Mosques at Basra and Kufa dating to 665 – 670 AD which were built during the era of the fifth Umayyad Caliph, Abdul-Malik ibn Marwan (r. 685- 705 AD). These monuments suggested an increasing tendency of Umayyad's approach in developing major cities across the region.

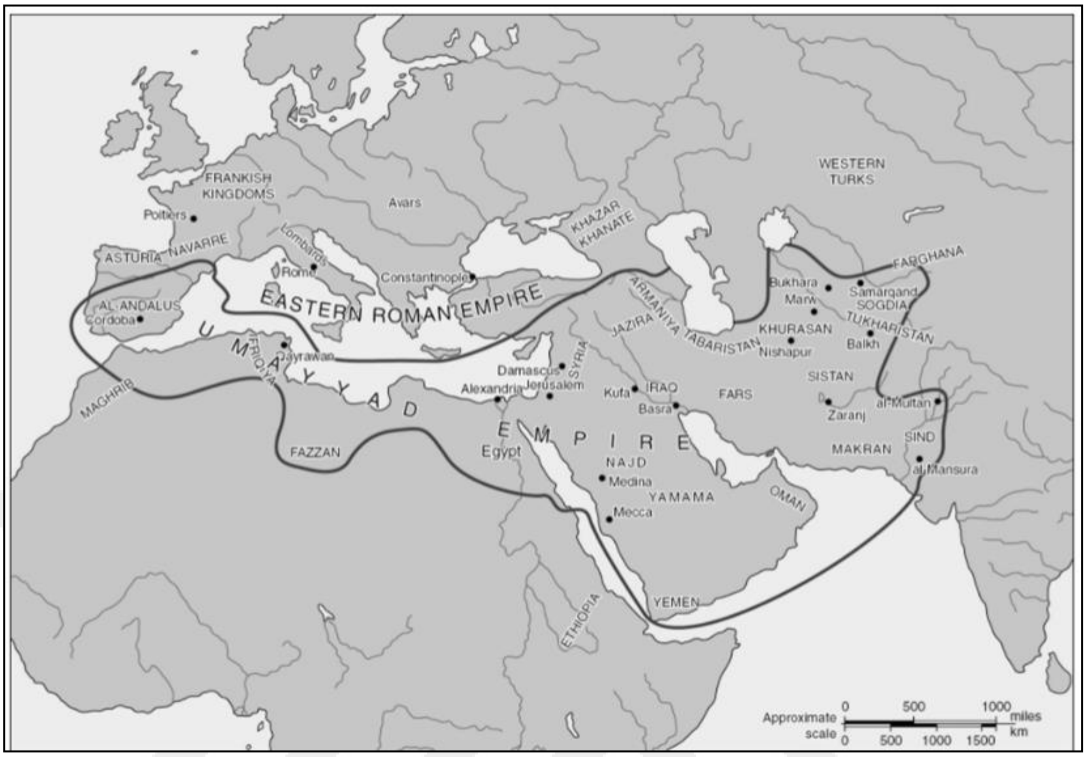


Figure 20. Limits of late-Umayyad phase, in the year of 740 AD. Adapted from *The Umayyad World* (p. 7), A. Marsham, 2020, London, England: Routledge.

This period was also followed by the arrival of the sixth Umayyad Caliph Al-Walid I (r. 705–715 AD) to the power. Al-Walid’s orders to construct buildings in major cities across the region placed him as a famous figure for his interest and genuine approach -inspired by his father- towards establishing a visual identity through constructing various monuments in the region (Flood, 2001). Records of most famous imperial-religious monuments were dated to be built by Al-Walid including the Dome of the Rock and the Aqsa Mosque in Jerusalem (c. 705 AD), the Umayyad Mosque of Damascus (705 AD) and the refurbishment of Prophet’s Mosque in Medina (c. 707 AD) (Marsham, 2020, p. 363).

Evidence of the Umayyads' approach towards the development of the urban structures and architectural alterations on buildings in Damascus started by making the city as a new Islamic capital by early 8th century. This phase brought major changes on the urban and Architectural scales in the old city of Damascus including major transformations of churches, enlargement of Byzantine palaces, and rebuilding of many facilities inside the old city.

2.3 Brief Study on Late Historical Phases (705 - 19th Century AD)

After the fall of Umayyads, the city was neglected due to the movement of the capital from Damascus to Baghdad. New nation-wide strategies of the Abbasid dynasty were widely imposed over a large territory. As a result, the importance of Damascus city and the Umayyad monumentality began to decline; number of major natural disasters and fires affected the Great Mosque and its surroundings. Nevertheless, despite the several damages occurred, the Mosque resisted the major fires and earthquakes through restoration operations done on its original form and general interior arrangements. Table 2 briefly displays the recorded incidents which affected parts of the Mosque as discussed in George's (2021) study.

The first recorded damage in history happened three decades after the completion of the Mosque; it was during the year of 749 when an earthquake split the roof of the prayer hall (Al-Suyuti, as cited in George, 2021). A century later, in 847, a second earthquake destroyed the masonry of the Roman enclosure wall (the *temenos*), part of the minaret, and some marlons and cracks in the arches of the central dome. During 10th century, Al-Maqdisi (as cited in George, 2021) also mentioned that restoration process executed on some parts of the Mosque prior to the fire of 847 which affected parts of the southern wall.

Among various other incidents, two of them were clearly recorded and known for their devastating effects on the ancient enclosure:

1. Fire of **1069** AD which widely destroyed the area south of the Mosque.
2. Fire of **1893** AD which followed by immersive modern restorations by the Ottoman authorities.

The fire of 1069 caused severe damage to the parts of the Mosque from the southern part; ceilings were collapsed, gilded stones on the walls were scattered to the ground, and the mosaics on the floor walls were also pulled down. The story was narrated by the 11th century historian Ibn Al-Athir who lived between 1160 – 1233 AD as cited in George (2021, p. 25) stated that the fire was triggered by a war in the city, started from the Umayyad mansion of Dar Al-Khadra reaching to the southern part of the prayer hall. As a result, the landmarks and beauties of the Umayyad Mosque were drastically changed.

The second devastating fire occurred in the year of 1893; this fire was mentioned by an Arab Historian, Jamal Al-Din Al-Qasimi (as cited in George 2021, p. 29) as well as in the Ottoman archives. Al-Qasimi mentioned that the fire caused destructions to the roof, the main walls of the prayer hall, the main doors, and many pillars located in the courtyard. He added that the surrounding blocks were also affected in this fire as total of 95 shops, 22 dwellings and the commercial areas at the south of the Great Mosque were largely damaged (George, 2021, p. 29).

The fire of 1893 required extensive restoration works to return the Mosque to its original state; Ottoman archives recorded that Sultan Abdulmejid II himself (r. 1868 – 1944) ordered to restore the Mosque by assigning specialized European architects to re-build the damaged parts. The mosaics were also included in the restoration and were brought back to its original design (George, 2021, p. 29-30). All the ornaments and parts of the Mosque such as west arcade, west wall, and most of the prayer hall, were removed from the walls and stripped of their original mortar. Renovation works introduced new composition to some of the mosaic panels but kept the original form of the Mosque as it was before. The restoration process included renewing the mosaic panels, ornaments, and renovation of some structures such as columns, pilasters and supporting elements (George, 2021, pp. 24-28). The interventions made on the Great Mosque can be analysed by reviewing photographical sources taken before the fire of 1893.

Year	*Event*	*Recorded Destructions*
748	Earthquake	The roof of the prayer hall
847	Earthquake	Masonry from the Roman enclosure wall (temenos), parts of the minaret, and some merlons.
8th- 9th century	Repairs	Ceiling repairs and patching to the stonework.
991	Earthquake	No mention of damage to the Mosque
10th century	Repairs	Eastern *mihrab*.
1158	Earthquake	Mosaic loss.
1167	Fire	*Bab Al-Sa'at* (Southern west gate).
1069	Major Fire	*Dar Al-Mulk* (Al-Khadra), ceiling of the mosque collapsed, gilded stones were scattered to the ground, mosaics were pulled down.
1083-1109	Repairs	
1094-1118	Repairs	
1175	Fire	North minaret.
1180	Repairs	
1202	Earthquake	East minaret and dome.
1249	Fire	East minaret.
1401	Fire	Roof and parts of courtyard.
1479	Major Fire	Prayer hall and west minaret.
1520	Renovation	
1758	Earthquake	Dome, north arcade and the west gate (Bab al-Barid) and some minarets.
1893	Major Fire	Roof, main walls of the prayer hall, doors, pillars located in the courtyard.
After 1893	Restoration	
1920- 1930	Restoration	
1928	Restoration	
1937	Restoration	
1965- 1966	Restoration	

Table 1. Recorded incidents which affected the Great Mosque. Adapted from *The Umayyad Mosque of Damascus: Art, Faith and Empire in Early Islam*, by A. George, 2021, London, England: Ginkgo.

Conclusion of the Chapter

The overview studies of theories and history mentioned in this chapter are important factors to understand the overall formation process of the Great Mosque and its surrounding urban fabrics. The studies revealed that Umayyad Mosque of Damascus was formed on various complex issues due to its long-durée history and its significant location in relation to its regional and urban contexts.

In addition, it is noted that there are inter-transitional periods in the history of the development process of the pre-Islamic structure of the Great Mosque which were not covered previously by researchers. As a result, the coming sections will shed the light on the elements related to these periods to reconstruct the ancient enclosure during this era in relation to its urban context. On the other hand, previous studies which mentioned the conversion of the church into a mosque did not include solid evidence neither on the exact location of the church nor its structural components. For this reason, in the coming sections of this thesis, I will illustrate the morphological elements of the old city of Damascus and the surroundings of the Umayyad Mosque in particular by studying the building typologies and their diachronic variants.

CHAPTER III

GENERAL DESCRIPTION OF THE GREAT MOSQUE

The Umayyad Mosque of Damascus consists of semi-rectangular open courtyard and enclosed prayer hall. The total enclosure has a slight difference towards its east-west corners: the southern wall measures around (158.15 metres) and the northern side (158.97 metres) while the other sides enclosing the space of the enclosure measures around (96.12 metres) from the east and (98.74 metres) from the west. The total area of the enclosure is around (154.48 sqm). The difference in measurement is more noticeable from the space of the courtyard than the prayer hall. Thus, the form of the prayer hall is more rectangular than the courtyard.

The enclosure of the prayer hall faces *Qibla* direction with 30-degree difference towards the west. The interior space of the prayer hall measures around (134 x 39 metres) excluding the western and eastern halls and the external walls. Table 2 summarizes the difference of measures of the four walls of the Great Mosque's enclosure.

Side	Measure	Difference
North	158.97	0.82 cm
South	158.15	
East	98.74	2.62 m
West	96.12	

Table 2. General measurements of the exterior walls of the Great Mosque.

Figure 21 depicts a survey plan of the Mosque done by Watzinger and Wulzinger (1924) and outlines several measures and phases of each examined structure. Furthermore, modern survey studies by Uqayli (2008, pp. 69-218) produced detailed descriptions on the measurements and building components including: exterior walls, doors, corridors, domes, towers, minarets, structural elements, arches, and mosaic panels located inside and around the Great Mosque. This thesis will display important descriptions of the Great Mosque by relying on these two survey studies found relevant to the scope of the thesis.

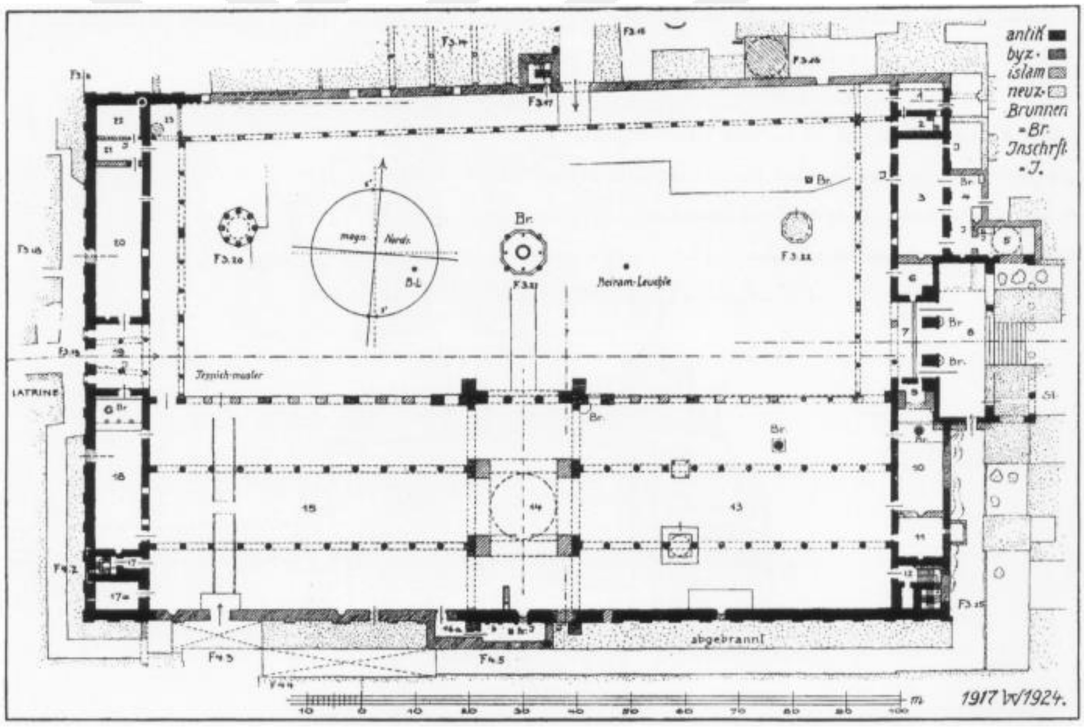


Figure 21. Survey plan of the Great Mosque of Damascus. Adapted from *Damaskus die Islamische Stadt,* (p. 144), by K. Wulzinger and C. Watzinger, 1924, Berlin, Germany: Walter de Gruyter.

3.1 *External Walls and Towers*

The Umayyad Mosque of Damascus consists of four main external walls built from different sizes of stone ashlars. This indicated the different chronological remarks of each wall considering their construction types, sizes, and structural details.

3.1.1 Western Wall

The stone ashlars forming the western wall vary in size and appearance with a largest stone measured around (0.85 metres) in height. The wall includes one of the main gates named as Bab Al-Barid located at the centre. The gate is parallel to the preserved Byzantine arches and propylaeum structure of the Roman temple opposing the western wall. The arches and the propylaeum are currently located at Al-Miskiyye plaza.

Another two gates located symmetrical to main gate is found at both sides of the main central door; the first gate is located between 5th and 6th pilastered structures from the eastern side, while the other gate is located between the 6th and 7th of the western side. Figure 22 shows the western wall and highlights its important features.

The wall contains 18 Doric pilastered structures distributed along the entire area of the western wall except near central gate Bab Al-Barid. These pilasters are prominent from the walls with around (17-18 cm); their average height is (11 metres) and their width is around (1.8 metres). The Capitals above the pilasters measure around (11 – 17 cm) with an average width of (1.71 metres). Figure 23 illustrates section of two pilasters located at the western wall.

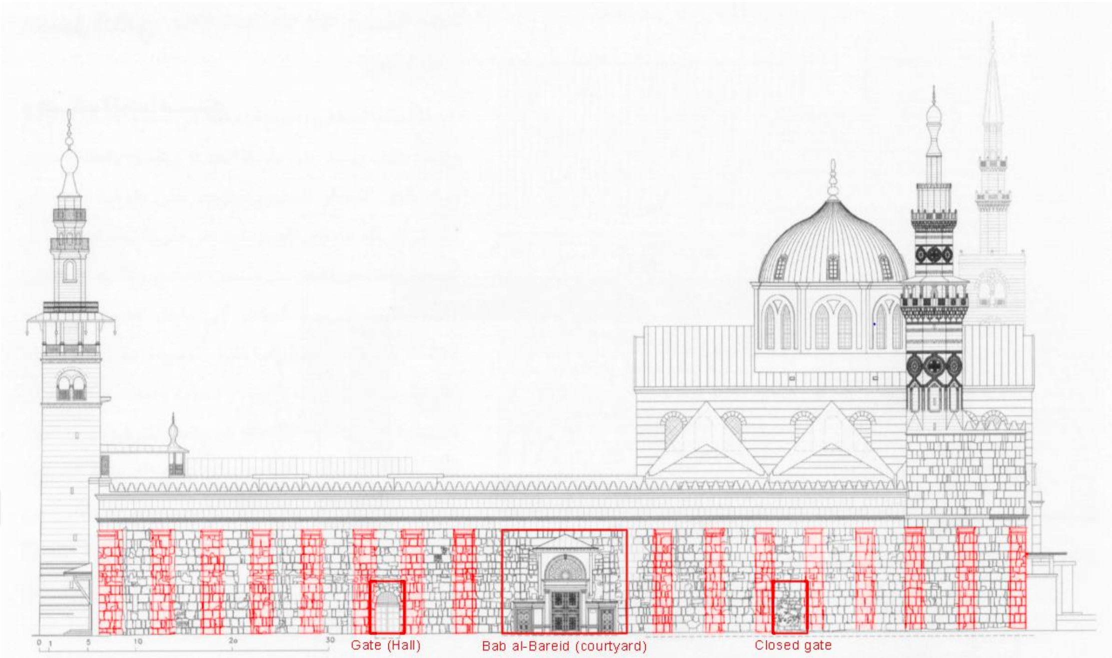


Figure 22. Western wall of Umayyad Mosque based on survey drawing. Adapted from *Al- Jami Al-Umawi fi Dimashq* [The Umayyad Mosque in Damascus] (p. 70), by T. Uqayli, 2008, Damascus: Barnamaj Taḥdith al-Idarah al-Baladiyah.

The reason behind not decorating the pilasters is because the Mosque was attached to houses and major facilities at the western side (Ball, 2000, p. 326). Nonetheless, triangular decorative elements present at the upper part of the western wall indicated the earliest origins of the structure as derived from Egyptian style; the height of each of these element measure around (59 cm). In addition, parts of the enclosure and the southern west tower contain narrow window openings similar to arrow slits observed in Roman castles and fortified enclosures.

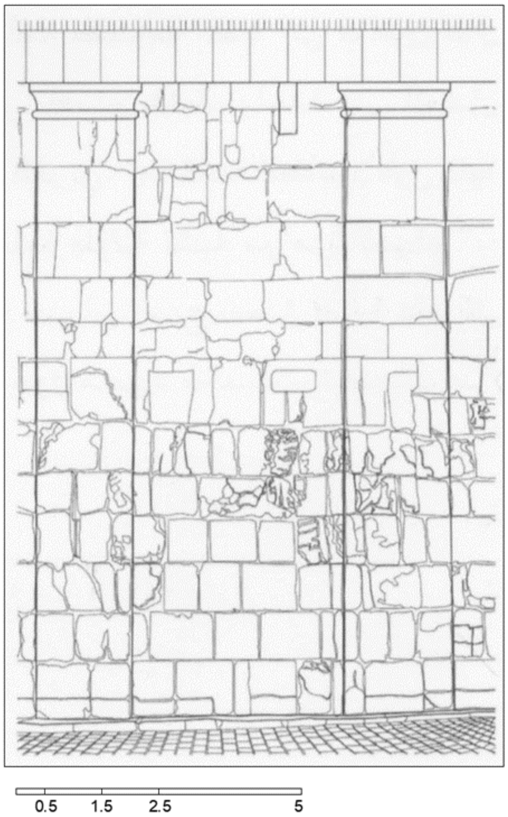


Figure 23. Pilasters located at the western wall of the Great Mosque. Adapted from *Al- Jami Al-Umawi fi Dimashq* [The Umayyad Mosque in Damascus] (p. 71), by T. Uqayli, 2008, Damascus: Barnamaj Taḥdith al-Idarah al-Baladiyah.

3.1.2 Eastern Wall

The eastern wall consists of various sizes of stone ashlars where the biggest ones are located near the gate of Bab Jayroun. The different sizes of stone ashlars indicated the levels of damages and repairs that went through this part during different phases. In addition, it is observed that the eastern wall does not include supportive columns as the case in the western wall, instead, it includes the oldest gate known by Bab jayorun which was part of the early construction of Greek temple which had led to the Agora built in Hellenistic foundation of the city as noted by Sauvaget.

Figure 24 shows the analysis of the stone constituting the larger part of the wall’s construction, in relation to their sizes and the composition of the elements located at the eastern wall in various phases. We notice that the southern east tower consists of smaller stone ashlars in contrast with other parts of the eastern wall. This generally indicates the different building chronology of the eastern wall especially in the light of the reviewed major incidents. For example, large stones constituting near the main gate may indicates late phase of the construction with extensive renovation works mentioned in the historical review, where other parts of the eastern wall such as the orange and blue coloured stones include smaller sizes of stones which may indicates their early construction phases.

Figure 24. Phase diagram of the eastern wall of the Great Mosque, based on a survey drawing. Adapted from *Al- Jami Al-Umawi fi Dimashq* [The Umayyad Mosque in Damascus] (p. 77), by T. Uqayli, 2008, Damascus: Barnamaj Taḥdith al-Idarah al-Baladiyah.

3.1.3 Southern Wall

The southern wall of the Great Mosque measures around (158.15 metres) and it functions as an enclosure of the prayer hall. The elevation of this wall is divided into two horizontal sections: the lower section includes elements which belonged to the ancient origin of the *temenos* dedicated to the temple indicated by the sizes of the stone ashlars and the irregular forms of some of the decorated columns. The upper section contains repetitive arched windows which may indicates the late phase of its construction. Each of the opening in the upper section measures around (3 x 1.5 metres). Uqayli (2008) mentioned that the columns at the lower section were recently renovated by changing the composition of the southern wall prior to the fire of 1893. *Figure 25* shows the southern wall with the indication of the locations of the main gates.

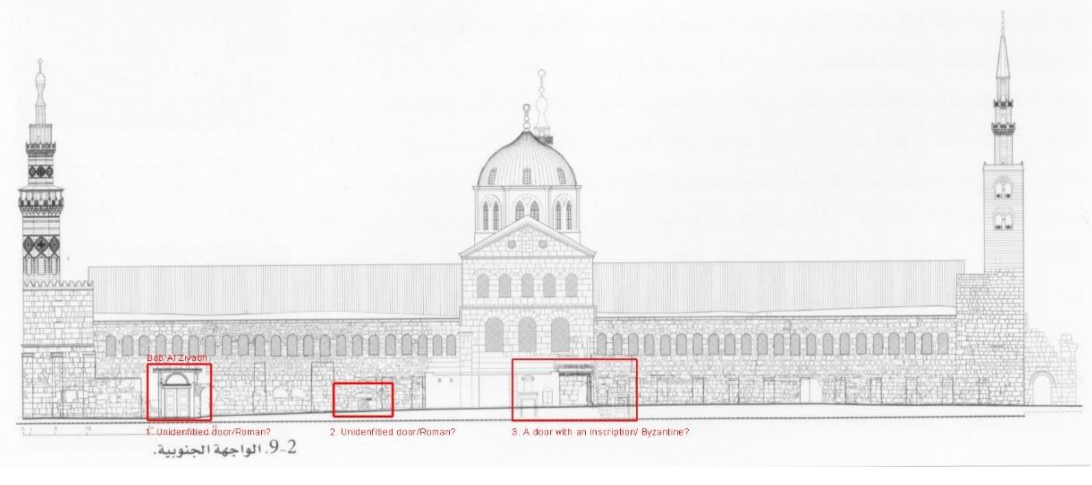


Figure 25. Location of the doors at the southern front of the Great Mosque. Based on a drawing adapted from *Al- Jami Al-Umawi fi Dimashq* [The Umayyad Mosque in Damascus] (p. 73), by T. Uqayli, 2008, Damascus: Barnamaj Taḥdith al-Idarah al-Baladiyah.

The wall includes three gates, only one of which is still operating i.e. located at the western side of the southern wall named as *Bab Al-Ziyadah*. The second gate located few metres east of *Bab Al-Ziyadah* was blocked with large pieces of stone ashlars. The third gate is located at the central part of the southern wall at the location of the transept structure which is considered the oldest still-preserved structure representing the Byzantine phase indicated by an inscription on the upper niche of the door (Porter, 1855) (See section 2.1). The structural details of this gate also revealed the location of the first arrangement of the Byzantine church since it served as a shared entrance between Muslims and Christians during early Umayyad phase.

Ibn Jubayr recorded that the gate of Al-Ziyadah opened to an arcaded space (fragments of this was also seen in the plan of Pococke (1765) and Porter et al. (1855) and was also leading to cavalry barracks and Mu'awiya palace known as "al-Khadra" as Ibn Jubayr stated:

The south door is called *Bab al-Ziyadah* [Door of Increase], and opens on to a large and spacious vestibule, with immense pillars, where the bead-sellers and other have shops. It is an impressive sight. From it the way leads to the cavalry barrack, and to the left you leave is the Coppersmiths' Row which has been the palace of (the Caliph) Mu'awiyah -may God hold him in His favour – bearing the name al-Khadra' [the Green (Palace)] (IBN JUBAYR, p. 300).

Two towers are located at each corner of the southern wall. Both of these towers constitute of three main features: (1) The foundation section connected to the external walls of the enclosure, (2) The towers are rectangular and consist of two windows at each sides, (3) They both include minarets built above their main structures built in different times, and (4) They include narrow window openings between parts of first and second levels. The sizes of the windows found on parts of these towers indicated a strong relationship to the arrow slits found in Roman castles. The roughly measure of the western tower is around (12 x 12 metres); its height is (21.53 metres) including the minaret and it is considered the oldest still-preserved element of the ancient enclosure.

3.1.4 Northern Wall

The northern wall measures around (158.97 metres); it was attached to courtyard houses and schools located at north side as seen in Porter's plan (See section 2.1). The northern wall is higher with (0.90 metres) in comparison with the southern wall which measures (16.80 metres) in total. The presence of a plastered material on the eastern side of the northern wall indicated the level of interventions implemented on the original structure (Al-Munajid, 1948, p. 13). Evidence of the historical interventions made on this wall were also revealed by three horizontal lines on the surface of the northern wall seen from the interior side of the courtyard. These lines indicated different eras of the wall's construction by the usage of different materials and the presence of several inscriptions.

Similar to the southern wall, two foundational towers are located at both corners of the northern wall with one additional tower located at the center which include a minaret known as *Ma'adant Al-Arous*. The tower and the minaret is located at the central part near a gate known as *Bab Al-Kallasah.* The height of the tower with the minaret reaches to (54 metres). I believe that the part at the lower level connected to the wall dated to the same era the wall was built. The plan of the tower is rectangular with an elevation that reaches to (23.82 metres) and include 120 stairsteps. The second part located at the top of the foundation level includes the minaret known by *Al-Arous* [minaret of the bride]. Similar window openings comparable to the southern towers are locate on parts of the tower structure (Uqayli, 2008, pp. 194-198). *Figure 26* shows representation of the northern tower and minaret.

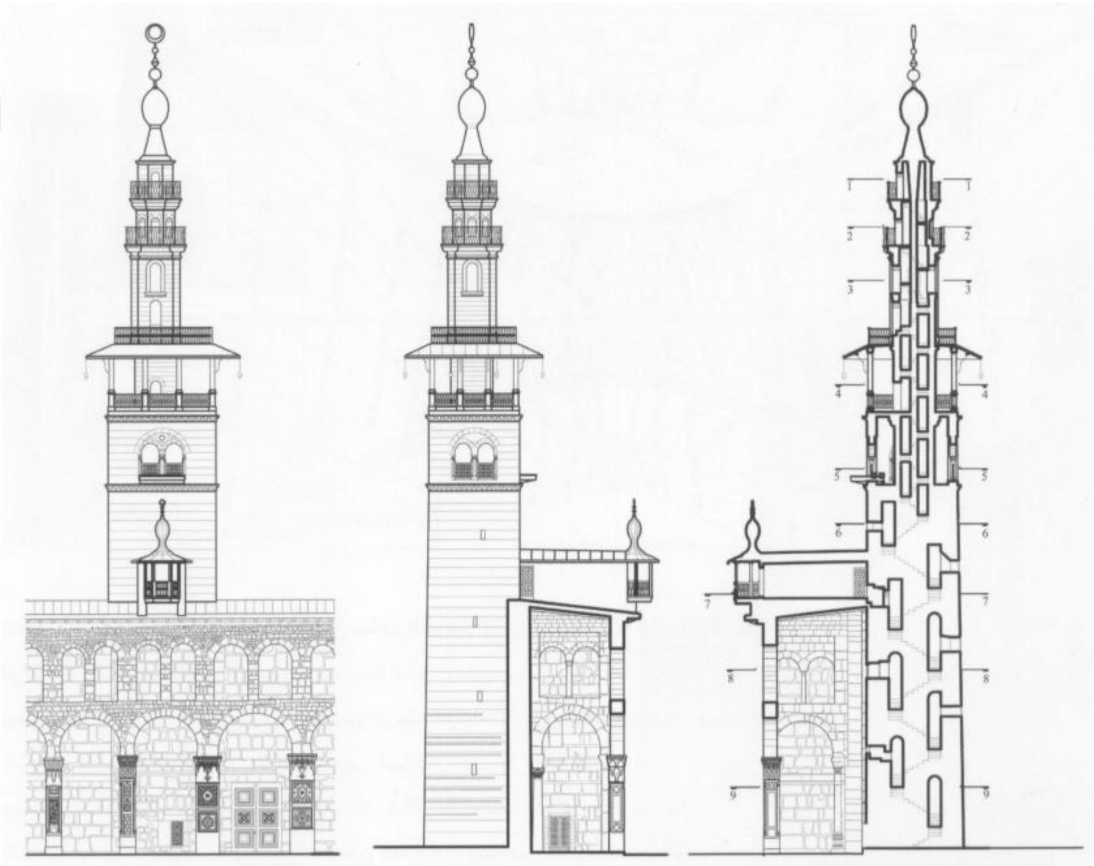


Figure 26. Northern tower and minaret. Adapted from *Al- Jami Al-Umawi fi Dimashq* [The Umayyad Mosque in Damascus] (p. 198), by T. Uqayli, 2008, Damascus: Barnamaj Taḥdith al-Idarah al-Baladiyah.

3.2 *Interior Spaces*

The interior space of the Mosque consists of 4 main parts: The main prayer hall; the eastern and western halls; the courtyard with the porticos; and the foyer of the main gates. Each of these spaces includes various architectural elements which are remarkably important for the study of the formation process of the Mosque.

3.2.1 The Prayer Hall

The prayer hall consists of a long space at the southern side with balanced ratio of its depth, height, and length. It is divided into three main spaces; two spaces are symmetrical to each other with a mediating space represented in the transept structure which lays at the middle part with higher ceiling and a dome. The symmetrical spaces of the east-west halls are identical in form and dimension with 12 columns and double arches in each space supporting the roof structure. Both sides include two rows of columns which divides the area into set of bays from north to south directions forming the interior spaces. This interior arrangements are similar to the interior arrangement of the early churches represented in the spaces of nave and two aisles. Each bay measures around (12.5 metres) with the first row of columns from each side is connected to the walls from each side, these columns become as supporting elements for the sided halls adjoining their walls.

The columns contain Corinthian capitals with a pulvin on top of each column supporting the arches. On the top of the arches, another set of similar composition is found but smaller in dimension. *Figure 27* shows the photographs taken prior to the fire of 1893 and revealed different details from the current situation.

Figure 27. Photograph of the arcade at the prayer hall before the fire of 1893. Adapted from *Damas. Colonnade dans l'intérieur de la grande mosquée / Bonfils*, by M. Bonfils, (1867 - 1899), Retrieved from https://www.loc.gov/resource/ppmsca.04358/

The northern wall of the prayer hall includes uninterrupted arched openings similar to the portico's arches but formed with a stone ashlar of a masonry wall. It includes closed wooden doors. The wooden works of the middle doors were resulted from the recent interventions done prior to the major fire of 1893. Likewise, the interventions included the reconstruction of the ceiling of the prayer halls including three parts of wooden pitched ceilings covered with copper stone (Uqayli, 2008).

The transept structure includes four main columns which consist of arches similar in detail to the rest of the prayer hall. There are arched windows on the top of the northern and southern sides, equally distributed into three groups at the top of each arch. The southern wall of the transept facing the *Qibla* direction and it includes the central mihrab with a minbar. Likewise, the upper part includes five similar window openings with fresco glasses, while the lower level includes three large windows. At the southern part of the mihrab, a private entrance is located at the southern wall, reserved for the imam known as "*Al-Maktaba*" (Uqayli, 2008).

The northen wall of the transept has three large arches curved from two small columns. The lower part's arches include doors resting on marble column, while the upper part includes small arched openings. The roof of the transept is formed with a pediment with two symmetrical circular opening and long-arched windows. The detail found on the pediment at the northern side is identical to the southern side.

The centre of the transept includes a dome known as *Kubbat Al-Nesr* due to its form that looks like "Eagle in Flight". The dome covers the upper part of the transept structure and considered of an important landmark in the old city as mentioned by Ibn Jubayr (IBN JUBAYR, pp. 295-296). The height of the transept with the dome reaches (49 metres) in total. *Figure 28* shows the depiction of the dome as seen in early 16th century by the Venetian painter, Bellini (c. 1511).

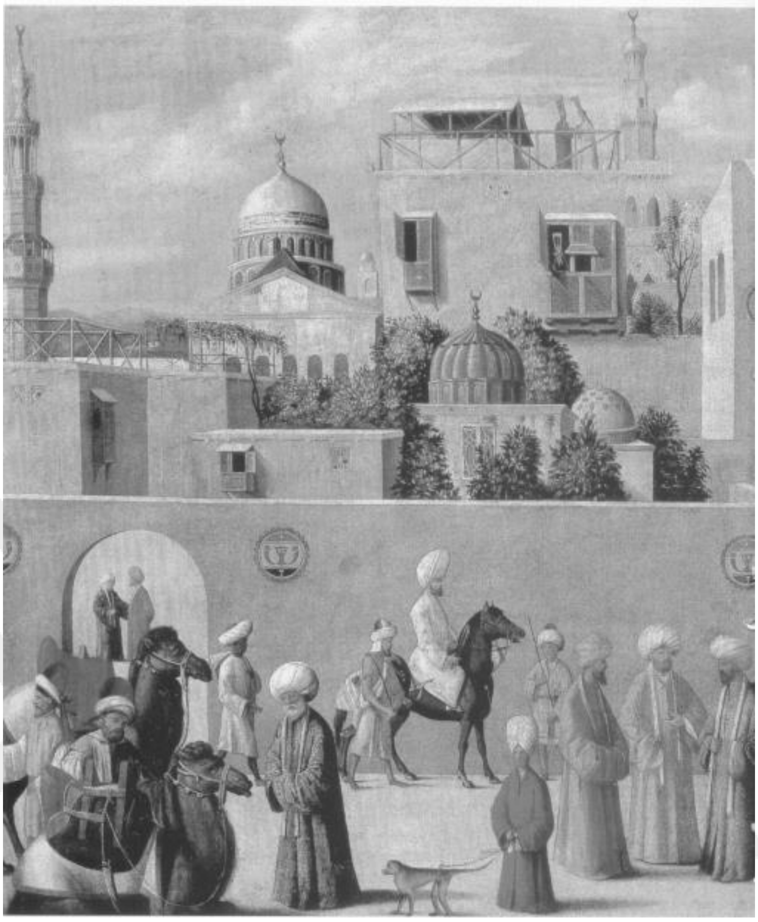


Figure 28. Eagle dome, transept, and the minaret of Qeit-Bey within the city walls. Adapted from *The Reception of the Venetian Ambassadors*, by G. Bellini [Painting on canvas 175 x 201 cm], 1511. Retrieved from https://meoc.hypotheses.org/9895

The structure of the dome is separated from the rest of the transept's elements (Uqayli, 2008, p. 143); it is formed of three parts: the foundation element, the neck, and the main structure of the dome. The foundation is constructed by the four masonry columns seen on the ground level as they support the squared structure of the dome's neck. The dome is carried by the neck and was originally constructed in wood. The current dome is a result of many interventions done on the Mosque; thus, it may be difficult to give exact date of its first construction. It was stated by Ibn Asaker in the year of 1163 AD on how the dome was built by mentioning that: "it was Al-Walid bin Abdul-Malik who built the dome [Great Mosque Dome] … a man among the builders came to him and said: I will build it...” (IBN ASAKER, II, p. 261).

3.2.2 Eastern and Western Halls

The inner spaces at the eastern and western sides indicated the polarity of the enclosure and the similar physical characteristics of Roman military enclosures. The width of these halls ranges between 7 to 10 metres. They are accessed by portals from the porticos on both sides of the courtyard with the southern halls accessed from the space of the prayer hall. Both of the halls at the north and the south are aligned with each other forming the cornered towers and reaching towards the central part of the enclosure forming the spaces at the main gates.

3.2.3 Courtyard of the Mosque

The form of the courtyard is semi-rectangular and measures around (132 x 56 metres). It is surrounded by portico with arches at three sides: east, west, and north, with the southern part constitutes the façade of the prayer hall.

The width of the covered portico space is (6.75 metres) and its height to its ceiling is around (16 metres). The ground floor of the portico spaces is elevated around one step (0.18 metres) from the floor of the main courtyard. The ceiling of the portico at the three spaces consist of wooden materials with sheets of copper stones carried with masonry walls and columns substituting each other.

Excavation made at the courtyard area of the Mosque in the middle decades of 20th century revealed important elements dating back to different phases (Uqayli, 2008, p. 99). One of these elements includes fragments of the former structure of the temple's altar as recently analysed by George (2021, p. 50). George concluded that the remaining structure is similar to temple of the Sun in Palmyra due to the following observations: Both sites share massive foundations dedicated to the space of the peristyle and the outer walls of the inner altar space, and small rubble stones were scattered on the floors of the inner spaces at both archaeological locations. Figure 29 shows the excavations made at the courtyard of the Mosque.

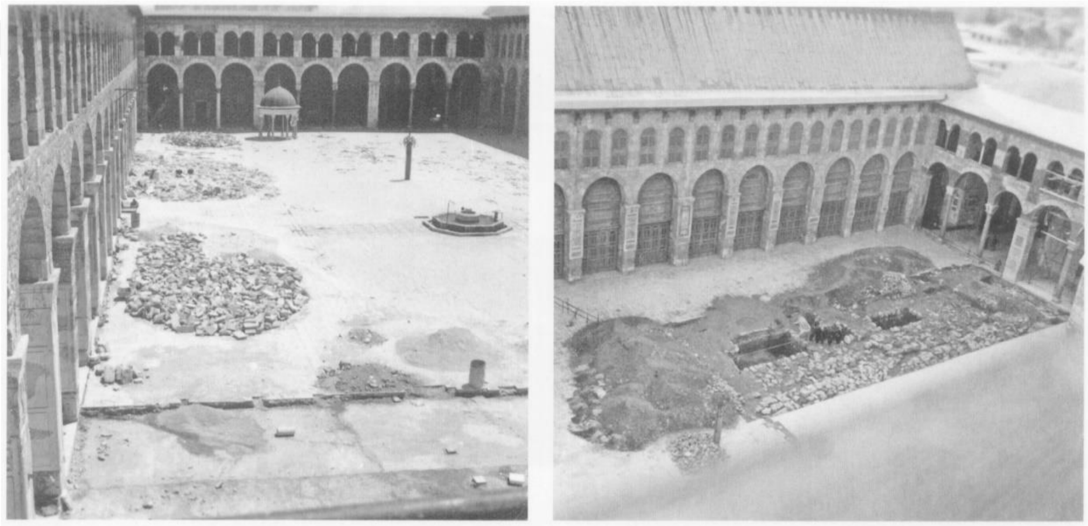


Figure 29. Excavations in the courtyard of the Mosque dating to 1962-1963. Adapted from *Al-Jami Al-Umawai bi-Dimashq: Nusus li Ibn Jubayr wa'l-Umari wa'l-Nu'aymi* (p. 100), by M. Al-Hafiz, 1985, Damascus: Dar Ibn Kathir.

The excavations revealed other elements dating to Umayyad origins presented in white mosaics located at the north-eastern parts of the courtyard. Other large pieces dedicated to late-byzantine phases located at the centre of the courtyard in an area of (45 sqm) consisted of paved stone tiles with circular shapes. Figure 30 shows part of the mosaic panels discovered on the floors.

Figure 30. Part of the mosaic panel at the pavement floor of the courtyard. Adapted from *Al- Jami Al-Umawi fi Dimashq* [The Umayyad Mosque in Damascus] (p. 99), by T. Uqayli, 2008, Damascus: Barnamaj Taḥdith al-Idarah al-Baladiyah.

In regard to the levelling of the Mosque, the 12th century Arab scholar, Al-Idrisi (d. 548/1154) in his book “Nozhat Al-Mushtaq fi Ikhtiraq Al-Aafak” provided detailed description on the way the Mosque was accessed by stating:

“If approaching it (the Great Mosque) from the side of Bab Jayroun, one climbs up a large and wide stairway of some thirty marble steps; but if accessed from Bab al-Barid (in the west), the Dome of the Khadra (in the south), the Palace of the Two Orphans (Qasr Al-Yatemayn), the Gold Stone (Hajar Al-Dhahab), and the Gate of Al-Faradis, the entrance is made from the ground level without the stairs (AL-IDRISI, I, iii, section V, xxxv, p. 376).

Therefore, it seems that even during late Islamic phases, the enclosure of the Great Mosque had two entrances each accessed from different levels; the eastern side was accessed a staircase reaching to higher elevated level, while the western side was accessed from a considerably lower level.

3.2.4 Porticos

The opposing east-west porticos of the Great Mosque is symmetrical with their structural details but different from the northern portico; the east-west porticos are constructed by rhythmic arches of one masonry structure between each pair of the rounded columns. Both of these supportive elements carry round arches made of stone ashlars. In the areas where masonry structures exist, the wall continues above the arches forming another set of smaller arches supported by round columns. Figure 31 depicts part of the western portico and their analysis based on the survey drawing of (Uqayli, 2008, p. 281).

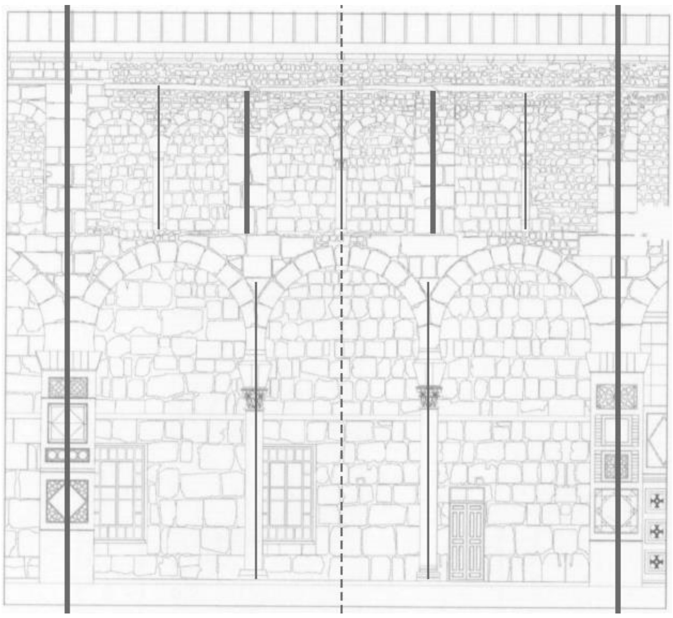


Figure 31. Graphical analysis on part of the western portico. Adapted from *Al- Jami Al-Umawi fi Dimashq* [The Umayyad Mosque in Damascus] (p. 281), by T. Uqayli, 2008, Damascus: Barnamaj Taḥdith al-Idarah al-Baladiyah.

Moreover, the structural details of the pillars at the western and eastern sides of the courtyard include structural composition similar to the preserved structure dedicated to propylaeum located at the western sides; as both include pulvin on top of Corinthian capitals supporting stoned arches. On the contrary, the structural details of the pillars at the northern side are formed of masonry columns carrying the double-arched structure. *Figure 32* displays the comparison between parts of the southern portico with the parts of the northern façade of the prayer hall. Moreover, I note that this composition is continuously repeated along the northern portico except at the eastern corner where two pillars are found similar to the westerns and eastern porticos. This may indicates the level of interventions made on the northern portico as it originally had similar structural details of the western and eastern sides. *Figure 33* shows the elevation of the northern portico with analysis on different styles of pillars as discussed.

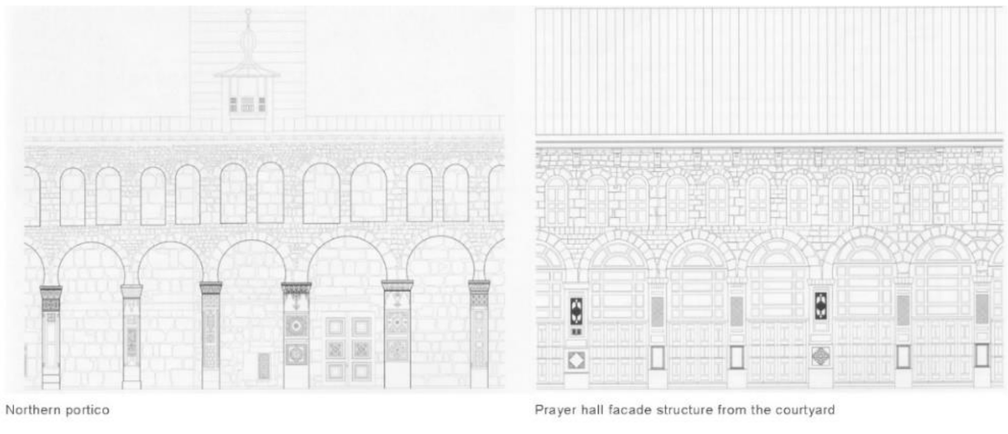


Figure 32. Analysis on the structural details of the northern and southern facades. Adapted from *Al- Jami Al-Umawi fi Dimashq* [The Umayyad Mosque in Damascus] (p. 97; 98), by T. Uqayli, 2008, Damascus: Barnamaj Taḥdith al-Idarah al-Baladiyah.

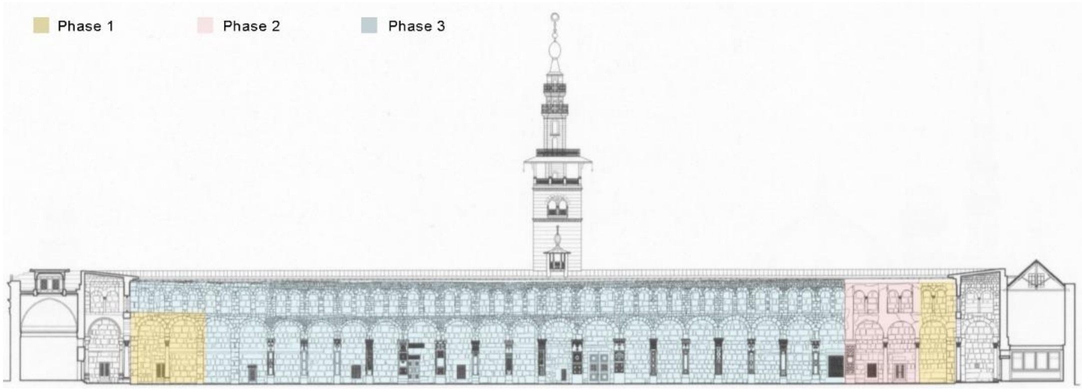


Figure 33. Analysis on the northern portico, based on survey drawings. Adapted from *Al- Jami Al-Umawi fi Dimashq* [The Umayyad Mosque in Damascus] (p. 78), by T. Uqayli, 2008, Damascus: Barnamaj Taḥdith al-Idarah al-Baladiyah.

3.3 Main Entrances and Gates

The Mosque has four gates still in-use for the public located at each side of the ancient enclosure:

The northern gate known as Bab Al Amara is rectangular and measures around (4.30 x 3 metres). The gate is adjacent to an arcade surrounded by public facilities including schools, monasteries and tombs.

The southern-west gate known as *Bab al-Ziyadh* opens to *Suq Al-Sagha* (Golden Smith Market) area where fragments of the foutnain structure of the temple were found. The width of the southern-west door measures (3.20 metres) with its height measures (4.6 metres). The opening of the gate includes an arched window with ornamented glazings related to a modern intervention. The gate includes shading structure above it supported by two masonry columns on both of its sides probably made in the recent interventions prior to fire of 1893 (Uqayli, 2008, p. 92).

The interior corridor of the western gate known as *Bab Al-Barid* includes 6 large columns distributed along a rectangular plan; the columns supports vaulted wooden structure with a mosaic panel as can be seen in *Figure 34*. The space of the gate is placed as a node between the western halls. The height of the four pillars supporting the arches near the western door measures (6.77 metres) with each pillar include a pulvin on top of a Corinthean capital. This area is connected with the western portico forming the courtyard. *Figure 35* shows an orthographical drawing of the interior hall near the western gate taken from the courtyard area.

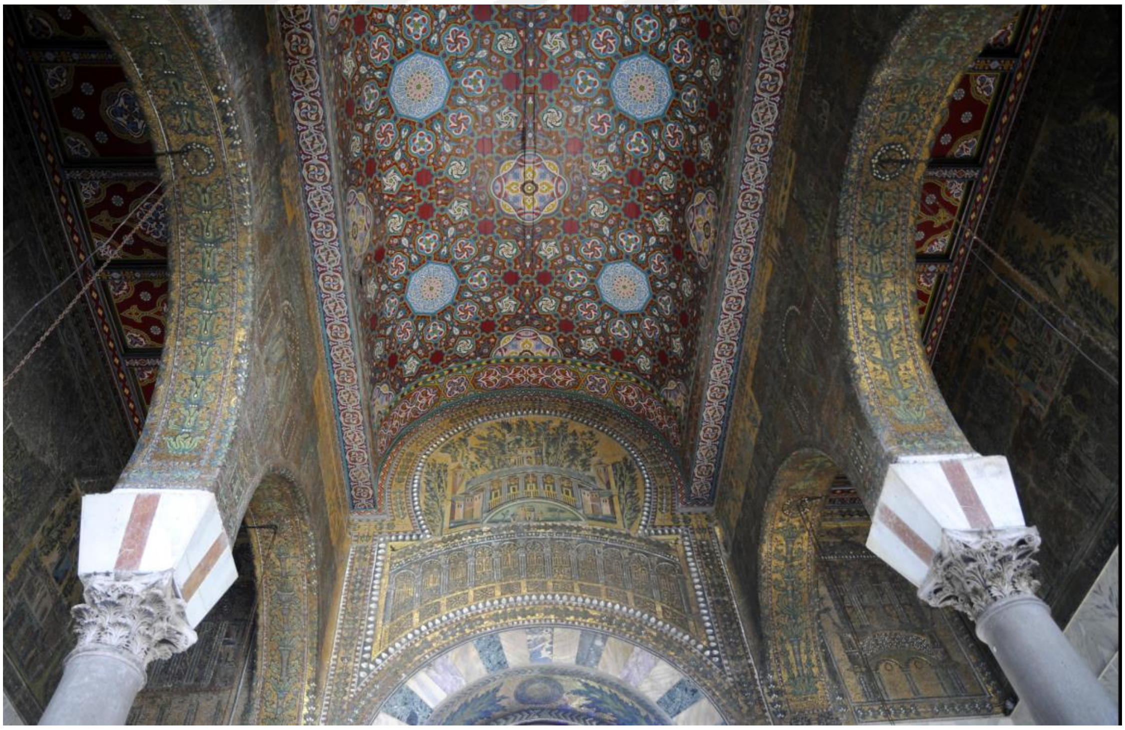


Figure 34. Vaulted Mosaic near the gate of *Bab Al-Barid*. Adapted from ICONEM exploration (https://bit.ly/3HK0qov)

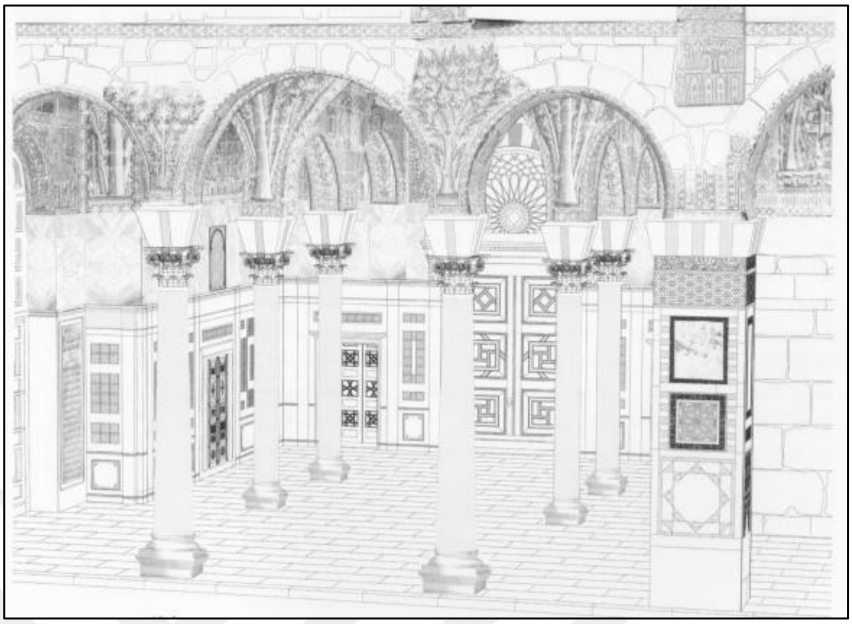


Figure 35. Structural details of the space near *Bab Al-Barid*. Adapted from *Al- Jami Al-Umawi fi Dimashq* [The Umayyad Mosque in Damascus] (p. 93), by T. Uqayli, 2008, Damascus: Barnamaj Taḥdith al-Idarah al-Baladiyah.

The eastern gate known as *Bab Jayorun* or *Bab al-Nawfara* measures (4.5 x 7.5 metres). The upper part of the main door includes round arched window and two small doors on both of its sides as shown in *Figure 36*. Each of the two doors located at both ends of the main gate measures around (1.8 x 3.13 metres). The interior hall of the gate at *Bab Jayroun* include elements dating to pre-Islamic eras as the area once served as an extension of the *peribolos* structure by the elevated staircase with a *propylaeum* structure as demonstrated in *Figure 37*. Moreover, the structural details of the columns and the arches inside the interior hall of *Bab Jayroun* are similar to the western gate but we observe that this space is smaller since it includes two columns supporting three arches. The space also includes two doors as entrances to the sided halls located at the northern and southern walls (Uqayli, 2008, p. 95).

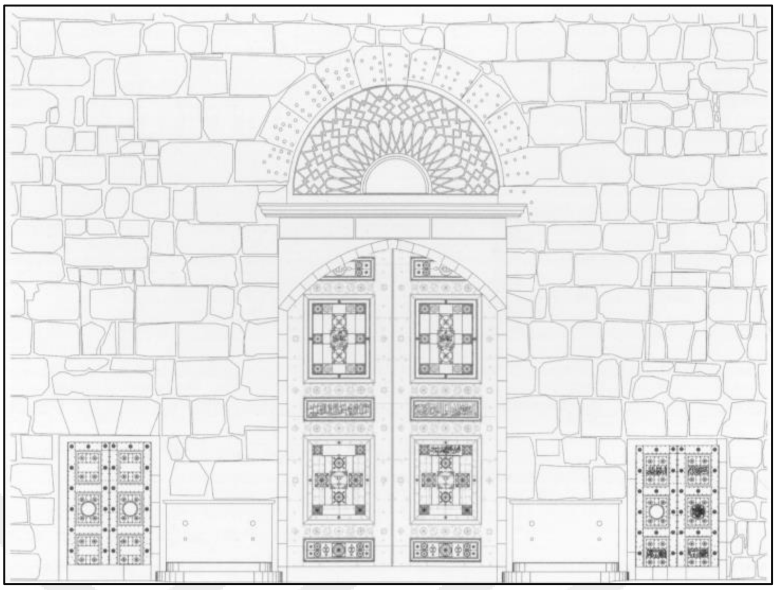


Figure 36. Survey drawing of Bab Jayroun. Adapted from *Al- Jami Al-Umawi fi Dimashq* [The Umayyad Mosque in Damascus] (p. 87), by T. Uqayli, 2008, Damascus: Barnamaj Taḥdith al-Idarah al-Baladiyah.

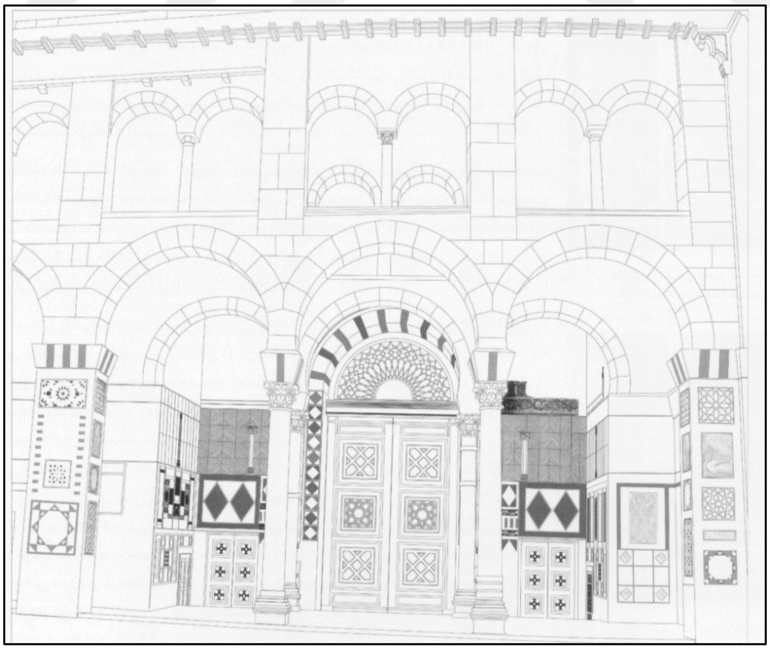


Figure 37. Structural details of the eastern hall at *Bab Jayroun*. Adapted from *Al-Jami Al-Umawi fi Dimashq* [The Umayyad Mosque in Damascus] (p. 96), by T. Uqayli, 2008, Damascus: Barnamaj Taḥdith al-Idarah al-Baladiyah.

CHAPTER IV

ROMAN MILITARY ENCLOSURE

The adopted analytical methodology focuses on the notion of process-based analysis to explore the continual development of settlements in relation to the simultaneous behaviour of humans (Maffei & Maffei, 2018). This process is further investigated by outlining the relationship between the form of cities and buildings with the phenomenon of settlements at different organizational scales: from territories to cities, and from the urban fabrics to the individual building plots.

Therefore, and in order to understand the nature of the typological process of Umayyad Mosque and the surrounding urban tissues during the pre-Islamic phases, it is important to understand the early logical establishment of the area inside the ancient city by studying the territorial organism of the region. This will bring in domains to explore the process of development of the urban fabrics surrounding Umayyad Mosque as well as the Great Mosque building block itself. The expected outcomes will define the natural process and will allow for further interpretations by comparing examples of significant physical similarity with the layout of the Great Mosque.

On this level, this chapter investigates the hypothesis which suggests the existence of an inter-transitional phase in the history of pre-Islamic structure and that the building block of the Great Mosque was transformed to a Roman military structure similar to *praetorium* variants which were spread during the 3rd century in the Syrian region and other Roman territories. The reviewed historiography revealed several indications to the importance of Damascus as a major city during specific phases of the East Roman history. Additionally, the significance of the city is noticed as a nodal point for the eastern legions of the '*limites*' since it was located close to the boarders of the East Roman territories.

Historical investigations on the Military presence of Damascus done by Burns (2003) suggested that the Roman headquarter can theoretically be located at the southern part of the ancient enclosure. The study focused on fortresses located on the "*Route de Khans*" which was the same route of "*Strata Diocletiana*" passed from Damascus as depicted in the aerial photographs of Poidebard (1937). Thus, the location of several fortifications of nearby cities connected with the same road is important to elaborate further on Damascus' possession of similar military physical characters.

4.1 The Geographical Settings of Damascus City

Damascus city is a valley settlement located close to the long ranges known by the Anti-Lebanon. These ranges stretch diagonally towards the northwest and southwest reaching to Hermon Mounts. These ranges together with the Hermon Mounts lay behind the city and overlook to it with their natural function as a defence element to prevent the direct access to the city from the western side as where the Mediterranean coast is located.

Large desert stretching east and south is located on the eastern side of the city making it as an oases surrounded by a mountain. The eastern side include the Ghouta Oasis which provides the needed fertility zones to the population of the city. The oasis of Ghouta provided the rural settlement while Damascus was a central area located directly along the valley resulted from the springs that flew to form the Barada River fed by the water springs falling from the Anti-Lebanon and Hermon Mount ranges.

Moreover, in addition to its very special natural characteristics, Damascus is considered as a key location to north-south movements along the western side of the Fertile Crescent. Since the city is situated at the narrow belt between the eastern desert and the natural barrier at its west, the oasis of Damascus city controls the central north-south route which has always been a major route since the foundation of ancient civilisations.

The urban fabrics of the old city as well as the main city walls represented the complexity of the major routes which were formed of different directions. Despite their variant uses and date of their creation, these routes were the main contributors to the early formation of urban settlements and the direction of street networks from ancient times up until today.

The *Barada* River has been depicted bearing an ancient Greek name indicated by a Greek Geographer and Chronicler Strabo who wrote in the first century AD mentioning the river by the name "*Chrysorrhoas*" which means "Streaming with Gold". The depiction of the river by Strabo is seen as an indicator towards its importance in relation to the early formation of the city, as he stated "Among the rivers is the *Chrysorrhoas*, which begins at the city and country of the *Damasceni* and is almost wholly used up in the conduits, for it irrigates a large territory that has a very deep soil" (STRABO, XVI, ii, 16, p. 755).

On the other hand, the urban settlement surrounding the Mosque is seen to be directly related to the Barada River. This settlement stretches towards the Straight Street (also known as "*via recta*") and becomes perpendicular to it. The arrangement of the Straight Street and the circuited urban tissues -which will be covered in this thesis- is parallel to the position and the orientation of Barada River and to the valley routes descending from the western ranges. Therefore, these very first features of the orientation define the early analogy of the formation process of the city by the needs of accessibility to the old city. Therefore, this led us to understand the early formation of the spot of the ancient enclosure as part of a complex organisation defined by each step of the settlement process followed by identifying the urban morphological aspects of the urban fabrics of the old city of Damascus and the building block of its Great Mosque.

A medieval map titled as Tabula Asiae 4th (Sebastian, Claudius, Willibald, 1540) show in *Figure 38* depicts the Syrian region, shows Damascus' location, and its main geographical features. It seemed that the city is located close to the main eastern borders of the province and the city is marked with two buildings as a sign of its importance as an urban settlement. The fact that the buildings are oriented towards the river is considered as a sign of the river's importance. The map also shows that the city was open to the gaze of the eastern borders overlooking toward the Syrian steppe but surrounded by natural range of mountains and close to the Mediterranean Sea.

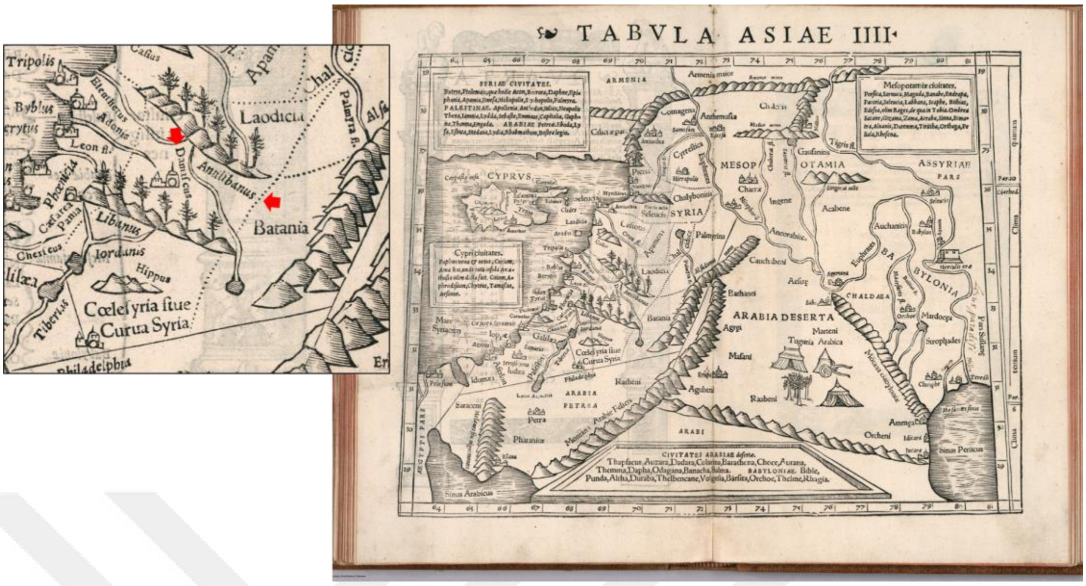


Figure 38. Location of Damascus on a Medieval Map. Adapted from *Tabula Asiae IV* [David Rumsey Historical Map Collection/ Cartography Associates], by M. Sebastian, P. Claudius, & P. Willibald, 1540, Basel, Switzerland: Henrichum Petrum.

4.1.1 The Theoretical Model of the Territorial Cycle

The study of the territorial organism aims to recognize the relationship between the spatial developments of the urban forms with the behaviour of the early settlement process. The theoretical model is demonstrated by number of drawings known by the “territorial cycle” divided by 4 main phases. In each of these drawings number of elements show the stages of the formation process of the early city in general, with a few insights onto the urban elements such as the special enclosures, urban blocks, and building components. Through the theoretical establishment of early routes and settlements, the synthetises of this analysis found that two routes formed the early settlement of Damascus city: the valley and the cross-valley routes. These two routes are the foundation of the urban structure in the city, including the surroundings of the Mosque as they are oriented in relation to them which are directed towards north and south. Consequently, urban fabrics are affected from the main directions of these routes as I will elaborate further in the next sections.

Figure 39 shows the first phase of the territorial scale illustrated by the movement on the top-ridge routes, avoiding passage from lower landscape for protection purposes. The figure also shows the main springs forming the rivers as identified in blue.

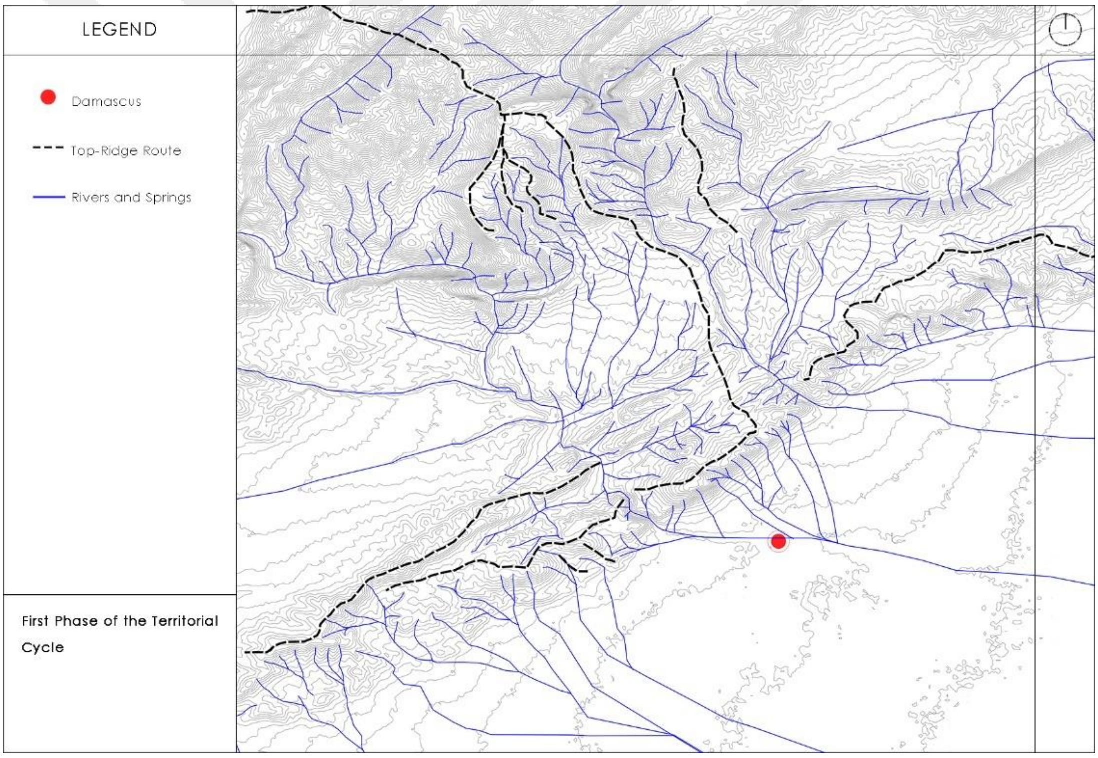


Figure 39. First phase of the territorial cycle.

Figure 40 demonstrates the second phase of the territorial cycle through the presentation of the secondary top-ridge routes which leads to the formation of the high promontory settlements.

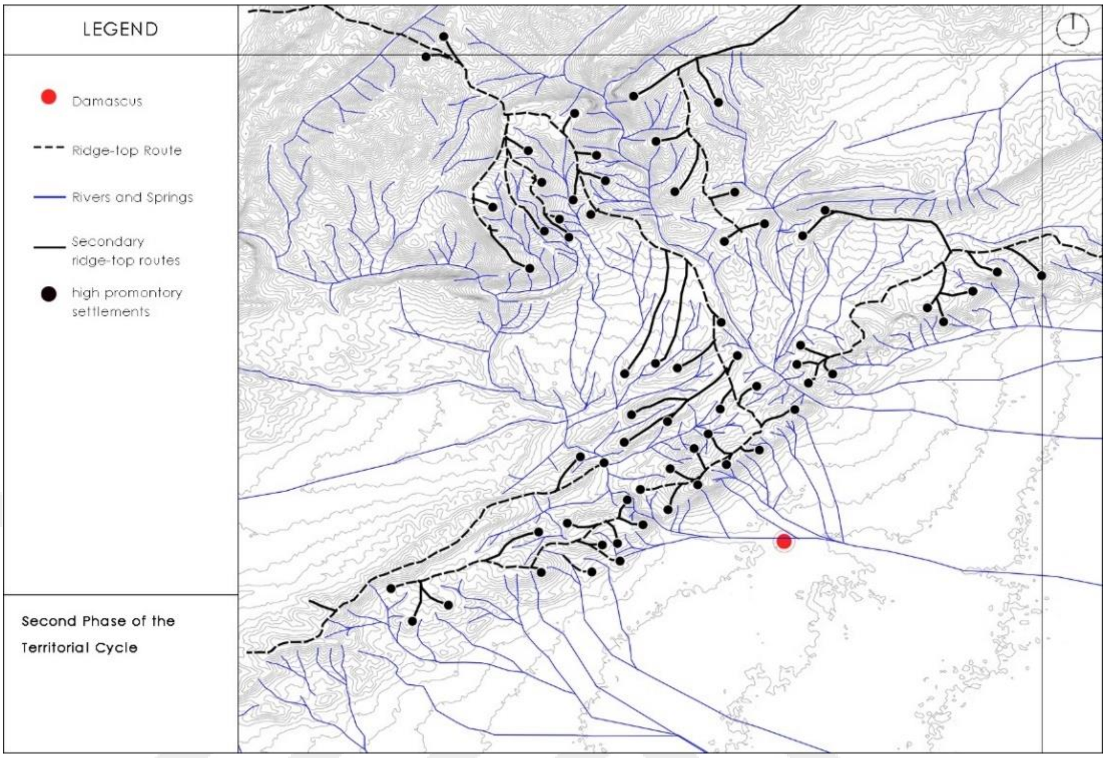


Figure 40. Second phase of the territorial cycle.

Figure 41 outlines the third phase of the territorial cycle process on which the connection of the settlements is reinforced by the formation of the local cross-ridge routes, and the multiplication of settlements to be located at the lower levels to become known as lower-promontory settlement. Only then we start to see the formation of the first elementary town centres resulted from the formation of the settlements located at the lower promontories.

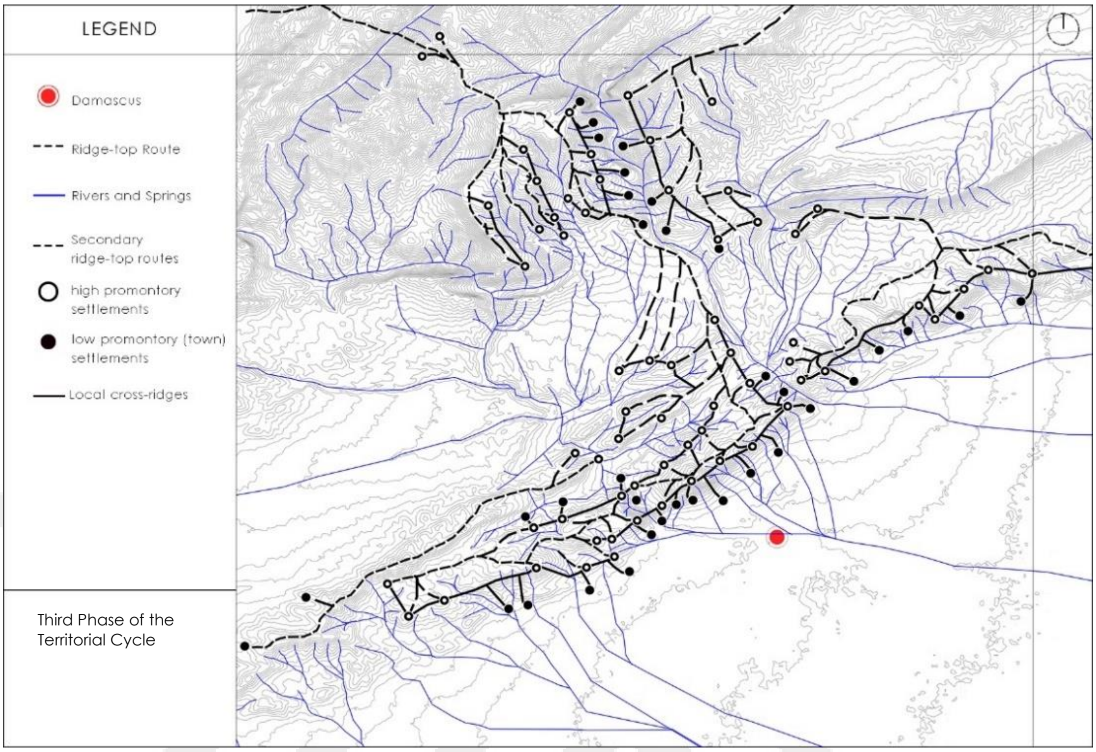


Figure 41. Third phase of the territorial cycle.

Figure 42 shows the fourth phase of the territorial cycle demonstrated by the continuous synthetical cross-ridge routes, the early formation of the medium and low valley settlements, as well as the early foundation of the valley routes forming the very first connection route parallel to the river of Barada.

Finally, Figure 43 shows the synthetical routes resulted from the analytical study of the territorial organism in addition to the cross-valley routes which connects the city of Damascus with the other valley settlements located on the parallel valley routes at the north and south directions. The valley and the cross-valley routes formed the perpendicular urban routes inside the city and explained the logic of construction early building blocks in relation to the essential routes by following their orientation.

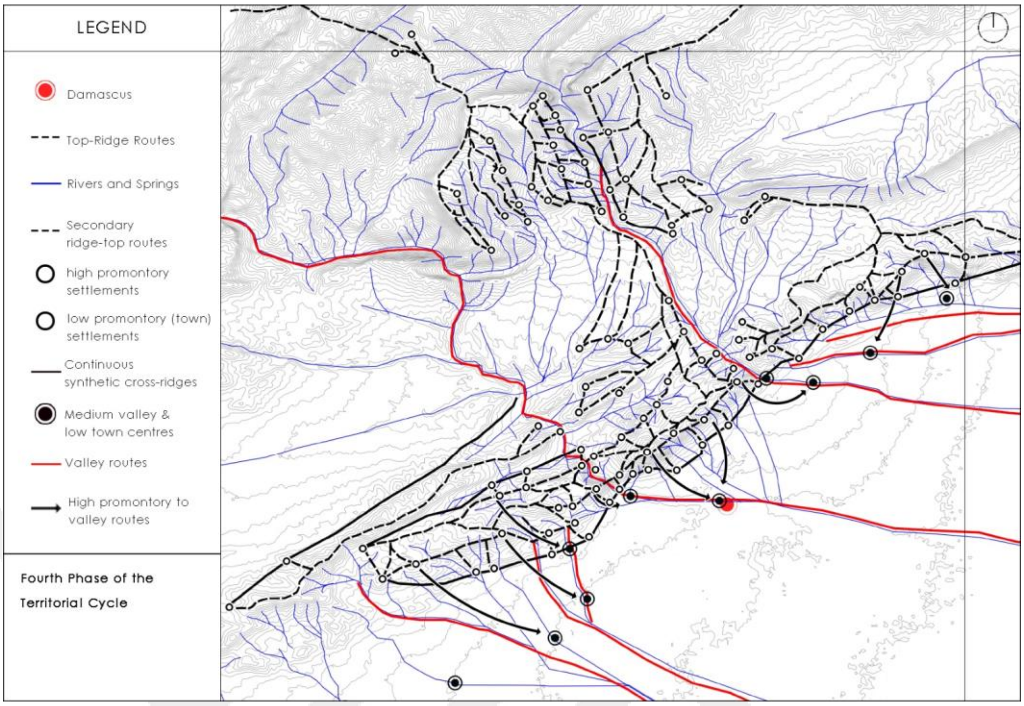


Figure 42. Fourth phase of the territorial cycle: continuous synthetic cross-ridges, medium and low valley town centres, and valley route.

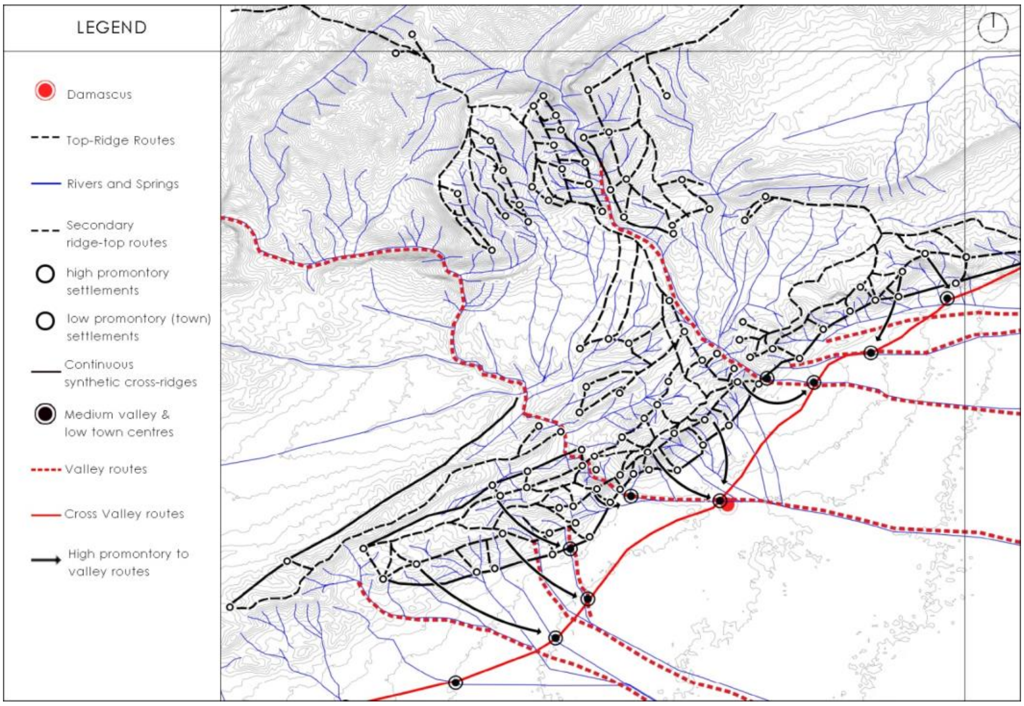


Figure 43. Synthetical routes resulted from the first territorial cycle, including the cross-valley route.

4.1.2 The Formation Process of the Enclosure: Morphological Analysis on the City Scale

The presence of Barada "*Chrysorrhoas*" river in Damascus is a fundamental component to the urban morphology of the old and new settlements as most of the building structures are located in relation to it. As we observe in *Figure 44*, the analysis made on the city's scale reveal that the area surrounding the Great Mosque is located at the intersection point between the cross-valley route and the low promontory settlement synthesized from the territorial organism which was found from the city geographical lines. In addition, these routes were also seen to be relative to the ancient routes observed in historical sources. This indicated that the area surrounding the Great Mosque was the first urban settlement and had needed a strong fortification for protection purposes.

Moreover, it is well noted that the orientation of this urban structure is parallel to valley-route and to the ridge-route realized on the Straight Street, which connected the old promontories inside the city. On the other hand, the same area seems to be perpendicular to the cross-valley route which is parallel to the *Strata Diocletiana* and the ancient routes crossed the city diagonally.

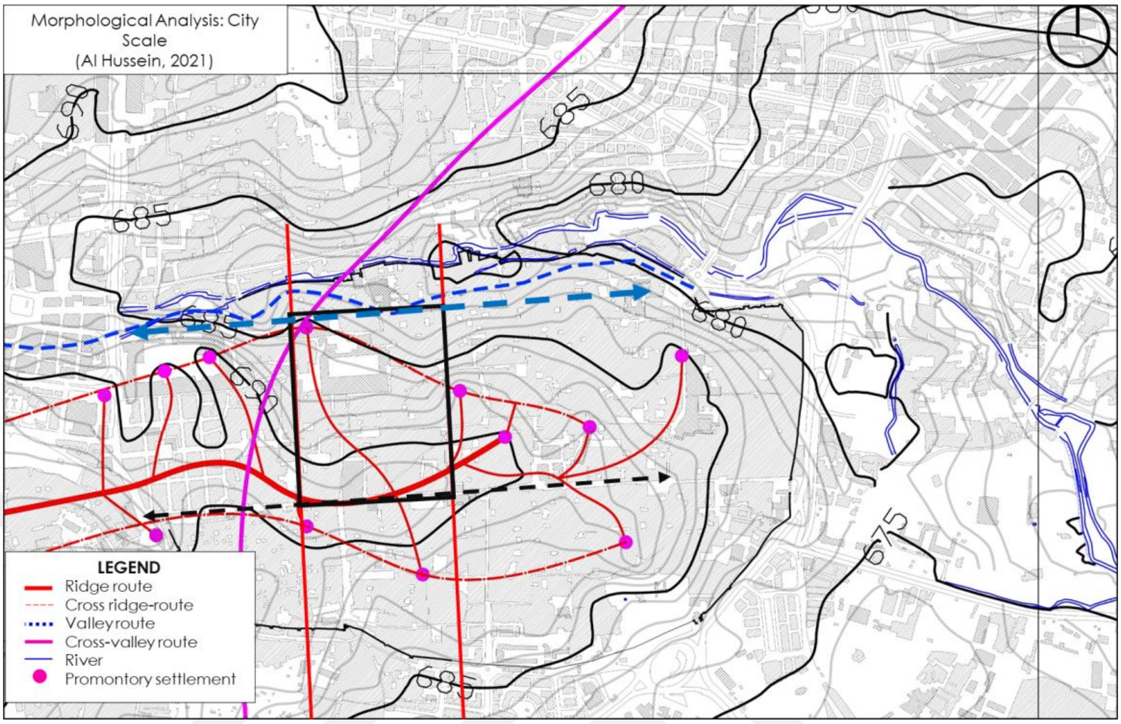


Figure 44. Morphological analysis on the city scale.

Figure 45 shows an evidence from an iconographical source as it provides further indications on the importance of river by depicting a temple with a river on one of the coins dating back to Emperor *Macrinus* (r. 217 – 218 AD) (Kiwan, 2010). This configuration revealed that the structure might be temple of Damascus with the river being the river of Barada located adjacent to it. This indication reinforced the fact that certain transformations was needed due to its adjacent position to the river and the need to enclose the very first settlement for protection purposes.

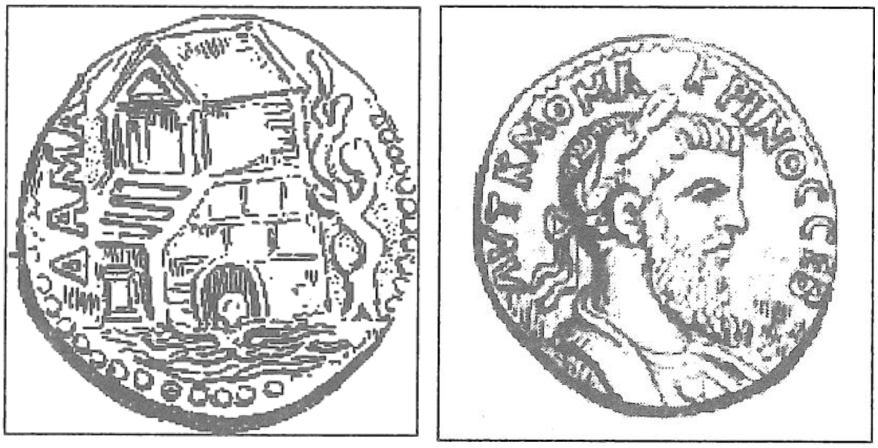


Figure 45. Bronze coin dedicated to Emperor *Macrinus* (r. 217- 218 AD). Adapted from *Intaj Al-Maskokat wa Tadawoluha fi Dimashq wa Rifiha,* (p. 336), by K. N. Kiwan, 2010, Damascus: Directorate General of Antiquities and Museums.

On the other hand, *Figure 46* displays comparative configuration in one of the cartographical sources seen on a medieval map drawn by Georg & Franz (1575), depicting Damascus' urban structure. The geographical illustration shows that the river as the dominant element inside the old city. We also can observe that the river divides the city into two parts with many bridges mediating the northern and southern settlements which behave like a connection routes of both areas. The city at the north includes the main Roman monuments with some still preserved buildings including the Great Mosque and other imperial structures indicated by the authors, while the southern part of the city includes the other settlement -which may be the earliest- indicated by smaller houses and some public buildings. In addition to the importance of this illustration in showing the "hypothetical" formation of the antique city, it also indicates the importance of its landscape elements such as the mountains and the river that crossed the old city.

Figure 46. Damascus settlement in a cartographical source. Adapted from *Vol II (55) Damascus* [David Rumsey Historical Map Collection/ Cartography Associates], by B. Georg, & H. Franz, 1575, Cologne, Germany: Peter von Brachel. Retrieved from https://bit.ly/3kA1r8G

Accordingly, *Figure 47* shows the cadastral map of Georg and Franz overlayed on the current digital satellite imageries of the old city, it seems evident that the river was located adjacent to the enclosure of the mosque structure and the different canals that once formed the Barada River. This supports my hypothesis which suggest the importance of the river in forming the early settlement and perhaps the orientation of the enclosure towards this specific natural landmark since its early establishment.

Figure 47. Cadastral map geo-referenced on a real map to show the river. Adapted from *geo-referencer* [David Rumsey Map Collection]. Retrieved from https://davidrumsey.georeferencer.com/maps/41d14e65-65cf-5662-b92c-b13768e3c554/view#674262747168

Austrian philosopher, Otto (1930) produced a diagram on the growth of Damascus by comparing the increase of population and the physical settlements of the old city. *Figure 48* shows the diagram which depicts the growth of the city by covering the historical timeline from 300 BC to 1930 AD. Each map explains a phase in which the city had developed its physical urban structures. The information was depicted with Isotype (International system of typographic picture education) a method for gathering, organising, and distributing information and statistics through pictorial means. The first form of the ancient city was depicted to include two settlements on both sides of the banks belonged to the river. This does not only explain the logical formation of the city towards the river, but also indicate that growth that started from this specific area towards the south, with the area of the former temple being located at the northern part of the southern settlement which kept growing, while the northern settlement had declined after 3rd century by the Graeco-Roman establishments until the early Ottoman era in 16th century.

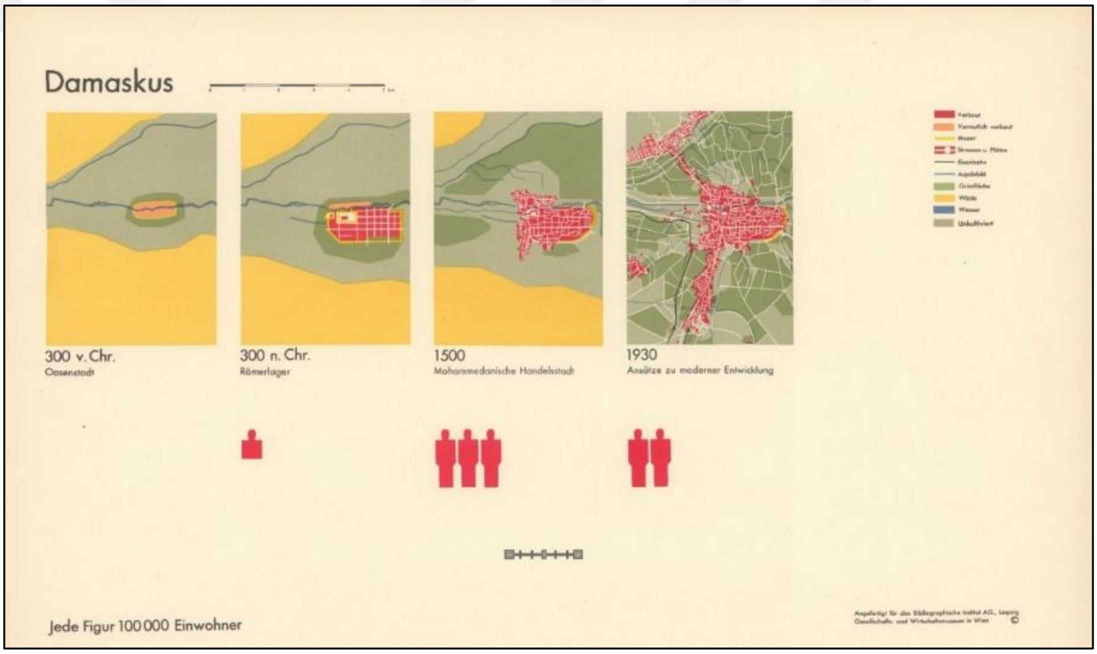


Figure 48. Growth of the old city of Damascus. Adapted from. *Damaskus: 300 v. Chr. - 300 n. Chr. – 1500* (p. 69), by N. Otto, 1930, Leipzig, Germany: Bibliographic Institute. Retrieved from https://bit.ly/3c8JwRx

4.2 *Historical Strata(s) and the Early Settlement*

Poidebard's (1934) discovery of historical routes in the Syrian region with several fortifications outlined the importance of the Roman military presence in the region and in Damascus city in particular. The discovered archaeological remains seen from number of aerial photographs revealed several sites belonged to the Roman castellum building types with major ones are located nearby the city of Damascus. Most of these fortifications dated to the 3rd century (Burns, 2003). The study outlined the position of the *Strata Diocletiana* (originating from Sura in the north to Aila in the south) which helps to construct the formation of the city during this specific era. *Figure 49* displays the *Strata Diocletiana* and its relationship with the discovered forts.

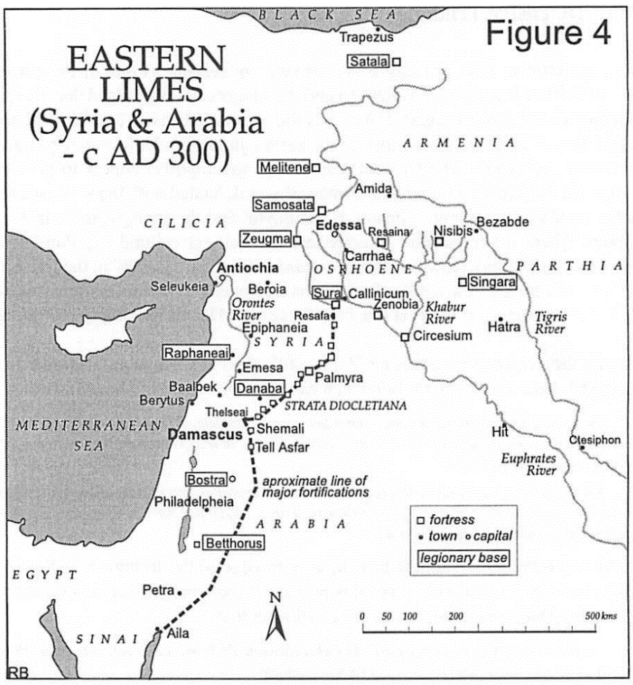


Figure 49. Eastern Limes of Syria and Arabia (c. 300 AD). Adapted from "The Defence of Roman Damascus" by R. Burns, 2003, *Electrum*, *7,* p. 56.

Other historical routes shown in the ancient source of the *Tabula Peutingeriana* revealed the interconnection of Damascus as major hub, since it is located across major routes. *Figure 50* displays portion of the map seen in the 13th century map of *Tabula Peutingeriana* discovered by Meissel, as cited in Euratlas (2007).

Figure 50. Depiction of Damascus in the *Tabula Peutingeriana*. Adapted from "The complete Tabula Peutingeriana - a Roman road map compared with a modern map", In *Euratlas*, 2007, Retrieved from https://www.euratlas.net/cartogra/peutinger/index.html

The map in *Figure 51* shows the overlayed map of the *Tabula Peutingeriana* and the *Strata Diocletiana* on the map of Syrian region. It outlines the degree of orientations of these routes by connecting it with other nearby cities. Two major routes were identified from the Tabula Peutingerian and they are as follows:

1. Route A: passes through the city from the north to southwest which was known to be the pilgrimage route.

2. Route B passes through the city from southeast to northwest in the direction of the river, which was the connection with the southern Arabian Peninsula.

The orientation of both routes is relevant to the formation of the *Decumanus Maximus* (Straight Street) and the *Cardo Maximus* which was built inside the old city of Damascus. The third and most important ancient route is the *Strata Diocletiana* which represented in the map. It crosses the city from northern east and directed towards the south-eastern direction.

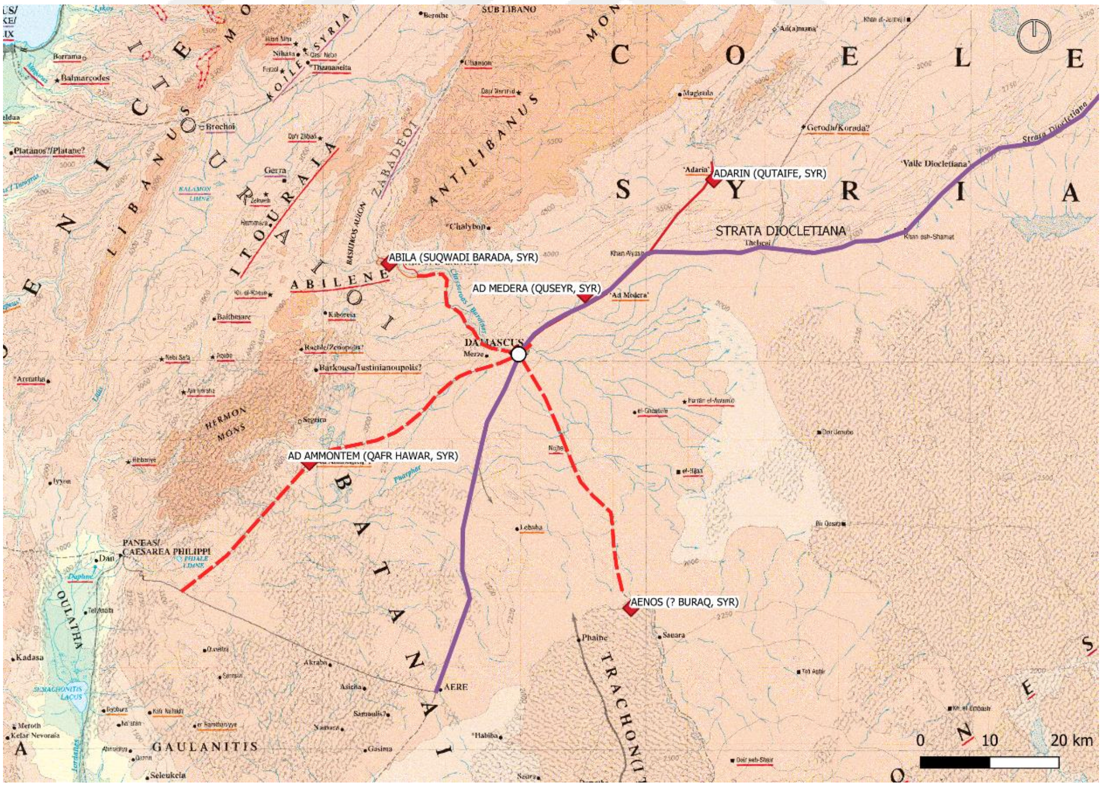


Figure 51. Ancient routes of *Tabula Peutingeriana* and *Strata Diocletiana* based on digital maps. Adapted from *Barrington Atlas of the Greek and Roman World*, by R. Talbert, 2000, Princeton, NJ: Princeton University.

Finally, in order to form a clear concept on the nature of these routes in forming the urban structure of the city of Damascus, *Figure 52* shows the collection of the ancient roads as gathered from physical and textual sources, in addition to the routes originated from the study of the territorial cycle. This map showed that these routes formed the early urban settlements of the city. It also indicates that ancient routes and the synthetical routes of the territorial organsim are closely related to each other. This clarified that the forrmation of the ancient city and the orientation of the urban structure routes are formed in relation to these major routes in addition to its polarity towards the Barada River.

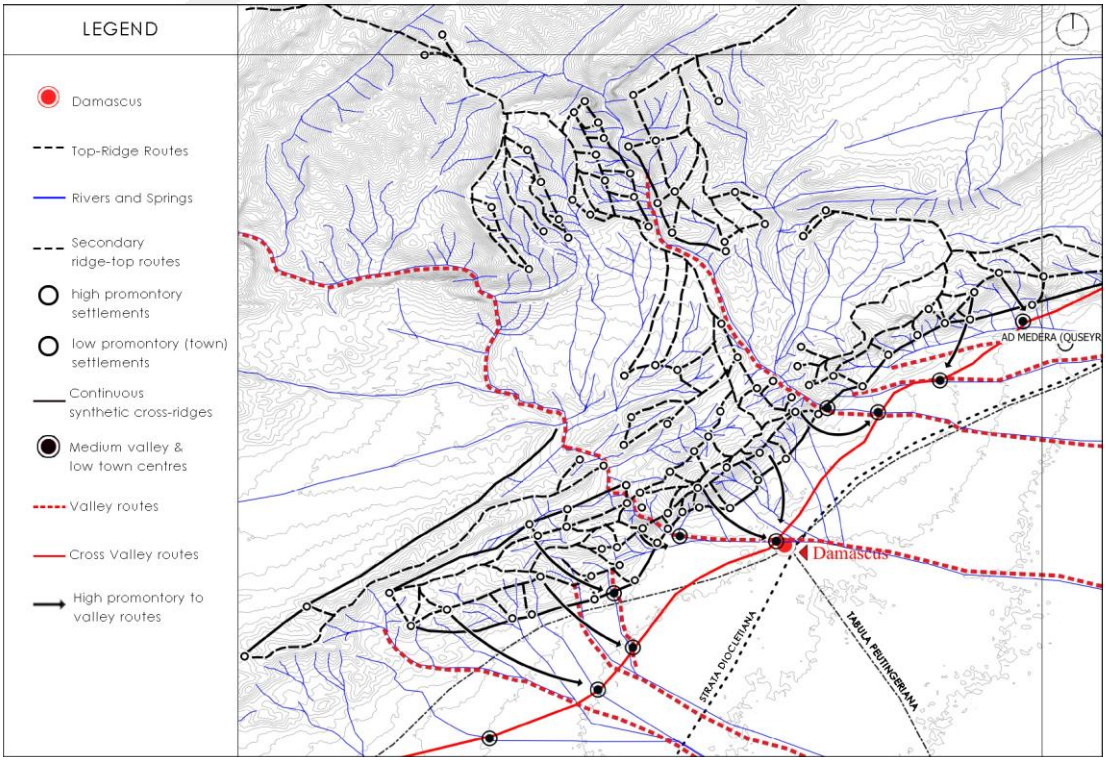


Figure 52. Combined map of the synthetical territorial routes and ancient routes.

4.3 The Study of the Urban Organism

In my research, I followed different examination measures on the urban fabrics of the old city which aims to track the transformation process of the historical town by analysing the coexistence of monuments and their typologies, consistence of the road networks, orientation of the building blocks, and the relative measures of the blocks to the standard Roman measures.

Since the scope of this study is to focus on the formation process of the Great Mosque and its surroundings as it hypothesizes the building of military structures, this research investigates the current structures by attempting to relate them to the main features of the Roman military headquarters existed in the region. The study examines this issue by presenting some of the physical indications seen on the urban fabrics and comparing them with the main features of the preserved or reconstructed headquarters.

Figure 53 outlines the studied area; it explains the relationship between the city and the enclosed space surrounding the Great Mosque. The urban enclosure defines the limits and the discontinuation of the street network originated from the different directions inside the city. In addition, the proximity of the area to the Straight Street, the main street of the old city, is an indicator that they belonged to a single organism located on a direct access of the main city. These early observations on the morphological features of the city revealed the particularity of this area.

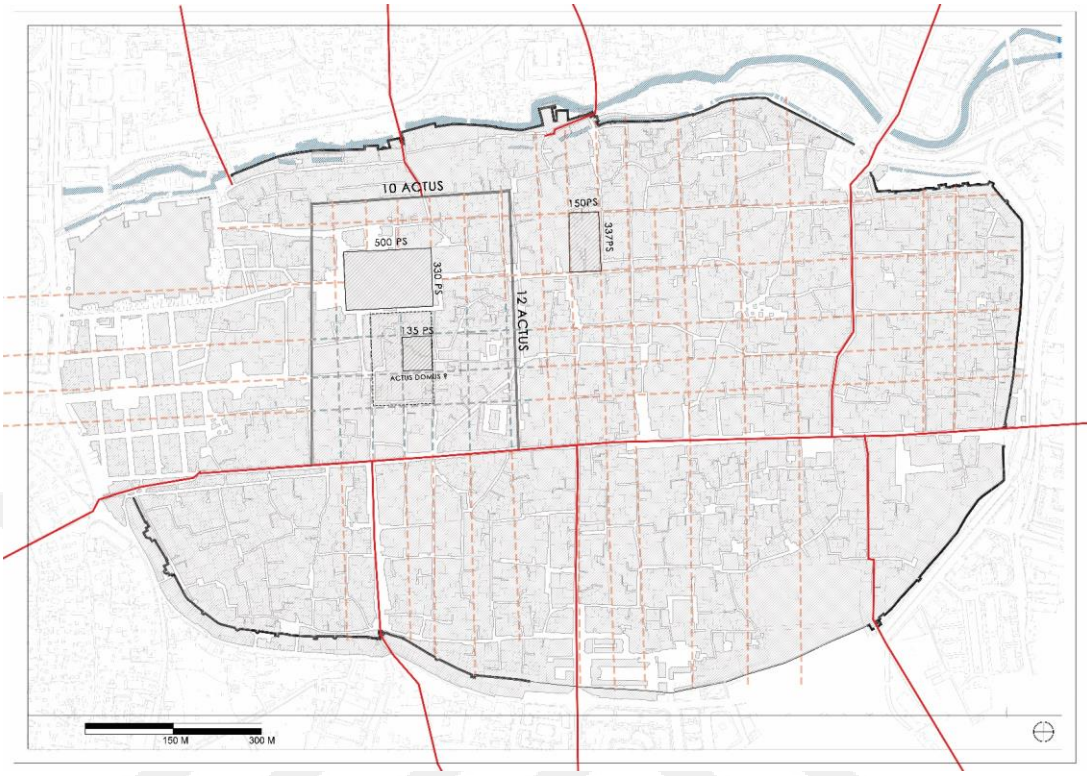


Figure 53. The highlighted and analysed area in relation to the city.

The area is rectangular in form and measures around (366 x 432 metres / 1236 x 1500 RF or around 10 x 12 Actus/ 30 Heredia); it covers an area of 158 sqm and includes the reconstructed space of the former temple's outer structure peribolos which measures around (340 x 288 metres / 1147 x 971 Roman feet) (Neglia, 2012). The urban form of this area is similar to the Roman military settlements located at major cities across the Roman territories which two of them are analysed in this thesis: Lambaesis located in modern Algeria (Favro & Yegül, 2019) (Figure 54), and the headquarter of Diocletian camp located in Palmyra, Syria (Isaac, 1990) (

Figure *55*).

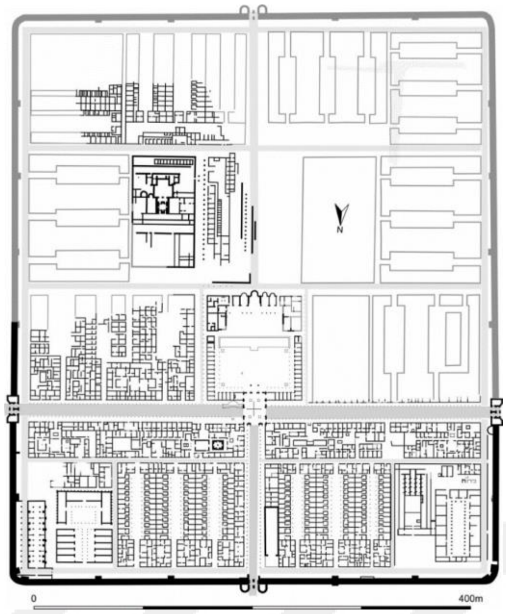


Figure 54. Reconstruction plan of *Lambaesis* headquarter. Adapted from *Roman architecture and urbanism: from the origins to late antiquity*, (p. 497), by F. Yegül and D. Favro, 2019, Cambridge, England: Cambridge University Press.

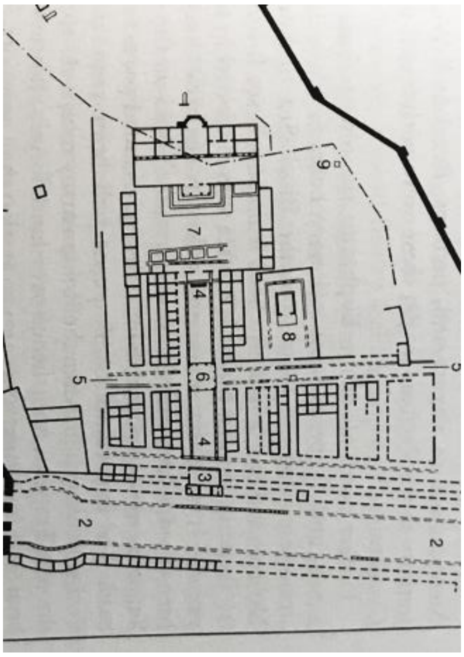


Figure 55. Diocletian camp and headquarter in Palmyra. Adapted from *The Limits of Empire: The Roman Army in the East,* (p. 166-167), by B. Isaac, 1990, Oxford: Clarendon Press.

In addition, we notice that the urban blocks constituting parts of the southern area measures between 135 x 135 Roman feet. These measures are relative to a phase of Roman blocks known as "Actus" which measures between 120 x 120 PS, as mentioned by Strappa (2018) (*Figure 56*). These measures also seem to be different from the Hellenistic blocks observed in Sauvaget's plan at the eastern part on the city, with each block measured around 150 x 337 Roman feet.

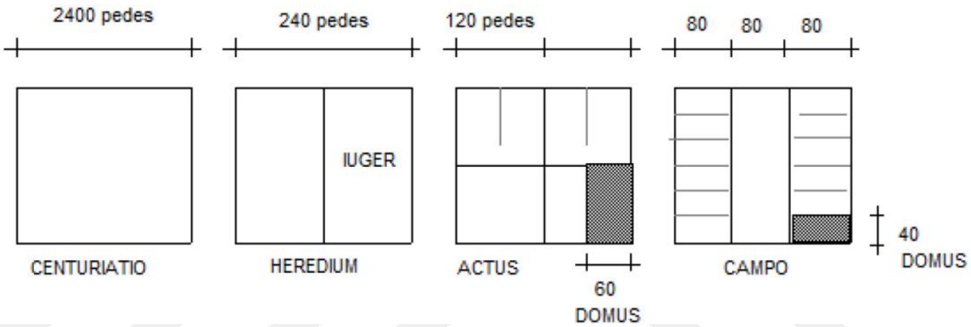


Figure 56. The formation process of Roman blocks. Adapted from "Urban morphology following the Muratorian tradition", by G. Strappa, in A. S. Kubat, E. Kürkçüoğlu, E. Küçük, İ. Kurtuluş, Kç Eskidemir, & M. Akay (Eds.), *"DeğişKent" Değişen Kent, Mekân ve Biçim: Türkiye Kentsel Morfoloji Araştırma Ağı II. Kentsel Morfoloji Sempozyumu.* (pp. 83). 2018, Istanbul, Turkey: Marmara Belediyeler Birliği Kültür Yayınları.

The reconstruction plan of Lambaesis headquarter settlement (Yegül & Favro, 2019) revealed comparatively similar measures and proportions with the highlighted area in the case of Damascus. The overall settlement measures around (420 x 514 metres / 1418 x 1736 Roman feet or around 14.5 x 12 Actus) covering an area of (215 sqm / 40 Heredia). Moreover, the enclosed space consisted of different building facilities including: *castellum*, *Praetorium* (military headquarter), military hospital, bath house, barracks, and houses for some six thousand soldiers. The rectangular layout of Lambaesis settlement follows a rectangular plan divided into four quadrants following the main directions: the eastern and western sides is connected with the *Via Principalis*, while the northern and southern is connected through the *Via Praetoria*. Both streets are wide colonnaded routes and include different nodal points. Additionally, the location of the *praetorium* at the central part of this enclosure is relative to the location of the urban tissue of the ancient enclosure in the case of Damascus. The urban tissue of the *praetorium* in Lambaesis measures around (70 x 126 metres / 426 x 236 Roman feet) which slightly corresponds with the Mosque's urban tissue which measures around (156 x 98 metres / 526 x 337 Roman feet).

On the other hand, the reconstruction plan of Diocletian camp in Palmyra (Isaac, 1990) shows similar function to the one in Lambaesis, which served as a military installation dedicated to Emperor Diocletian during 3rd century AD. Moreover, it functioned as a military base for the *Legio I Illyricorum* during late-3rd century (Isaac, 2000). It is located near the western walls of the city and was built in relation of the *Strata Diocletiana*, which part of it reached to Damascus (Poidebard, 1937). Unlike the settlement in Lambaesis, the military enclosure in Palmyra has an irregular form and covers larger area. It measures around (550 x 500 metres / 1858 x 1689 Roman feet or around 50 Heredia -which makes it the largest) and included a *praetorium*, a temple, and tetrapylon. The arrangement of this camp is facing west and has similar arrangement of the reconstructed plan of the headquarter in Lambaesis, especially when observing their urban connection of the *Via Principalis* leading towards the Tetrarchic walls.

4.4 Analysis of the Surrounding Urban Tissues

The urban tissue located south of the Mosque indicated similar proportions of the urban tissue of the Mosque in spite of their different orientation; as the Mosque is oriented towards the east-west, the southern urban tissue is oriented towards the north-south directions. The urban tissue measures around (150 x 98 metres / 506 x 331 Roman feet) found relatively similar to the Mosque's urban tissue which measures (156 x 98 metres / 527 x 331 Roman feet). This level of similarity seen in the proximity of both urban tissues and their close dimensions both serve as an indicator of the similar planning methods imposed during the early formation process of the city and the ancient enclosure. *Figure 57* shows the analytical studies made on the southern urban tissue of the Great Mosque.

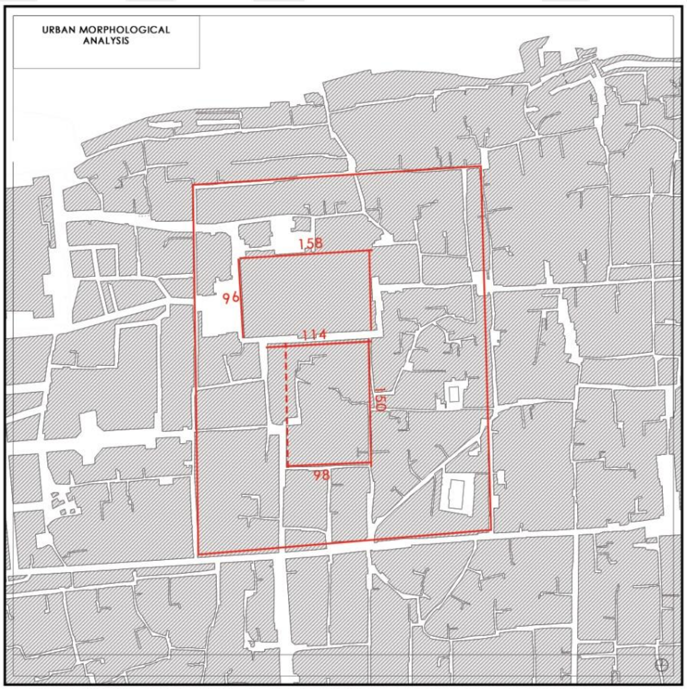


Figure 57. Metric studies on the Great Mosque and on its southern urban tissue.

Moreover, most of the building blocks located at the southern urban tissue is oriented north south. The northern part includes several row blocks function as commercial spaces and directed towards the Great Mosque. Similarly, the area located at the southern end of the southern urban tissue includes other commercial spaces directed towards an enclosed space of *Khan Asa'ad-Pasha*, while the western part directed towards *Souq Al-Buzuriyah* Street (Weber, 2009). The average size of the analysed blocks measure between (8 - 18 x 12 - 16 meters / 40 x 54 Roman feet) which almost corresponds to Roman housing units of (60 Roman feet). The inclusion of these commercial spaces in the urban tissue as well as the measures of some of blocks indicated a level of relative similarity of the Mosque and the surrounding areas. Other important elements found in this spot are the different ruins found to be dating back to antique and medieval phases.

The southern urban tissue also included the Byzantine palace built after 495 and served as a residence for the Byzantine governer of *Phoenice Libanensis*, on which Damascus was its capital (Burns, 2005, p. 88). The palace was used by Umayyad governors known as Al-Khadra for almost three centuries before the major fire of 1069 which greatly destroyed the palace including large parts of the southern wall of the Mosque. Part of palace is known to be the site of *Qasr al-Azam*, which was built and decorated during the Ottoman era (18th century AD). The location of the palace at this spot indicated the relationship between the two urban tissues as they both constructed as part of imperial structures within the highlighted area. This also revealed that this area once performed as the administrative centre during late-Roman and early Byzantine phases.

No trace of the palace on the current urban context due to the lack of archaeological excavations on the area, however, a textual source by Ibn Jubayr indicated the location of the palace and other facilities surorunding the Great Mosque by stating that:

The southern door is called Bab al-Ziyadah [Door of Increase], and opens on to a large and spacious vestibule, with immense pillars, where the bead-sellers and other have shops. It is an impressive sight. From it the way leads to the cavalry barrack, and to the left you leave is the Coppersmiths' Row which has been the palace of (the Caliph) Mu'awiyah -may God hold him in His favour – bearing the name al-Khadra' [the Green (Palace)] (IBN JUBAYR, p. 300). *Figure 58* displays an attempt to reconstruct the location of the palace on the current urban fabrics.

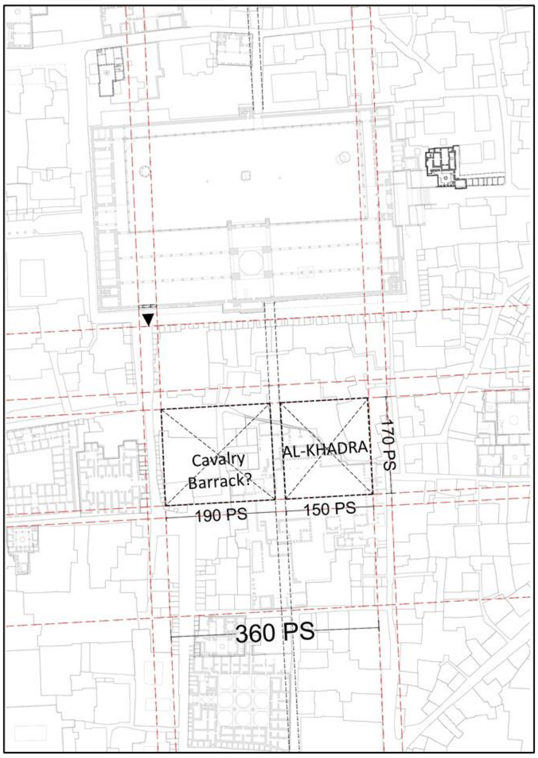


Figure 58. Hypothetical reconstruction of the southern urban tissue.

Furthermore, *Figure 59* displays a structure depicting a green domed structure located close to the city walls in the cartographical source of a Reinnesance artist Pietro del Massaio in 1475.

Figure 59. The depiction of the domed structure of "Al-Khadra" palace. Adapted from *Cosmographia, libri VIII, interprete Iacobo Angelo* (128r), by C. Ptolemaeus, 1469. Retrieved from https://digi.vatlib.it/view/MSSD_Vat.lat.5699/0271.

Finally, the urban tissues surrounding the Great Mosque includes several elements that suggest its imperial functions as part of a large and isolated area built by considering the centrality of the city which all findings be summarised in Figure 60. The area included large imperial buildings together with Roman houses that dedicated to military units immigrated from smaller towns. The area was built in relation to the river, fortified by towers and large walls, and probably included arms factories that was mentioned by the Byzantine chronicler Malalas in the year of 289 AD.

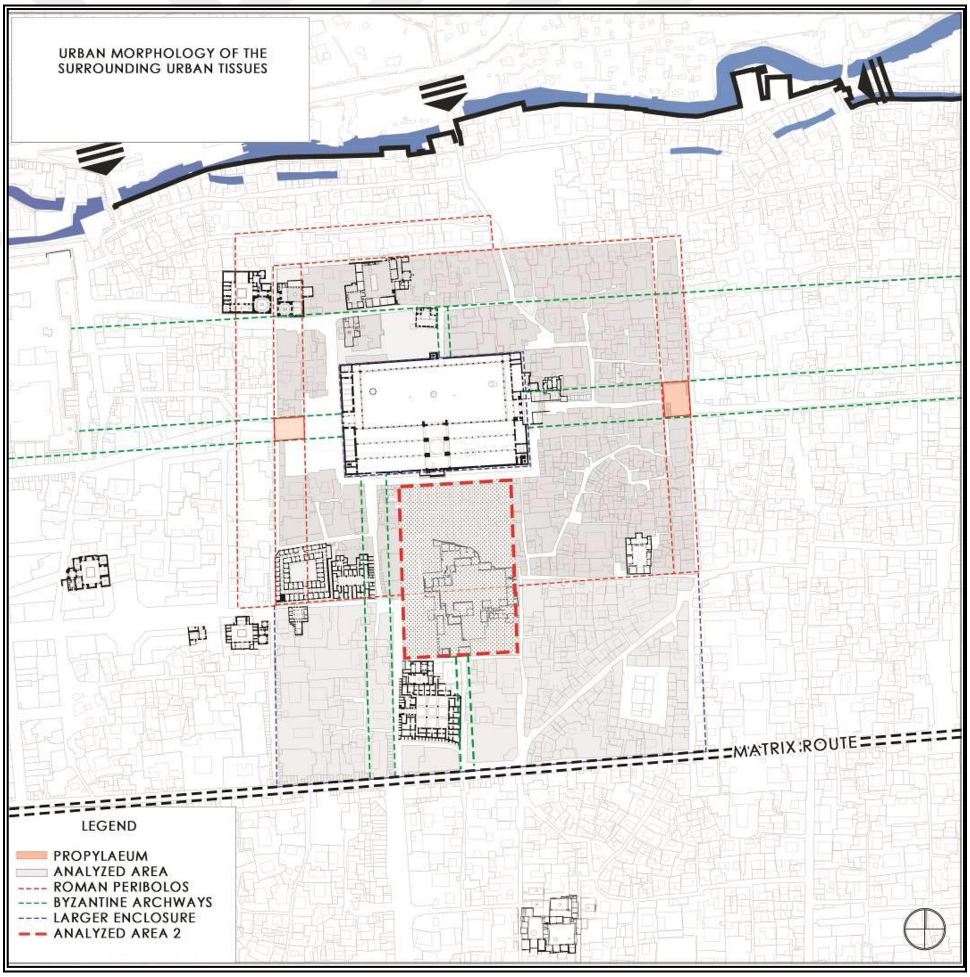


Figure 60. Total analysis on the urban routes, and partial reconstruction of the surrounding urban tissues.

The area incorporated three gates from the east, west directions, and the southern gate oriented towards the "*Via Recta"*. The gate located facing the *Via Recta* is the early gate of the enclosure which is located on a "matrix route" (as seen in the example of Lambaesis and Palmyra through the connection from the *via Principalis)*. While the other two gates located at the eastern and western parts were constructed later as a "planned construction route". This street stretched parallel of the *Via Recta* through the "connection route" that leads to the space of the *Agora* at the east and continued the other side towards the western part of the city (the current space of the Ayyubid castle). Figure 60 demonstrates the entire structure which includes:

1. The matrix route located at the southern part of the large enclosure known by *Via Recta* parallel to the River of Barada and located on the ridge-top route connecting high promontories inside the city.

2. The area highlighted in dashed blue indicates the later transformation of the area to include large, enclosed space, formed along the planned connection route.

3. The *peribolos* enclosure with the *gamma,* represented in small red dashed lines, indicated the early constructed tissues inside the large, highlighted area which includes the spot of the *temenos* enclosure.

4. The analysed urban tissue located at the southern part of the mosque represented in large red dashed lines, constructed as part of imperial buildings inside the urban tissues.

5. The connection routes represented in green which is indicated by the still preserved outer monuments. These elements were parts of the early constructed

routes erected during Hellenistic phase. The east-west directed streets with the entrance to the large enclosure at the central and lower parts of then *peribolos* space represent the other two entrances.

As far as the typological plans of building blocks is concerned, *Figure 61* shows the several buildings inside the highlighted as they were analysed by their typological arrangements. The area includes large commercial enclosures known by *Caravansary* or *Khans* (Weber, 2009) located across the western side of the mosque. These buildings were formed during the Ottoman era, as they were accessed through by *Tarik al-Hojjaj* (the pilgrimage route) from the *Souq Midhat Pasha Street*. On the other hand, many courtyard houses of various scales aggregated from smaller units are located at the eastern part of the Mosque, including the urban tissue at the southern east. The area includes many cul-de-sac streets which indicated the early formation of the Arab settlement inside the old enclosure. The area includes aggregates of small and large housing units randomly located at the semi-diagonal street.

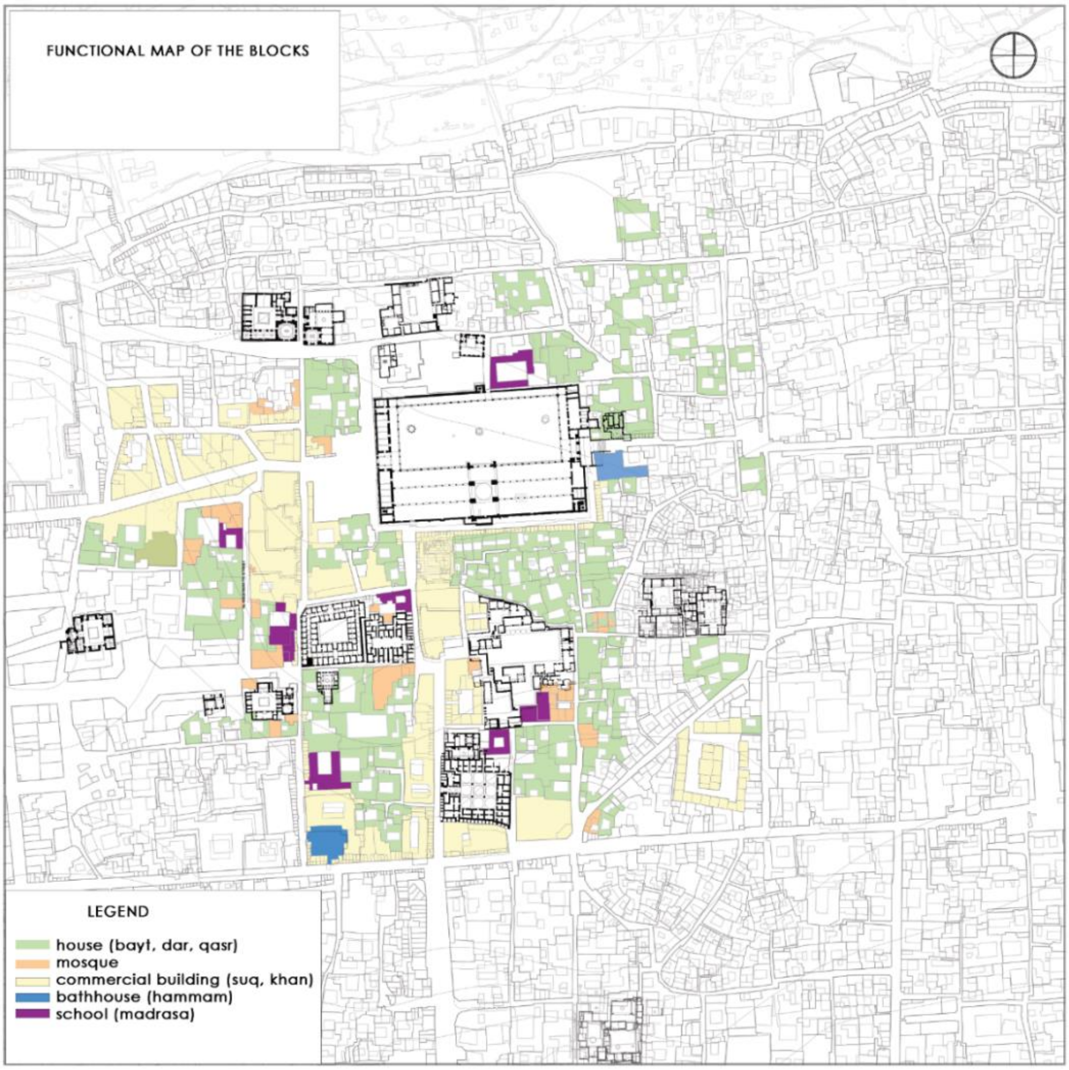


Figure 61. Typological plans of buildings located inside the highlighted area. Partially adapted from *Damascus: Ottoman Modernity and Urban Transformation 1808-1918 (Two Volumes)*, by S. Weber, 2009, Aarhus, Denmark: Aarhus University Press.

4.4.1 Courtyard Houses Near The Great Mosque

When we analyse parts of the medieval blocks which were located within the range of Neglia's (2012) study, we found that two of these houses share extensive features with a research made by Ünlü (1989) on the formation process of courtyard houses from the prospective of a cross-cultural attributes. Ünlü believed that Syrian courtyard houses with special courtyards known as *Riwaq* are derived from Roman Atrium houses known as “Compluvium”. He also believed that these houses can also be interpreted as an advanced typology of both typology of houses found in Iraqi houses known as *Tarma* and in Turkish/Ottoman houses known as Anatolian *Sofa* houses.

These houses were found on the south-eastern urban tissue (*Figure 62*). Two houses were only found and placed on the urban block. On the west, Beit Salim Al-Quwatli, while on its east is Beit Jabri. These houses seem to result from the aggregation of small courtyard houses, probably formed of a Roman atrium typology, then developed to include other physical elements special to the Syrian geographical and cultural specifications. This indicated the similar continuity of building structures in the surroundings of the Great Mosque.

Figure 62. The highlighted courtyard houses surrounding the Great Mosque.

4.4.2 Connection Routes to the "*Praetorium*" and their Mutational Processes

Another strong indicator to provide evidence on the theory of including a *praetorium* structure at the area of the Great Mosque is by tracking the original connection of the historical strata which used to connect the historical urban tissue of the *praetorium* with the city's main street currently known by "Via Recta" or the "Straight Street", which could be seen from a diagram shown in *Figure 63*.

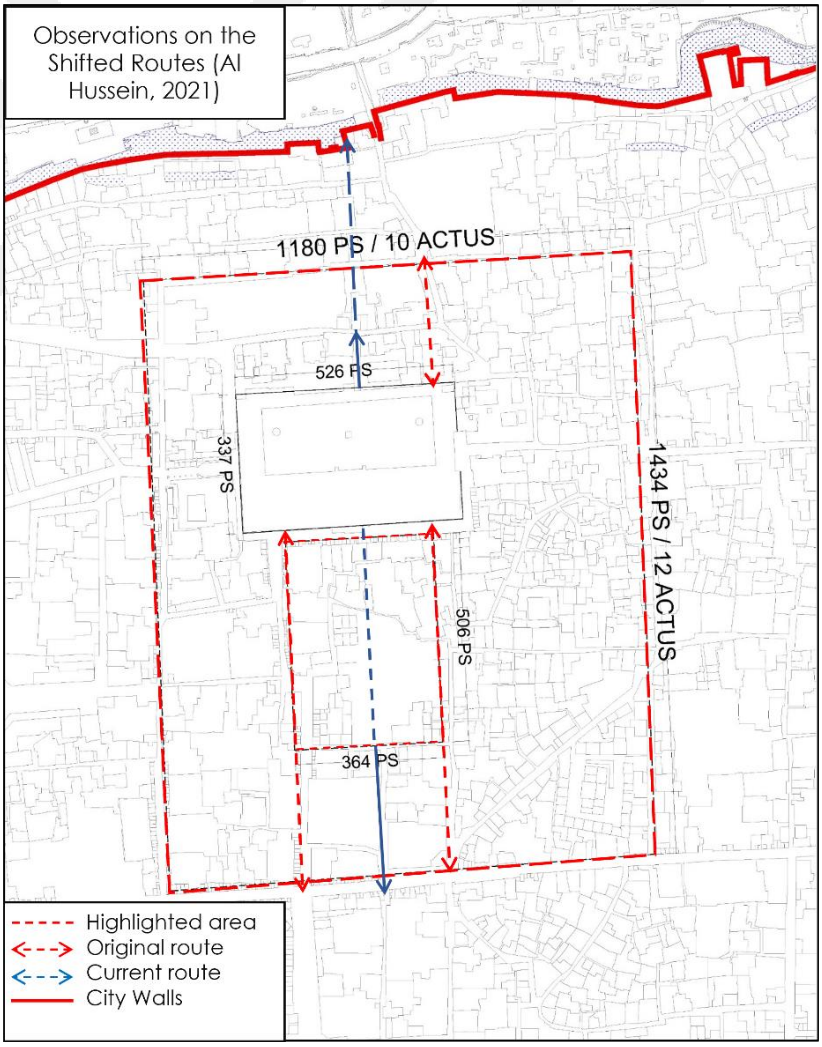


Figure 63. Analysis on the urban routes surrounding the Great Mosque.

We can notice two parallel routes extends from the Straight Street (shown in dashed Red) forming a connection between the main road and the Great Mosque. The eastern route is similarly seen on the northern side forming a connection between the large, highlighted area and the eastern part of the Great Mosque. These routes seemed to be resulted from the shift of the central road (shown in dashed Blue) with its fragments can still be seen between the southern urban blocks facing the Straight Street. Therefore, this road would hypothetically be used as a central access and a private entrance towards the *praetorium* structure. As seen, when it is extended towards the urban block of the Great Mosque, it is located at the central part of the southern wall and likewise it crosses towards the northern side reaching towards the main city wall of the old city.

The process of shifting the central route towards the sides was observed from the urban readings done by Caniggia's (1989) in the case of Florence. He believed that it followed a phase when the enclosure would no longer be used for military purposes, the *via praetoria's* path seems to shift and more importance would be given to the urban settlements surrounding the *praetorium*. Therefore, this can relatively be indicated in the case of Damascus in this specific area, as it is clearly visible that the road shifted from the central part, forming two new roads, and due to the new placement of the church which would have been located at the western part of the enclosure's southern wall (Section 5.3), the route would be located at both sides forming the southern urban tissues.

4.5 Archaeological Studies Surrounding the Mosque

Archaeological excavations on parts of the surrounding urban tissues revealed glimpse of the typological process of the surroundings in relation to the ancient enclosure of Umayyad Mosque. Several examples of imperial buildings were constructed in early phases and later transformed to either private houses or commercial spaces. This thesis will briefly explain each of these studies separately to illustrate the relationship between them and the analyses we carried out on the area surrounding the Umayyad Mosque. *Figure 64* outlines the location of analysed archaeological studies which contained in them an imperial characters which found relative to the hypothesis.

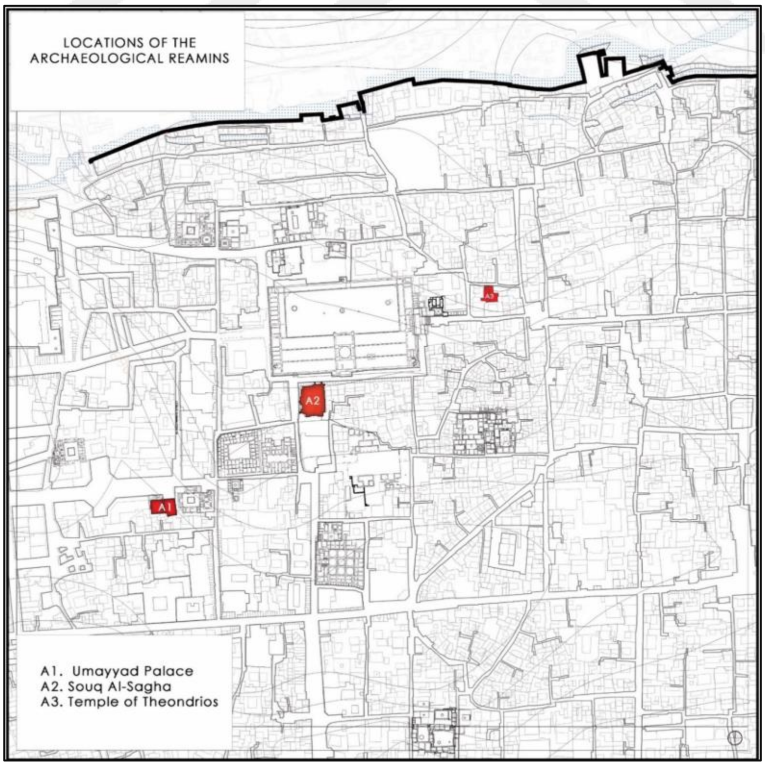


Figure 64. Locations of the analysed archaeological studies.

4.5.1 Administrative Centre of Umayyad Governors

One of the examples which indicates the imperial structures built during pre-Islamic phase is a Byzantine palace located few meters from the western side of the temple's peribolos (Saliby, 1997). Inscriptions found during excavating indicated that the building was transformed to Umayyad palace. The site of the excavated palace lays 2.5 metres below the ground level and included remains of ancient walls, composed of large stone blocks dating back to the Roman period. The inscription found at the palace located inside one of the interior halls on a large mosaic panel with a mosaic that included geometrical patterns. The style of the mosaic and the written inscription indicates that the structure was constructed during similar chronological phases of the southern gate of the Mosque's transept (4th – 5th century). Moreover, these findings were relevant to the Great Mosque since parts of the enclosure holds similar artistic features. Figure 65 shows the location of the palace in relation to the supposed location of the peribolos enclosure.

Further invetigations done by Whitcomb (2007) on the archeaological remains indicated that the surroundings of the mosque followed special spatial developments which was known in the early conquired cities. The area included administrative buildings formed at near close to the Great Mosque during the Umayyad era. Thus, these findings were found relevant to most of Umayyad cities transformed from Roman settlments.. Whitcomb argued that these cities followed a module similar to each other. *Figure 66* shows part of Whitcomb study on Umayyad city of Ayla as a module for early Islamic cities transformed from Roman settlements.

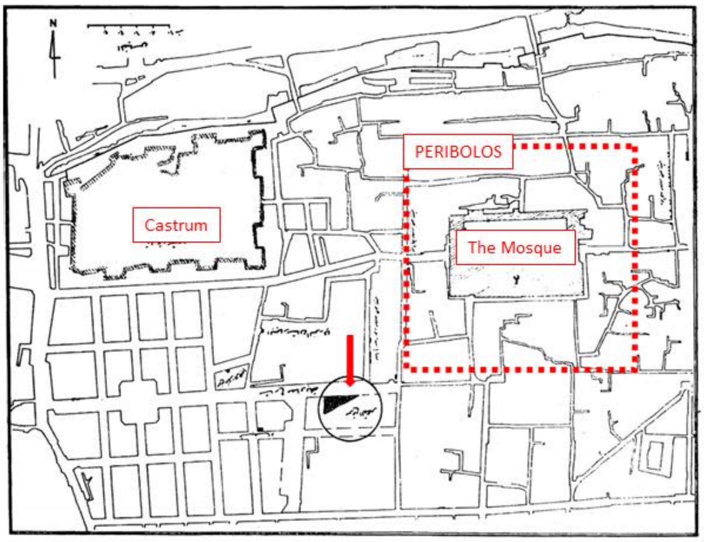


Figure 65. Byzantine palace transformed later to Umayyad courtyard house. Adapted from “Un palais byzantino-omeyyade à Damas”, by N. Saliby, 1997, *Les maisons dans la Syrie antique du IIIe millénaire aux débuts de l'Islam, Damas, 27-30*, p. 192.

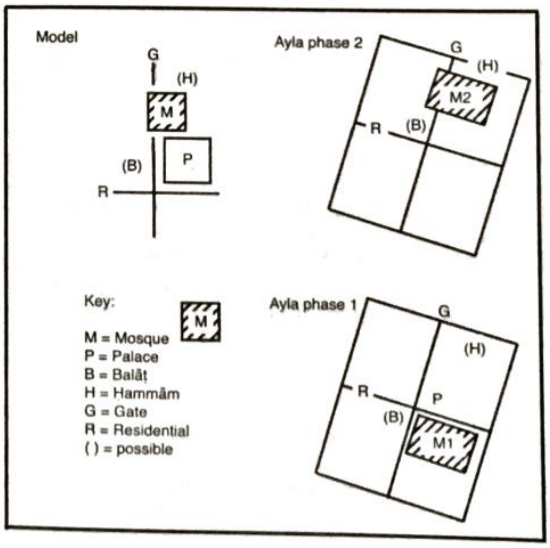


Figure 66. Module of the proposed configuration of Early Islamic city “Ayla”. Adapted from “An urban structure for the early Islamic city: An archaeological hypothesis” by D. Whitcomb, In A. Bennison, and A. Gascoigne (Eds.), *Cities in the Pre-Modern Islamic World*, (p. 23), 2007, Oxford, England: Routledge.

The function of this specific arrangments entailed in what he calls “Al-Balat” is to serve as headquarter for Umayyad governers. This typical urban module was defined to include imperial functions in the city centre, consisting of: residential buildings, bathhouse, palaces, mosque and the main gate was formed around the mosque enclosure. Therefore, the archaeaological study and this investigation may suggest that the area surrounding the Great Mosque included important building transformed from pre-Islamic buildings to form a large territorial complex.

4.5.2 Suq Al-Sagha Area

Archaeological excavations completed in 1973-1974 at the ancient *Suq al-Sagha* in front of the southern wall of Umayyad Mosque (Uqayli, 2008) uncovered several structures dating to different phases. The results of these excavation were studied by Sack, Krauskopf, and Mollenhauer (2008-2009) by outlining the chronological features of each fragment. Parts of this study were developed by Ahmad (2018) by reconstructing the Roman fountain *(Nymphaeum)* structure which belonged to the temple’s component mentioned by early German scholars Wulzinger & Watzinger (1921). *Figure 67* shows the findings with the outlined phases and the reconstructed fountain.

Figure 67. Analysis on *Souq Al-Sagha* in relation to the southern urban tissue.

The presence of other elements dedicated to different phases in these surroundings and its proximity ancient wall of the Great Mosque indicated the importance of this particular urban tissue. In *Figure 68* few analyses from this archaeological finding indicated the early form of the southern urban tissue by comparing some elements. One of these elements include an ancient wall which measures around 10 cm in depth. This wall was indicated as a second phase in comparison with the other encountered elements by considering its different type of construction. The extension of this wall towards east and south sides of the urban tissue outlines that there is 20 meters between this wall and the Mosque's outer enclosure. This space is twice the area of the street perpendicular to it which is located at the western side of the excavation. In addition, the presence of perpendicular walls at this level indicates that they were used as a singular organism to close a large area. The extension of the wall set the southern urban tissue's measure to be within the range of 98 metres in width. The wall is also highlighted in red in figure 64.

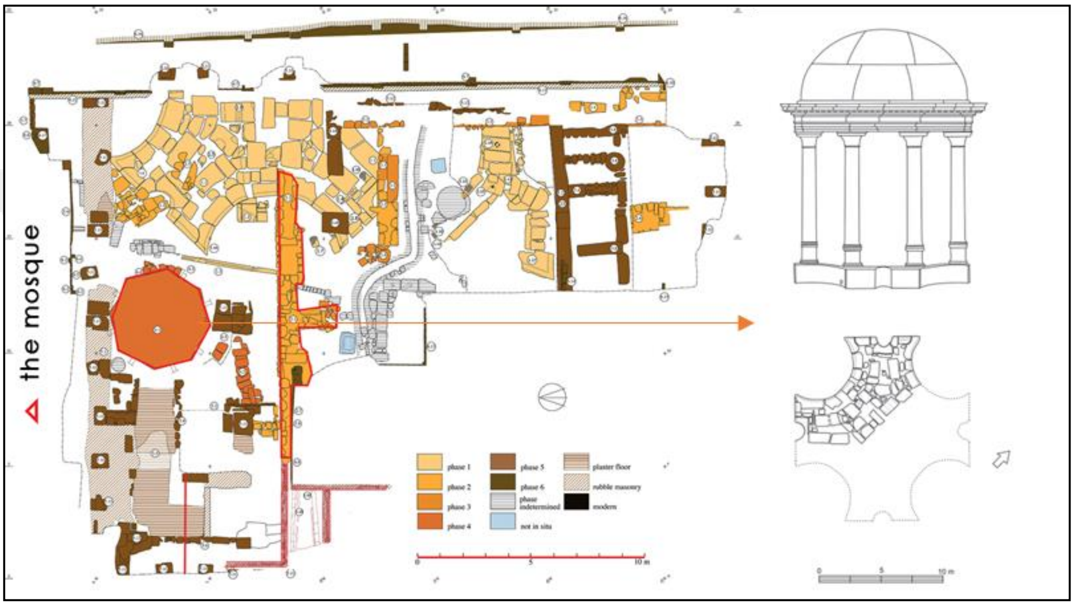


Figure 68. Souq Al-Sagha area and reconstruction model of the nymphaeum. Adapted from "La fontana monumentale del santuario di Damasco," by T. Ahmad, 2018, *Syria*, *95*, pp. 345-348.

4.5.3 Temple of *Zeus Theondrios* close to the Great Mosque

Archaeologist (Saad, 2018) allocated small fragments which belonged to another temple dedicated to *Zeus Theondrios* located at the eastern side of *Bab Jayroun*. Greek inscription found on one of the pilasters revealed the function of the building as a worship area erected during early Roman era (151 AD). This discovery encouraged to identify new structures within the complex surrounding the Great Mosque. As Saad (2018) argued that further investigations may reveal other structures built during early antique phases. *Figure 69* and *Figure 70* show the overall findings of the study and the reconstructed 3D physical model of the *propylaea* which belonged to the temple of *Theodndrios* located near the gate of the main temple's temenos.

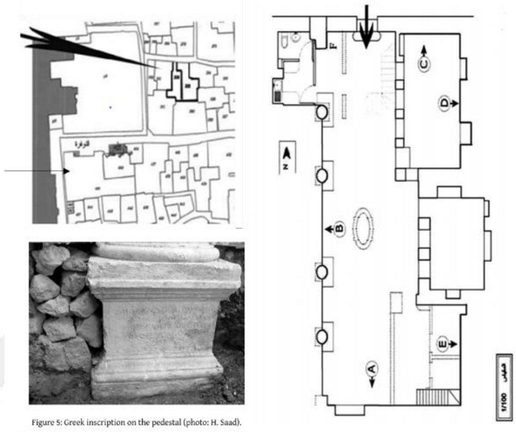


Figure 69. Fragments of another temple east of the Great Mosque. Adapted from "A New Place of Worship Dedicated to *Zeus Theandrios* inside the Temple Precinct of Damascene Jupiter," by H. Saad, 2018, *Archaeological Explorations in Syria 2000-2011* (p. 67), Oxford: Archaeopress Publishing.

Figure 70. Reconstruction of a *propylaeum* of the eastern temple. Adapted from "A New Place of Worship Dedicated to Zeus Theandrios inside the Temple Precinct of Damascene Jupiter," by H. Saad, 2018, *Archaeological Explorations in Syria 2000-2011* (p. 69), Oxford: Archaeopress Publishing.

4.6 Brief Study on the Building Block of the Mosque

The scale of the building block of Umayyad Mosque in comparison with its surroundings considered too massive since most of the buildings surrounding the mosque are either small houses or buildings formed of small to medium aggregates. On the other hand, when we compare the Great Mosque with imperial buildings, it becomes more relevant that it served as part of large complex in the city centre. Moreover, the presence of specific elements in Umayyad Mosque and its structural details indicates that the Mosque was a result of adopting Roman architectural settings which were known in the Near Eastern region. Herewith, the study addresses elements which indicates a defensive function inside the enclosure of the Mosque and will present them in detail in Chapter 5 by comparing them with similar buildings that contain comparable features.

Figure 71 shows the spaces of eastern and western halls inside the Great Mosque. The width of these spaces measures around (10 metres) and are parallel to the outer walls of the *temenos* walls. Moreover, these spaces include towers on both of their ends in each corner. The typology of these spaces and the towers is similar to Umayyad garrison castles transformed from Roman *Quadriburgium* structures as we will discuss in the next chapter.

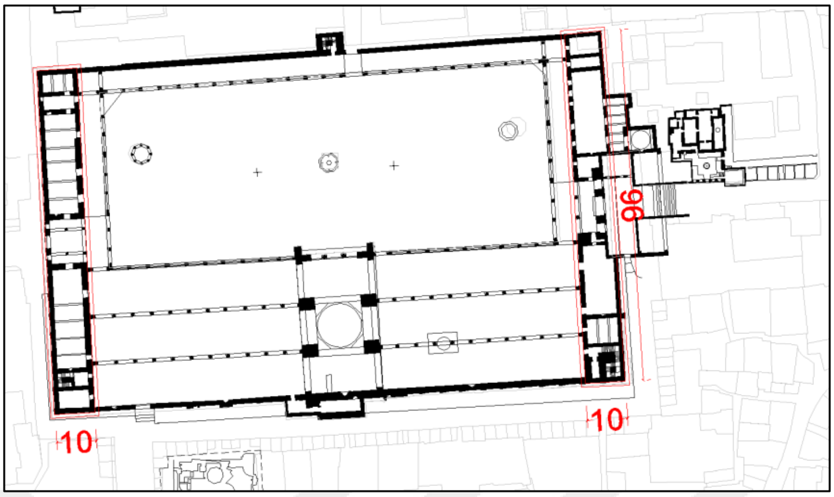


Figure 71. Analysis on parts of the Great Mosque.

The towers of Umayyad Mosque consists of different sizes of stone ashlars formed in different phases while preserving the original form and order of the Great Mosque. The foundation of the towers is rectangular which measure between 10 – 12 meters. The southern-west tower is oldest preserved structure due to the presence of large stone ashlars and pilastered columns decorated with Doric capitals attached to the outer surface, large stone ashlars similar to the remaining structures, and the wall which consists of small window openings similar in form to the arrow-throwing slits.

The inter-connection of the towers with the side halls appears to support the theory of reconstructing the Mosque through the use of existing parts and by avoiding demolishing the existing built fragments inside the enclosure. In addition, the similarity of the towers and the side halls indicate a similar date of their construction. *Figure 72* show the location of the cornered towers and *Figure 73* show a photograph of the arrow slits observed on the western front of the Great Mosque.

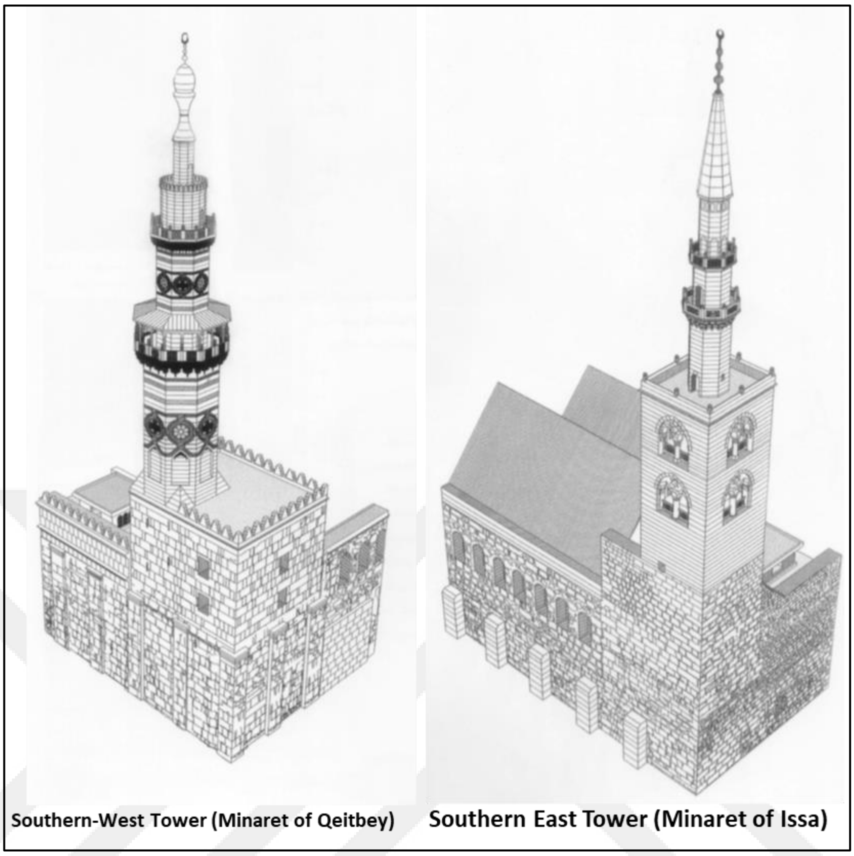


Figure 72. The cornered towers at the Great Mosque. Adapted from *Al- Jami Al-Umawi fi Dimashq* [The Umayyad Mosque in Damascus] (p. 208; 214), by T. Uqayli, 2008, Damascus: Barnamaj Taḥdith al-Idarah al-Baladiyah.

Figure 73. Narrow windows at the western wall near the decorated columns.

Conclusion of the Chapter

Our reliance on history as an indicator to form a speculative view on the architectural interventions that took place in a specific period was reinforced by the analysis we had done on the different scales. Thus, I provided a different theory with a question as to whether this part of the city contained buildings whose use was other than being religious, may had served other functions during the second Roman period. In summary, we should also be aware that the area around the mosque contains important indications within the numerous architectural and urban elements which refers to the importance of it, in addition to the fact that it is located at the nodal point between the straight street and the river and at the intersections between all ancient major roads.

I would also like to point out here that by addressing this theory, we have concluded that parts of the Great Mosque until this day may have a fundamental physical relationship to the same imperialist style, which may have been formed in the same period that we discusesd, but also should be understood in relation to the surrounding urban fabrics.

In the next chapter, we will also review the detailed history and attempt to add the theory of the existence of *castra praetorium* to the comprehensive stages of the formation of the Umayyad Mosque in Damascus.

CHAPTER V

INTERPRETING THE MOSQUE AS A CONTINUOUS BUILDING PROCESS

This chapter will raise the hypothesis that the Mosque is an extension of the previous buildings located in the early inner precinct mentioned in early sources. To support the theory of the continuous development of the structures built during the pre-Islamic eras, I divided the stages of this process into three transitional phases after which the original temple was built. In addition, this chapter will address the form of the building typologies in a chronological order; from temple, church, *castra praetorium*, to the complete construction of the mosque, to understand the transformation process of each era through the study of the diachronic building variants located across the Syrian region. Using this method, we aim to reconstruct the initial forms of each building existed inside the ancient precinct and identify the dates of each element to reconstruct the phases of the Great Mosque of Damascus.

This chapter demonstrates the fourth scale (prior to the territorial, city, and urban scales) of the Muratorian method which involves studying the building plot through the typological process. This step focuses on the variants of the building and their chronological comparisons by observing the current structure. In parallel, this chapter addresses number of iconographical sources which has similar form with some elements and their possible transformations to compare them with the current preserved elements.

5.1 *The Formation Process of the Graeco-Roman Temple*

The temple of Damascus consisted of parts which followed specific typological organisation famously known in Graeco-Roman world and widespread in the eastern region. Researchers Watzinger & Wulzinger (1921) and Sauvaget (1949) argued that Damascene temple is comparable with the temples of large Roman metropolis cities such as Baalbek, Palmyra, and Jerash. Archaeological excavations on the surrounding urban tissues revealed parts of the ancient temple. The external areas of the temple were also mentioned by examining the medieval buildings surrounding the mosque (Neglia, 2012) and the presence of a fountain located at the southern side of the mosque (Sack et al., 2008-2009; see also Ahmad, 2018). These studies are fundamental to the study of the former temple in terms of the main building components and their organisation. Herewith, I will represent the most important features of the temple through its presentation on iconographical sources and its similarity with the 1^{st} – 2^{nd} century Roman buildings.

5.1.1 Iconographic Sources

The study of iconographical sources is considered vital in recognising the importance of places and the form of the distinctive monuments of Roman cities. Herewith, the study explores some of these references due to our observation that the form and the structure of the temple began to appear in late 2^{nd} century and then disappeared after 3^{rd} century. Moreover, coins exposed in this section depict some of the *in-situ* elements of the *Propylaeum* and the arcades which are still observed in the area of *Al-Miskiyye* referred to in early sections.

It is important to realize that the representation of the arches on some coinages revealed similar features with the portico's arches inside the mosque. These elements represented the Roman phases and the adaptation of the antique styles inside the enclosure. The order of the coinages is displayed below considering their hypothetical chronological order to draw the attention on the nature of the formation process by observing the new elements which appeared on each of the succeeding coins.

The coins displayed are based on archaeological discoveries by the Syrian scholar Kiwan (2010) who wrote a book entitled *Intaj Al-Maskokat wa Tadawuluha fi Dimashq wa Rifiha* [Production and Exchange of Coins in Damascus and its Suburbs]. This book contained a documented archive of coins found in Damascus and its suburbs dating to early and late periods of the Roman history. Most of the coins illustrated in this book noted the presence of figurative expressions of the existing deities and figures representing the imperial rulers at the times when Damascus was under the imperialist Roman rule. Other figures included in some of the coin showed a strong link to the image of gods and their contained structures.

Variant I:

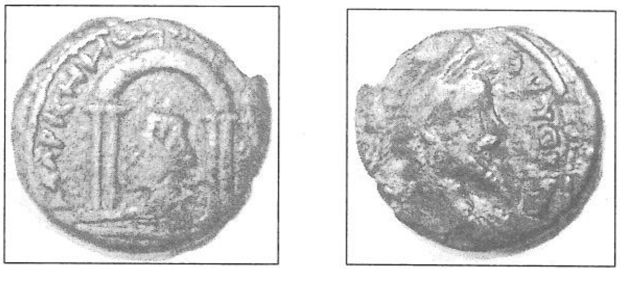


Figure 74. Bronze coin of Emperor Septimius Severus (194-211 AD). Adapted from I*ntaj Al-Maskokat wa Tadawoluha fi Dimashq wa Rifiha*, (p. 329), by K. N. Kiwan, 2010, Damascus, Syria: Directorate General of Antiquities and Museums.

Figure 74 shows a bronze coin discovered dating back to the reign of the Roman Emperor Septimius Severus (194-211 AD) depicts the head of the goddess, Tikka, adorned with three towers within the facade of an arcade consisting of an arch raised on four columns. The central scene of the arcade part is cornered by a Greek inscription which revealed the name of Damascus in Latin as *Damaskinon* (Kiwan, 2010, p. 329). It is important to note that several coins issued during the same era depicted similar features of the scene but this one includes the Latin word *Metropolis*. This indicates that the importance of the city was increased by Emperor Septimius, however, the contained structures existed even before the 2nd century.

Variant II

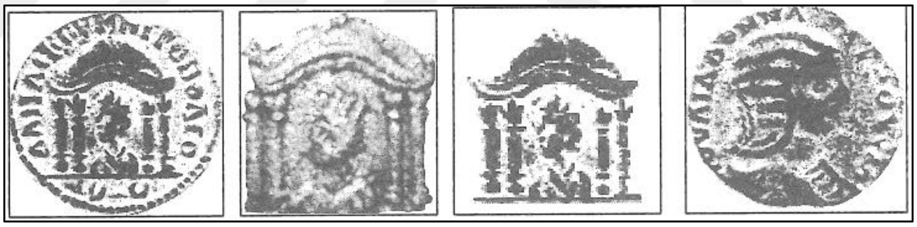


Figure 75. Bronze coin dating to Empress Julia Domna (160-217 AD). Adapted from I*ntaj Al-Maskokat wa Tadawoluha fi Dimashq wa Rifiha*, (p. 330), by K. N. Kiwan, 2010, Damascus, Syria: Directorate General of Antiquities and Museums.

Figure 75 shows other variation of documented coins attributed to Empress Julia Domna (r. 160 - 217), wife of Emperor Septimius Severus. The coins symbolized the presence of a fountain structure and included warped dome exhibiting the head of goddess *Tikka* located at the centre of the arrangement. The structure of the fountain is supported by four columns, two on each side.

Variant III

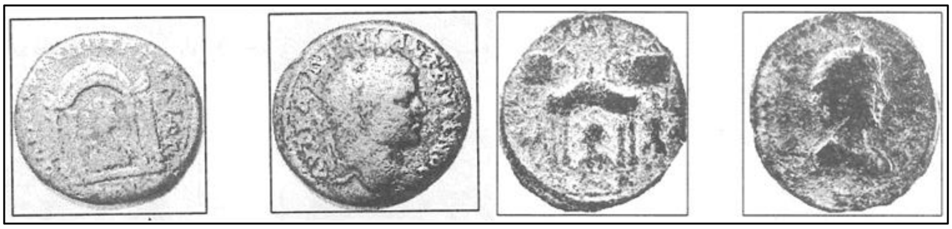


Figure 76. Coins of Emperor Caracalla and Emperor Philip I. Adapted from *Intaj Al-Maskokat wa Tadawoluha fi Dimashq wa Rifiha*, (p. 333;339), by K. N. Kiwan, 2010, Damascus, Syria: Directorate General of Antiquities and Museums.

Figure 76 shows similar arrangement of the domed structures in the 3rd variation of coins which marked the importance of domes in the enclosure. Additional structures depicted on the late coins attributed to the building progress of imperial Roman phase. Coins dated to Emperor Caracalla (r. 221-217), Emperor Philip the Arab (r. 244-249), and Empress Marcia Otacilia Severa (r. 244 to 249) included two structures at two sides of the upper corners (*Figure 77*). These structures are formed of two huts facing each other at the upper two corners of the domed structure. Similarly, *Figure 78* shows the same structure which is also seen on an outdated coin kept at Berlin Museum with an inscription read as "*COL.DAMA.METRO*".

Figure 77. Coins of Augustus Philip I and Augusta Octacilia Severa. Adapted from *RPC — Type: 26773.* (n.d.). Roman Provincial Coinage. Retrieved November 6, 2021, from https://rpc.ashmus.ox.ac.uk/type/26773

Figure 78. Outdated coin exhibited in Berlin Museum. Adapted from *Intaj Al-Maskokat wa Tadawoluha fi Dimashq wa Rifiha,* (p. 347), by K. N. Kiwan, 2010, Damascus, Syria: Directorate General of Antiquities and Museums.

Varient IV:

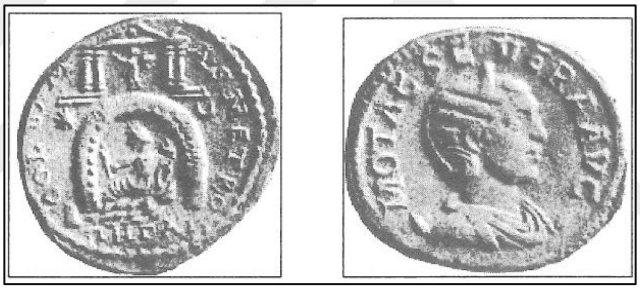


Figure 79. Coin dedicated to Empress Marcia Otacilia Severa. Adapted from *Intaj Al-Maskokat wa Tadawoluha fi Dimashq wa Rifiha,* (p. 346), by K. N. Kiwan, 2010, Damascus: Directorate General of Antiquities and Museums.

Figure 79 displays the last documented coin dedicated to Empress Marcia Otacilia Severa (r. 244 -249) depicting two structures facing each other. The structure at the background appeared for the first time on coinages found in Damascus. It revealed a figure of a god exhibited inside an altar with the columns representing the space of the *peristyle* structure with four columns. The structure at the foreground depicts the eastern entrance while we are looking at the background's altar through Bab Jayroun area. The emphasis of these elements indicates the refurbishement of the temple's enclsoure during the middle of the 3rd century. To my observation, it was the last time we see these forms depicting symbolic figures dedicated to the temple of Jupiter in Damascus.

5.1.2 Diachronic Variants of *Temenos* Temples in the Near East Region

Constructing large temples had a long tradition since ancient civilizations in the near east; many temples located in this region were similar in their construction components but varied in their scales depending on the size of the settlement. The aspects of these similarities are elaborated in this section to explore the typology of the former temple in Damascus.

Ball (2000) argued that early Roman temples located at the western territories did not necessarily need to be large since they were only hosting the image of gods. He added that, it was unlike the case for the eastern Roman temples where the participation of the public was an important factor to determine the early plan of temple spaces; a tradition which was originally based on early Semitic religions (Ball, 2000, p. 334).

Many of the investigated examples of temples showed that their inner precincts were derived from an ancient traditions where public gatherings took place inside the area of the temples. These precinct areas were used as a place for sacrifice, gatherings, and market areas beside their original functions as a holy area. *Figure 80* shows the analysed temples specified as *temenos* temples and their hypothetical order of their formation process in accordance with their scale and the presence of sophisticated elements.

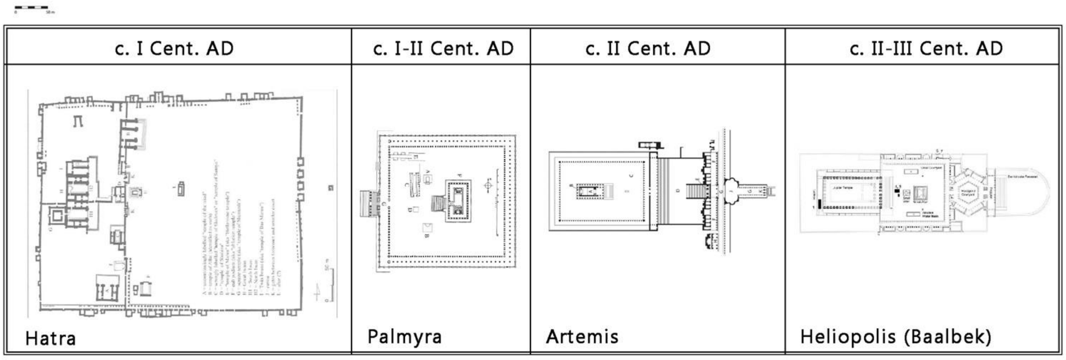


Figure 80. Building variants of Roman temples in the Syrian region.

Among the first building variants of *temenos* temples in the region is found at Hatra located at the upper Mesopotamian region. The temple is dedicated to early 1st century AD, when the city was under direct control of the Parthian Empire. During 2nd century, the city was fortified as it was located at the border line facing the Roman Empire (Ball, 2000, p. 245).

The temple of the Sun at Hatra is considered one of the largest temples in the region. It covers an area of around (156,800 sqm) and its form was derived from the local rituals of the northern Mesopotamian region. Some other synchronic temples were the temple of Anahita at Kangavar (Reuther, 1938-9, pp. 413-14) and temple of Khurha, south of Tehran. Figure 81 displays a reconstruction aerial view of the temple and its enclosure.

Since the temple at Hatra is the oldest in the region, it includes a courtyard and a space for gathering which makes it a good example to understand the early formation of temples in the region, through which the formation of the pre-Islamic structure at the spot of the Great Mosque can be recognized. The temple lays at the centre of an enclosed space of a courtyard surrounded by an outer wall similar to temenos spaces where two third of the total area of the inner enclosure was preserved for the public as a gathering area. It is noticed that a Hellenistic style of peripheral temple was also located at the end of the outer courtyard opposite of the main entrance (Ball, 2000, 330). Furthermore, two gateways were observed to separate the two spaces in the inner courtyard. These two spaces included series of impeded side rooms adjacent to the temenos walls which appear as the earliest examples of vaulted halls known as Iwans seen in many examples of early Islamic structures. Hence, the temple belonged to Persian building traditions.

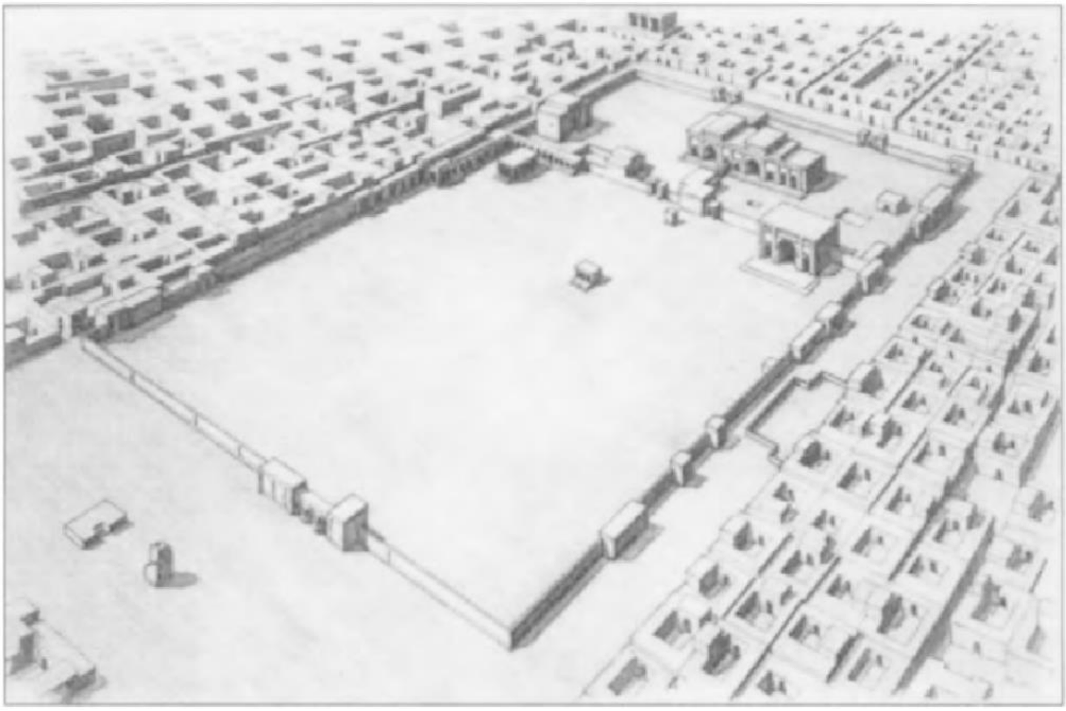


Figure 81. Reconstruction drawing of the temple of the Sun at Hatra. Adapted from *Rome in the East: the transformation of an Empire*, (p. 330), by W. Ball, 2000, New York, NY: Routledge.

The former temple of Herod at Jerusalem is one of the earliest examples of Roman temenos temples in the region. The reconstruction plan done by Roller, as cited in Ball (2000) revealed that the space of the sanctuary was located off the centre towards the outer enclosure peribolos which included towers and constituted portico spaces with many entrances. Moreover, Archaeological studies revealed a structure of a citadel located at the northern west side named as "Antonia Fortress" built by Herod the Great near the temple enclosure which dated to 1st century AD. *Figure 82* shows the reconstruction plan of Jerusalem city and the temple of Herod with the Antonia castle on the temple's northern west corner.

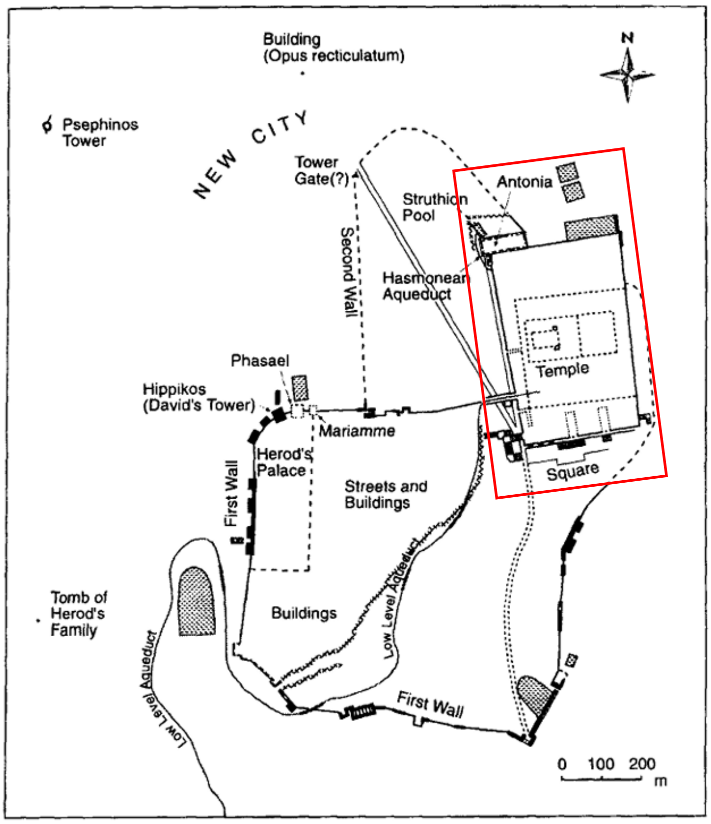


Figure 82. Jerusalem at the time of Herod from Roller. Adapted from *Rome in the East: the transformation of an Empire*, (p. 55), by W. Ball, 2000, New York, NY: Routledge.

The third example of the analysed temples with *temenos space* is the temple of Bel in Palmyra measuring around (210 x 205 metres) (*Figure 83*). It is observed that the form of the structure and the general layout indicate the second phase of building temples in the region. The temple of the Bel included a *propylaeum* at the main gate of the sanctuary attached to the walls of the *temenos*. This found similar to the remaining structures near the western gate of the Great Mosque of Damascus. We also notice the presence of columnated porticoes surrounding the walled enclosure. The width of the portico space measures about 18.5 m. This is considered larger in comparison with the porticoes at the Great Mosque which measure between 10-12 metres. The exterior walls of the temple were found decorated with rows of Corinthian capitals on pilasters (Ball, 2000, p. 326). The altar of the temple was oriented towards the north-south, which is considered very rare comparing with the Roman temples.

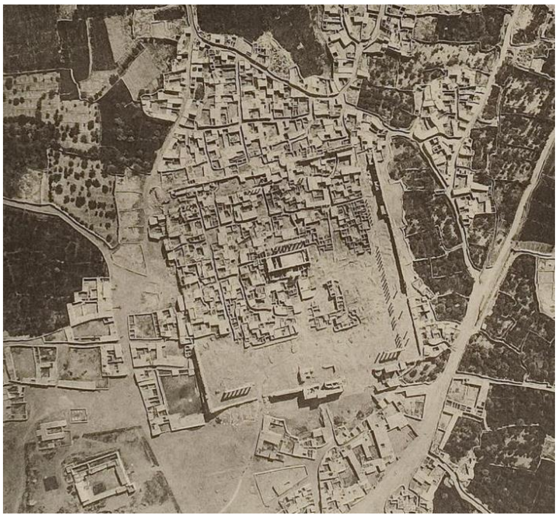


Figure 83. Aerial photographs of the Temple of Bel in Palmyra. Adapted from *Palmyra: Ergebnisse der Expeditionen von 1902 und 1917*, by T. Wiegand, 1932, Heidelberg, Germany: Keller. (https://digi.ub.uni-heidelberg.de/diglit/wiegand1932ga).

Temple of *Artemis* in Gerasa (modern Jerash) is another example of temples in the region. It was built during the reign of Emperor Hadrian (r. 117-138 AD) who was known for building many monuments in the old city of Gerasa such as: the camp hill, the temple of *Zeus*, and the main urban roads of *Cardo* and *Decumanus* inside the city. This temple is located at the centre of the old city and its entrance is confronting the columnated road of the Decumanus Maximus. It includes a *propylaeum* structure constructed in (c. 150 AD) and directs to a large staircase area. The temple does not include cornered towers; however, it contains a columnated porticoes measured as 14 metres and a long corridor at the eastern side of the temple measured about 10 metres and two rooms at each side. The internal arrangement of the temple and its surrounding indicated the inclusion of the building inside a larger complex similar to the hypothesized military urban plan of the Great Mosque of Damascus and its surroundings. *Figure 84* shows the temple of Artemis and its surrounding monuments.

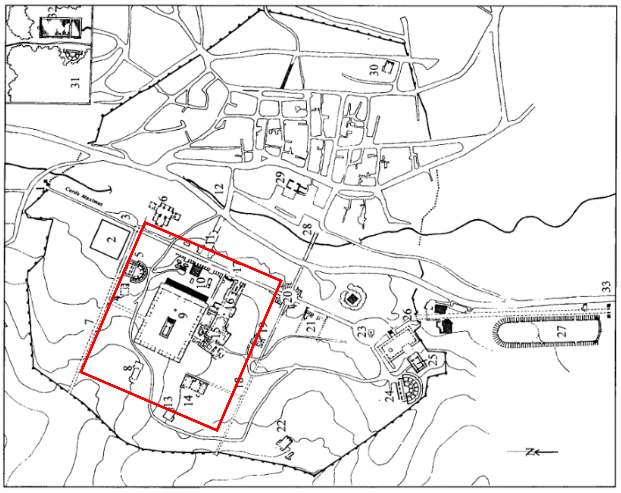


Figure 84. Temple of Artemis in Gerasa (No. 9). Adapted from *Rome in the East: the transformation of an Empire*, (p. 189), by W. Ball, 2000, New York, NY: Routledge.

Another highlighted example of *temenos* temples located in the region is the *Jupiter Heliopolitanus* in Baalbek. It is considered one of the largest temples in the area which was firstly established by the Greeks and expanded during the Roman era. Both Chroniclers *Paschale* and *Malalas* who wrote about the conversion of Damascus temple also mentioned the temple of Heliopolis (See section 2.2.4). This indicated the similar timeline of the transformation and the importance of both structures.

In addition, archaeological remains revealed that the church was built at the front of the altar space dedicated to the temple, this indicated that the temple was not demolished during the early phase of its transformation. The *temenos* walls of the temple were observed decorated with arches and the *propylaeum* located at the eastern side consisted of semi-circular plaza near the staircase of the entrance extending towards the colonnaded portico decorated with pediment. In this temple, the space of the entrance is lined by two towers similar in arrangement with the current context of the Great Mosque.

5.1.3 Indications of the Temple Structure inside the Mosque Area

Specific elements inside and around the enclosure of the Mosque include various indications of the presence of a Roman temple dedicated to the typology of temples in the region. Figure 81 summarizes these findings by displaying elements which are preserved in the current enclosure and seen comparable with most of the studied examples of temples in the region. These elements include: (a) Parts of the current exterior walls of the Mosque found as the earliest elements derived from the walls of the *temenos* structure, (b) The preserved *propylaeum* shown in *Figure 86* located at the western side of the inner enclosure opposite to *Bab Al-Barid* which was dated to the second phase of the temple's construction, and was dedicated to the space of the *peribolos* enclosure built during early Roman era, (c) The architectural arrangement of the eastern gate of the Mosque with the staircase connected with the columnated road at the eastern part indicated that this area of the enclosure is dedicated to the same era of the western *propylaeum*, finally (d) The structure of the *Nymphaeum* (fountain) revealed by an Archaeological explorations at *Suq Al-Sagha* area (Sack et al. 2008; Ahmad, 2018) as suggested by Watzinger & Wulzinger (1921).

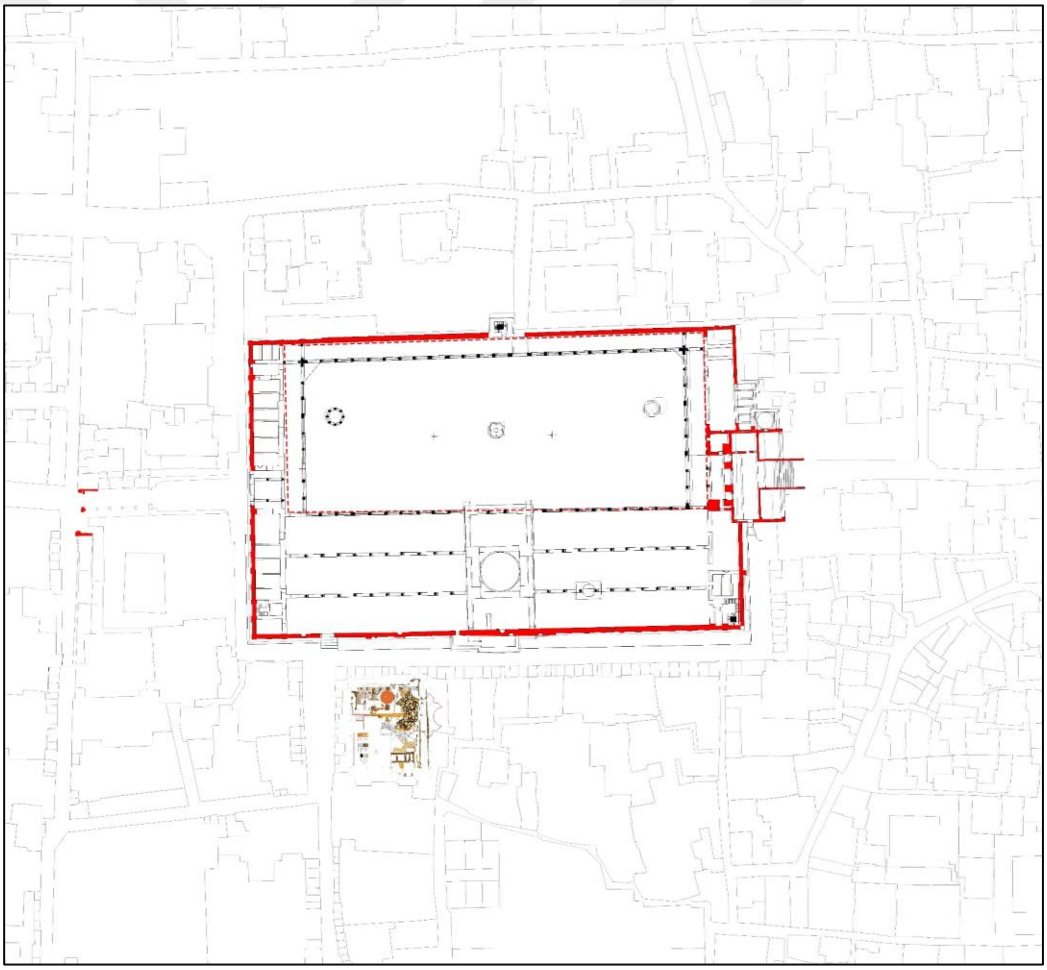


Figure 85. Indications of the temple structure inside the current enclosure.

Figure 86. Remains of the *propylaeum* dedicated to Jupiter temple. Adapted from *Syrian Heritage Archive Project*, by P. Heiske, 1998, Retrieved from: https://syrianheritage.gbv.de/search?p=22

5.2 *Transformation I: Castra Praetorium*

As discussed in the last chapter, the eastern and western halls on both sides of the Mosque indicated the possibility of a fortified military typology or a part of large imperial complex built during late 3rd century. This part of the study will address this issue by examining military enclosures and Roman imperial building which have similar architectural features with the current elements preserved in the Great Mosque. Therefore, I will shed the light on some of these structures investigated by previous scholars (Poidebard, 1934; Kennedy, & Riley, 1990; see also Ball, 2000; Isaac, 2000; Burns, 2003; Arce, 2015).

5.2.1 Diachronic Variants of Fortified Enclosures

The typological process of the fortified enclosures began in late 2nd and early 3rd centuries as a "Severian" or "Diocletian" Castra (Arce, 2015). These enclosures functioned as imperial residences and included protected settlements. Archaeological studies revealed that the original structures were usually formed in a square or rectangular plan. Later, these structures were expanded and included various spaces for extra rooms on each side. They were further developed during 5th - 6th centuries to become a *Quadriburgium* with four towers located at each of the four corners (Arce, 2015). The forts were usually built with a style known as "*opus quadratum"* and occupied hundreds and sometimes thousands of the legionaries depending on the scale of the settlement. *Figure 87* displays the comparative matrix of the analysed building dedicated to Umayyad palaces transformed from Roman fortified enclosures.

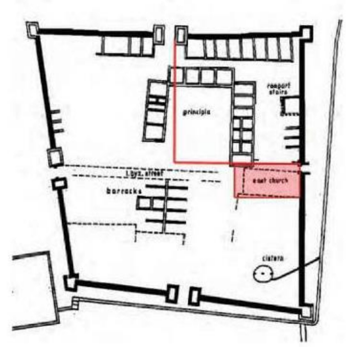
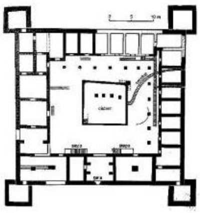
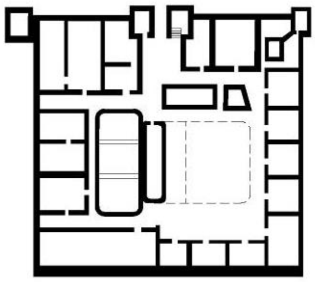
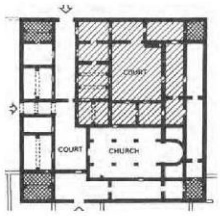
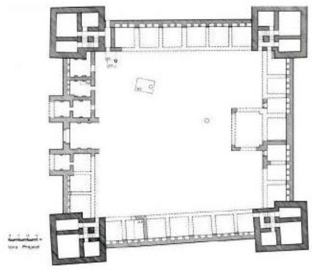
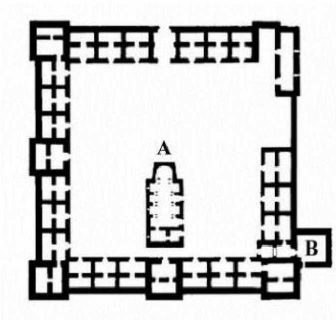
 Qasr al-Hallabat, drawn by (Kennedy.,1982)	 Qasr Umm al-Jimal drawn by (Arce, 2010)
 Mezad Thamer, drawn by (Isaac, 2000)	 Der al-Atrash, adapted from (Isaac, 2000)
 Qasr al-Baij, from Gregory, as cited fom (Arce, 2015)	 Qasr al-Bashir, adapted from (Isaac.1990)
	 Deir al-Kehf, adapted from (Kennedy & Riley, 1990)

Figure 87. Examples of the transformed Roman fortifications

Most of the analysed enclosures are square and measure between 40 and 60 metres or 135 and 200 Roman feet. We can observe in all of the analysed examples the presence of side halls which are similar in arrangement with the sided hall of the Great Mosque. The similarity of these structures with Umayyad Mosque is not only restricted to these areas, but also the towers, porticoes inside the courtyard, direct entrances with their proportions, and the level of polarity of the spaces towards the urban settlements. Similarly, these structures served as garrison palaces during early Umayyad phases in the mid of the 7th century.

Excavations at the Umayyad palace of *Deir Al-Kahf*, located at the *Strata Diocletiana* about 213 km southeast of Damascus city, showed a small church located inside the enclosed area within the fortified walls found relatively similar to early churches at the southern Syrian region (Butler, 1929). In addition, the presence of the eastern tower next to the main gate resembles the arrangements of the northern entrance of the Great Mosque which include an early constructed minaret on top of a tower.

Another example is the palace of *Umm Al-Jimal* located close to *Al-Zarqa* city in Jordan. In there, the excavations revealed number of towers distributed along the outer walls also adjacent to the main gates where some included pairs of towers. The *Qasr* of *Umm Al-Jimal* overwent similar transformation from a previously built Roman fort to an Umayyad garrison castle. Evidence of this transformation is seen on the physical changes witnessed in the middle part of the enclosed area by observing barrack spaces and narrow roads which connect the western gate with a space of the church located at the eastern side. The presence of the church inside the palace indicates that the fort was transformed during the early Byzantine era.

Additional example which reveals similar features is at *Qasr Al-Beshir* located in the Jordan desert close to the Syrian boarders. The structural layout of *Qasr Al-Beshir* includes two eastern and western perpendicular walls, aligned towers at the northern side, large entrance at the western part of the enclosure, and another narrow door at the northern west corner next to the northern-west tower containing a staircase. The reconstruction plan of the fort structure revealed a similar arrangement of the interior composition of the eastern and western halls in the Great Mosque of Damascus.

5.2.2 Iconographic Sources

The mosaic panel located at *Saint Apollinare Nuovo* in Ravenna investigated by Camiz (2018) and noted that the mosaic belonged to the facade of the palace which was dedicated to the King of Italy and the patrician of the East Roman Empire, Theodoric the Great (r. 493 – 526 AD). It is observed that the mosaic at Ravenna - especially if it depicts the palace- shares strong similarity with the composition of the northern facade of the prayer hall in the Great Mosque of Damascus, while it is also worth to note that the palace of Theodric included in the mosaic dated two centuries earlier from the construction of the Great Mosque carried under Al-Walid in 705 AD. *Figure 88* exhibits photographs of the two compared structures.

Besides the similarity seen on the facade of the prayer hall, the interior arrangments of the church at Ravenna is strongly similar to the interiors of the prayer hall of the Great Mosque. This indicated that both structures were built by the same builder or adapted similar organisation well known in during the late-Roman era.

Figure 88. Umayyad Mosque and the mosaic of St. Apollinare Nuovo, Ravenna.

Furthermore, one of the least discussed sources is a depiction of similar structure in the book of *Madrid Skylitzes* produced by a Byzantine Greek Chronicler Ioannes Scylitza dating to the years between 811-1057 AD seen in *Figure 89*. The arrangement of the structure behind the scenery is noticed to be similar to the southern façade. The scene depicts the coronation of the Byzantine Emperor's, Michael III in the year 842- 867 AD who held power in Constantinople (SCYLITZA, V, p. 133). The structure is formed of a longitudinal façade and a transept structure, mediating the figure of the emperors in the middle.

The primary similarity of the southern façade of the prayer hall with analysed iconographic sources indicated the popular building style during the 8th century in constructing special buildings such as those dedicated to religious architecture. Moreover, it also indicated the imperial importance given to the enclosure at the transept, where the ruling figure centered the transept's structure. Thus, could be a hidden meaning of housing the figure of the Caliph in the central mihrab.

Figure 89. Structure of the transept from Madrid Skylitzes. Adapted from "Chapter V: Michael III (842-867)" by J. Skylitzes, *Synopsis Historiarum* (p. 133), [Biblioteca Digital Hispánica]. Retrieved from http://bdh.bne.es/bnesearch/detalle/bdh0000022766#

5.2.3 Indications of *Castra Praetorium* in the Current Enclosure

In the last chapter (section 4.6) I discussed upon the physical parts on which the building block of the Great Mosque indicated the existence of special enclosure dedicated to its defence or imperial functions. These spaces include the sided halls, towers, long narrow windows on the western façade of the enclosure, as well as the proportions of the northern front of the prayer hall as it resembles a layout of the mosaic depicting the palace of Theodoric I in Ravenna. In conclusion, herewith I highlight in *Figure 90* the areas which indicate similar features with the analysed buildings related to *castra praetoria*, forts, or Umayyad castles.

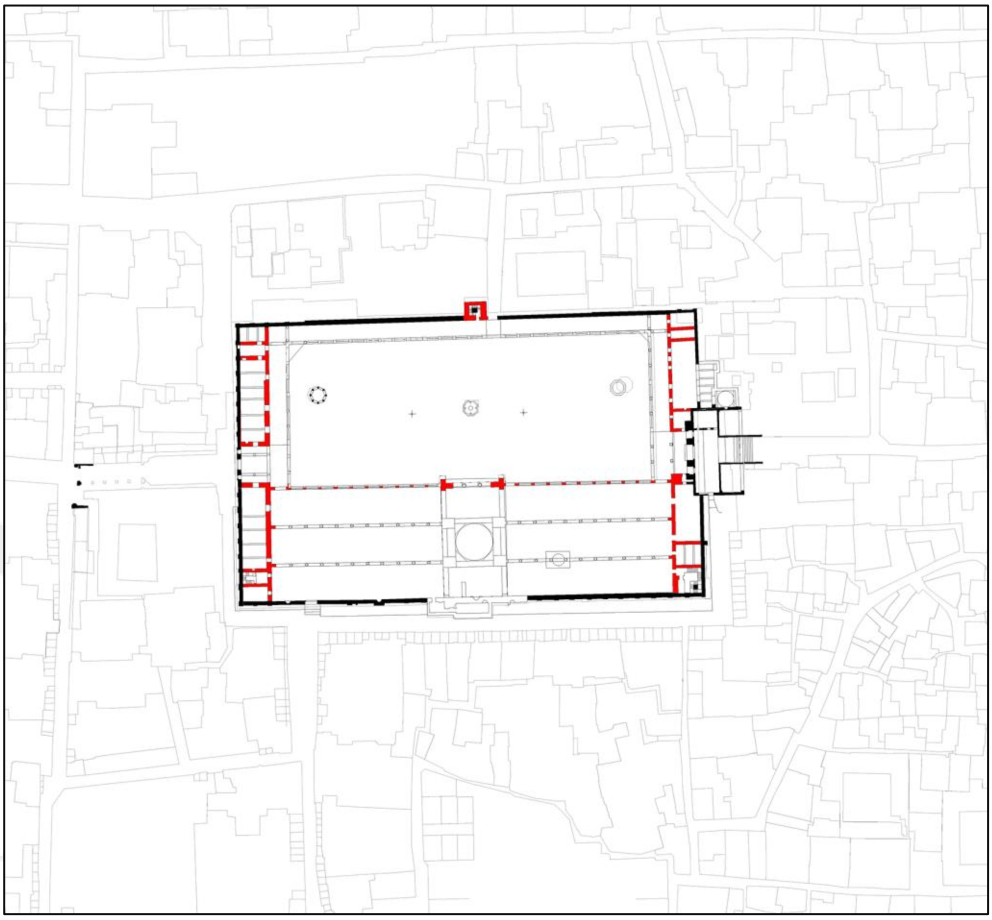


Figure 90. Indications of the *Castra Praetorium* inside the current enclosure.

5.3 Transformation II: Byzantine Church

The study of the histography regarding the transformation of the temple to a Byzantine church was not clear in terms of whether the church was built after demolishing the former temple, or rather erected on the top of the temple spot. However, since the whole area of the inner enclosure is considered a holy precinct until the present-day, the area which the temple belonged to was also totally considered as a holy place. Therefore, when we investigated the location of the church, it becomes clear that the church was part of the inner enclosure, yet there are limited sources neither on the location of the temple nor on the church.

The early Arab historians who recorded the early construction process of the Great Mosque mentioned that a church was located at the western half of the inner enclosure and opposite to the early mosque. In a book *Duwal Al-Islam* [Countries of Islam] written by Al-Dhahabi, he mentioned that “It was Al-Walid bin Abdul-Malik who built and decorated the mosque of Damascus during his reign, and its **western half** was a **church** for Christians, and the **other half** was a **mosque** for Muslims..." (AL-DHAHABI, p. 51).

Later we shall see in the same passage mentioned by Al-Dhahabi that the church was partially destructed by adding that: “Then he demolished it [the church] **except for its four walls”** (AL-DHAHABI, p. 51). This passage may explicate two scenarios: (a) either Al-Walid built the mosque by demolishing the original sanctuary wall of the *temenos* or (b) kept the original form of the church at the western side and only destroyed the eastern wall. Since this passage was subsequent to the description of the church’s location, it may conclude that the church remained standing in its location.

Moreover, to explore the possible organisation of the early church which may had located inside the ancient holy precincts, George (2021, pp. 50-51) suggested that the church built by Justinian I (r. 527-65 AD) in Jersualem represented the monumental features of early transformations of large temples to churches during the same era. The dimensions of the church measured to 100 x 52 metres (5,200 m^2) included narthex and atrium is found almost equal to the plan of the prayer hall of Umayyad Mosque which measured around 136 x 37 metres (5,032 m^2). This indicates that the form of the church -if existed in the sanctuary- was formed by adapting similar typological organisation of early churches in the Syrian region derived from structures of 4th - 7th centuries. For this reason, this section will examine the typological process of the early churches discovered in the Syrian region derived from basilica types to try to relate them with the parts or the whole of the Great Mosque.

5.3.1 Diachronic Variants of Early Churches in the Syrian Region

During late-Roman era and in the end of 4th century AD, Christianity was widespread in the region. As a result, new forms of special building typologies began to appear across many cities in the Syrian region. This section discusses a series of churches discovered by archaeological examinations done by Butler (1929) who demonstrated different forms of early churches in the Syrian region. He classified the churches into three main categories according to their physical, geographical, and geological settings. The physical settings determined the churches derivate from either Roman temple, civil structure, or purely religious buildings. The geographical settings were related to the location of these churches depending on their geographical directions in the Syrian region. Meanwhile, the geological settings were related to their location on the ground attitude and their orientations inside the urban settlements. Ball (2000) emphasized that “By the end of the fourth century most churches followed the same general pattern, with even cathedrals differing from small country churches only in scale.” (p. 358). Thus, this study will shed the light on some of the analysed churches by exhibiting their resemblance features with the current enclosure of the Great Mosque of Damascus.

The most influential type of churches are the basilica churches. These churches were usually erected in large territories and mostly located in the southern

Syrian region. They were derived from Graeco-Roman temples traced back to Semitic origins. The longitudinal direction of this type was usually oriented towards the east and west with few exceptions like in the Basilica of Al-*Kanawat (Kanatha)* south of Syria (Butler, 1929, p. 16, 182).

Other basic domestic structure of basilica-type churches is seen in the abandoned towns north of Syria known as dead-cities. The interior spaces of these churches included clerestory windows formed by the greater height in the nave above the aisles and decorated with arches crowned with capitals.

The typical plan of the overall churches in the Syrian region consisted of two or sometimes three types:

1. **Type A:** Churches with three-aisle spaces and a transverse system with an apse inside the church oriented towards the eastern side with a narthex at the western side. Examples of these churches are: *Mshabbak* Church measures around 23 x 15 metres, and *Kharab Shams* Church measures around 27 x 13 metres. Both were found similar to the Church of Saint *Apollinare Nuovo* in Ravenna measures around (38 x 23 metres).

2. **Type B:** Churches with three-aisle spaces and a transverse system roofed with stone ashlars connected with an atrium space. This type of churches is mostly located at the southern region and believed to be originated from the Basilica of Shakka and the Church of Tafha in Hauran mountains. Most of the structures of this category were built between late 4th to 7th centuries (Butler, 1929). The arrangement of these churches found similar to the reconstruction plans of the surroundings of the Great Mosque put by early scholars in which the atrium space

was located at the southern part of the Mosque. Examples of this type are: Burj Haidar Church measures around (30 x 22 metres) and Brad Cathedral measures around (38 x 45 metres).

3. **Type C:** Churches with a *peribolos* enclosure which were mostely transformed from ancient Roman temples. They usually consisted of thick walls surrounding the main structure of the church. Examples of this type of churches are: Qalb *Lawzeh* Church measures around (31 x 16 metres) with *peribolos* measures (61 x 42 metres), Church of *Al-Andarin* measures around (28 x 26 metres) and *peribolos* with double walls measures 66 x 40 metres with towers at each corner, and the Church of Saint Peter at the temple of Jupiter in Baalbek (Regette, 1980).

Figure 91 shows exmaples of each type in a comparative matrix and will be discussed in detail.

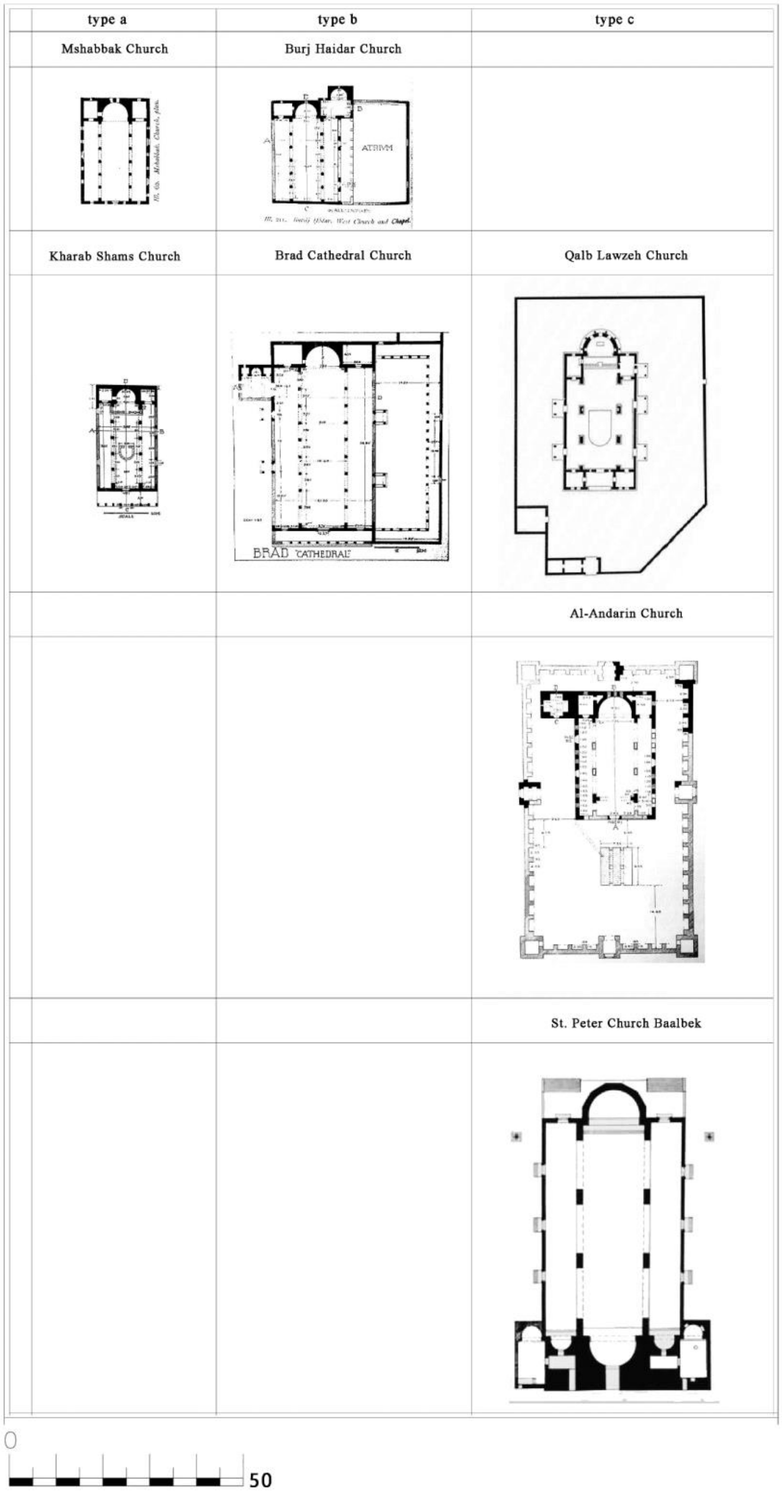


Figure 91. Comparative matrix of early Byzantine churches in the Syrian region.

Type A:

Figure 92. Photographical source of *Mshabbak* Church. Adapted from *Early churches in Syria: fourth to seventh centuries* (part 1, p. 63), by H. Butler, & E. Smith (Ed.), 1929, Princeton, NJ: Princeton University.

The first example of the first type is the church of Mshabbak, located at northern region of Syria built in 460 AD. The plan of this church consisted of three aisles with pillars supporting two sets of arcades and double arched structures. The apse is included inside the interior plan of the church facing towards the eastern side with two rooms on both of its north-south sides and windows were formed at the end of the two aisles to the west. The Capitls of the arcade structures at the nave are varied from Corinthian to Ionic styles. The church has many large windows on its northern and southern facades where most of them have arcuated lintels. The roof is ill-preserved, but its remains indicated that it was formed by stone gabled structure similar to the structure of the transept at the Great Mosque of Damascus. *Figure 92* displays parts of the *in-situe* fragments found at *Mshabbak* Church, north of Syria.

The second example of this type is the church of *Kharab Shams*; it is one of the earliest Byzantine churches still preserved in the dead-cities region and was built between 4th and 5th centuries. Its rectangular plan measures around (27 x 13 metres) and the interior space includes semi-circular room at the centre of the nave. The transept of this church is roofed with stone gambled structure alongdating the inner space with hollowed remains located at the round arches of the arcades on both sides. These details indicated the placemenet of low rafters covering the remaining parts of church's roof. The columns supporting the arches include various forms of Capitals with the nave of five bays divided by arcades with columns include Ionic and Corinthean Capitals. *Figure 93* shows a photograph of the church, note the similarity of its form with the structure of the transept at the Great Mosque.

The exterior walls of the church of Kharab Shams consist of large stone ashlars with window openings located at the upper levels. The details of the external facade consisted of arched windows revealed the early construction phase of this Church. Moreover, the style of the arches is similar to those in the Mosque, however, the only difference is the arrangmenet of the clearstorey windows located above the northern aisles which was formed of recntagular shape, which was unsimilar to the arrangments exhibited inside the Mosque. The church is narrower in plan in comparison with other churches located in the region.

Figure 93. Photographical source of *Kharab Shams* Church. Adapted from *Early churches in Syria: fourth to seventh centuries* (Part I, p. 31), by H. Butler and E. Smith (Ed.), 1929, Princeton, NJ: Princeton University.

Type B:

The plan of Western Church at Burj Haidar belongs to the second type of churches located in the Syrian region. The style and general scale of this church indicated a phase in which its structure was enlarged prior to 4th century. The enlarged plan included small rooms wihtin the eastern space of the nave and an atrium connected to the entire wall from the eastern side. The church is partially preserved as seen from *Figure 94* which shows fragments of arcades dedicated to the space of the nave and parts of the apse constructed of masonry style.

Figure 94. Photograph of the West Church at *Burj Haidar*. Adapted from “Harvard Library: Dumbarton Oaks Research Library”, by F. Kidner, 1996 (http://id.lib.harvard.edu/images/8001563123/urn-3:DOAK.RESLIB:34209397/catalog).

Another example of this type is Brad Catherdral; one of the largest churches as once was named by the “Great Church” (Butler, 1929). The plan of this church measures around (45 x 38 metres) and it is almost in a ruined state but fragments of the church is still observed from the reconstruction plan of Butler (1929) (*Figure 91*). The eastern side of the church is connected with a masonry arcades system which is adjacent to an atrium space. The church includes four portals from the east and west with the eastern side’s gates directed towards the precinct area. Small chapel is also found attached to the church from the western side with a gate opening.

Type C:

First example of the third analysed type is *Qalb Lowzeh*; the style and layout of the plan dates to 480 AD and it is considered one of the few churches still preserved in the dead-cities region. The form of this church is rectangular and includes a narthex with three-aisle arcades and an apse. The church is accessed from the narthex space with five steps. There are two rectangular rooms on both sides of the narthex space oriented towards the main axis of the church. The upper half of the halls is devoted to the apse with a doorway leading to it, while the lower half of the halls is connected to both sides of the aisles. Tchalenko (1973) suggested that the church dated to the early Byzantine era (c. 460-480 AD), however, based on the church's details and some of its components, it is indicated that the Church was enlarged to include outer walls. *Figure 95* shows a reconstruction drawing of *Qalb Lowzeh* church.

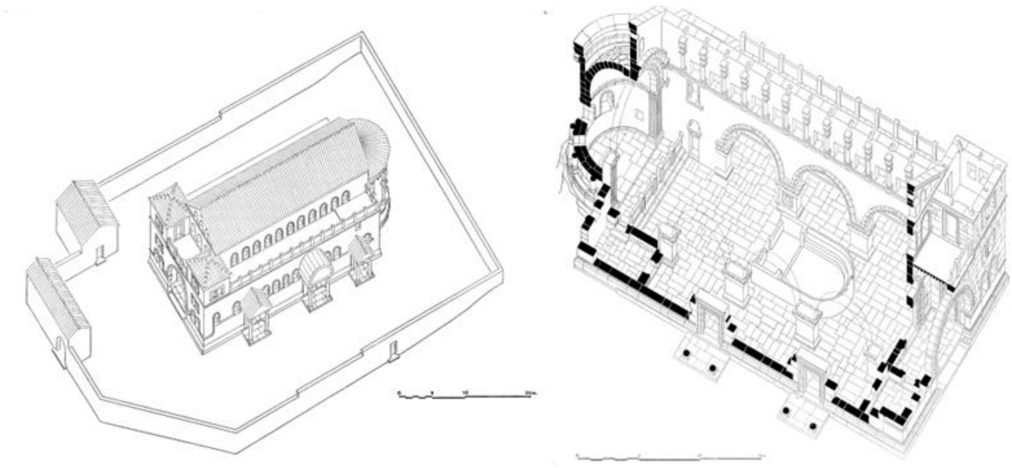


Figure 95. Reconstruction drawings of *Qalb Lowzeh* Church. Adapted from "Travaux en cours dans la Syrie du Nord," by G. Tchalenko, 1973, *Syria, 50* (1/2), p. 130.

Additionally, this type of churches shares common features with the church of St. Apollinare Nuovo located in Ravenna northeast of Italy. These common features are observed in the interior arrangements as they both include three-aisled spaces with arcades supported by columnated arches with capitals. *Figure 96* shows the relevant characteristics observed between both churches and the style of interior arrangement of the prayer hall of Umayyad Mosque. This indicated the similar techniques and the chronological remarks of both constructions.

Figure 96. Interior arrangements of the Great Mosque and Church of St. Apollinare Nuovo, Ravenna.

The reconstruction plan of the Basilica of St. Peter shown in *Figure 97* is located at the precinct of the Jupiter temple in Baalbek and considered as another example which represents the pattern of transformations of temples to churches in the region. Regette (1980) believed that the Basilica was constructed by the end of 4th century during the same era in which the temple of Damascus was transformed to a church under Theodosius the Great. Archeological excavations revealed that the church was located at the central access line inside the *temenos* area, towards the eastern gate in front of the temple's altar oriented towards the east-west directions.

The plan of the church included three aisled spaces with an arcade of rectangular piers supporing the arches (Regette, 1980) similar to the Church of Qalb Lawzeh and St. Apollinare Nuovo in Ravenna. The apse of the Basilica is located at the western side opposite to the main entrance of the temenos at the east with a longtidunal structure include symmetrical rooms oriented north and south with a pediment roofed structure.

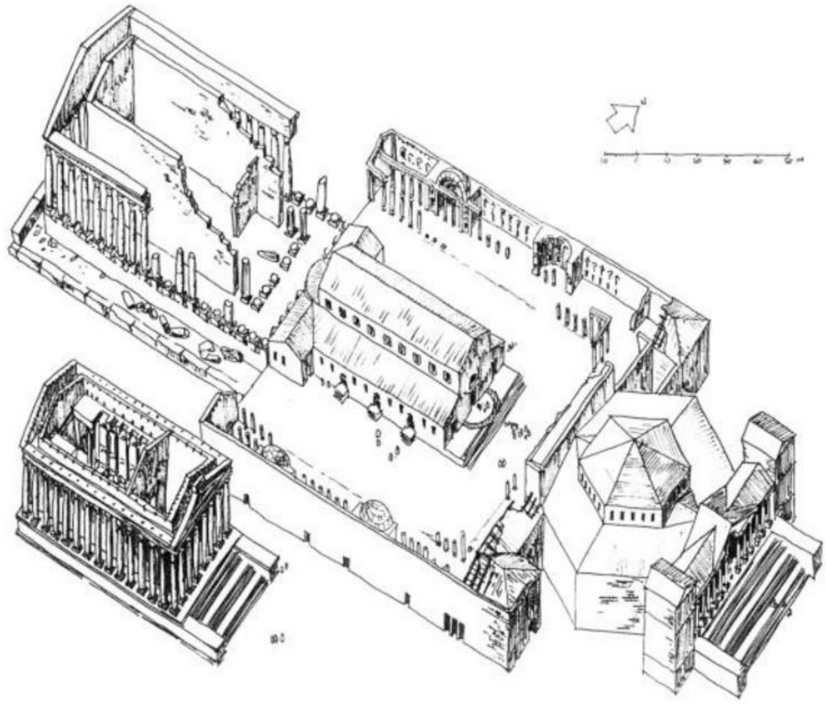


Figure 97. Placement of St. Peter Church in the temple of Jupiter, Baalbek. Adapted from *Baalbek*, (p. 70), by F. Regette, 1980, New Jersey, NJ: Noyes Press.

The other example of transforming temple to a church is at Kanawat (*Kanatha*), a small city located south of Syria. *Figure 98* shows the reconstruction plan of this church. The area includes two diachronical structures; the first church was erected on top of the temple faced north-south and terminated the foundation of the second church located at the opposite side with a tri-lobed apsis beween the rectangular chambers at the sides. The second church is formed of three-aisled spaces, similar to the second Basilica type, and was erected within the eastern wall which opens to squared atrium space. This church consists of five bays with a narthex; the western front of the structure includes two sets of porticos with a direct entrance to the atrium of the Basilica. It was suggested by Butler (1929) that large parts of the fragments were dedicated to old Nabatean structures while the church is currently in ruined state, but only fragments of the western wall still preserved. *Figure 99* exhibits a photography of the remaining elements of the basilica structure.

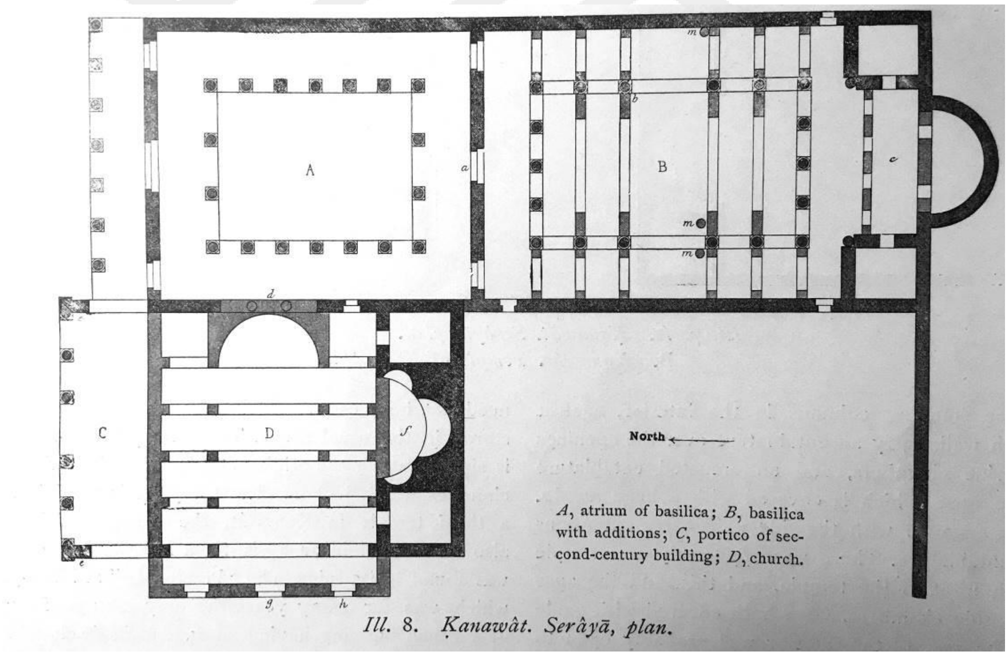


Figure 98. Kanawat Church and Basilica. Adapted from *Early churches in Syria: fourth to seventh centuries* (Part I, p. 16), by H. Butler and E. Smith (Ed), 1929, Princeton, NJ: Princeton University.

Figure 99. Façade of the western basilica at *Kanawat*. Adapted from "Capital of Roman Arabia - Qanawat (Canatha)," by R. Piperno, 2011, Retrieved from https://www.romeartlover.it/Qanawat.html.

5.3.2 Indications of the Church Structure in the Current Enclosure

The question frequently raised is where we can find the remaining structures which indicates traces of specific periods of each transformation phase? It appears that the only possible way to answer this question is to find the relevant elements in the current enclosure which point to similar features with the analysed plans of building typologies that belong to each period. For this purpose, I will discuss the elements which might lead to the Byzantine era within the current enclosure of the Great Mosque. These elements are:

1. Parts of the the southern wall which contained a Byzantine inscription near the structure of the transept.

2. The western arcades located opposite to *Bab Al-Barid* near *propylaeum* structure.

3. Parts of the porticos inside the Mosque’s courtyard including the interior arcades at the prayer hall and the inner space at the western and eastern entrances.

Additionally, it is worth noting that the inner space of the prayer hall of the Mosque consists of two identical sections measures around 56 x 38 metres at eastern and westerns sides. The organization of the spaces at both sides of the prayer hall suggests the derivation from the Basilica type where its development probably began by extending the early church located at the western side (*Figure 100*). Moreover, the measurements of both sections are relatively similar to the second type (see section 5.3.1). This type includes an atrium space on one of its sides as seen in the Brad Cathedral with arcades and transverse systems. shows the western section of the prayer hall with its measurement.

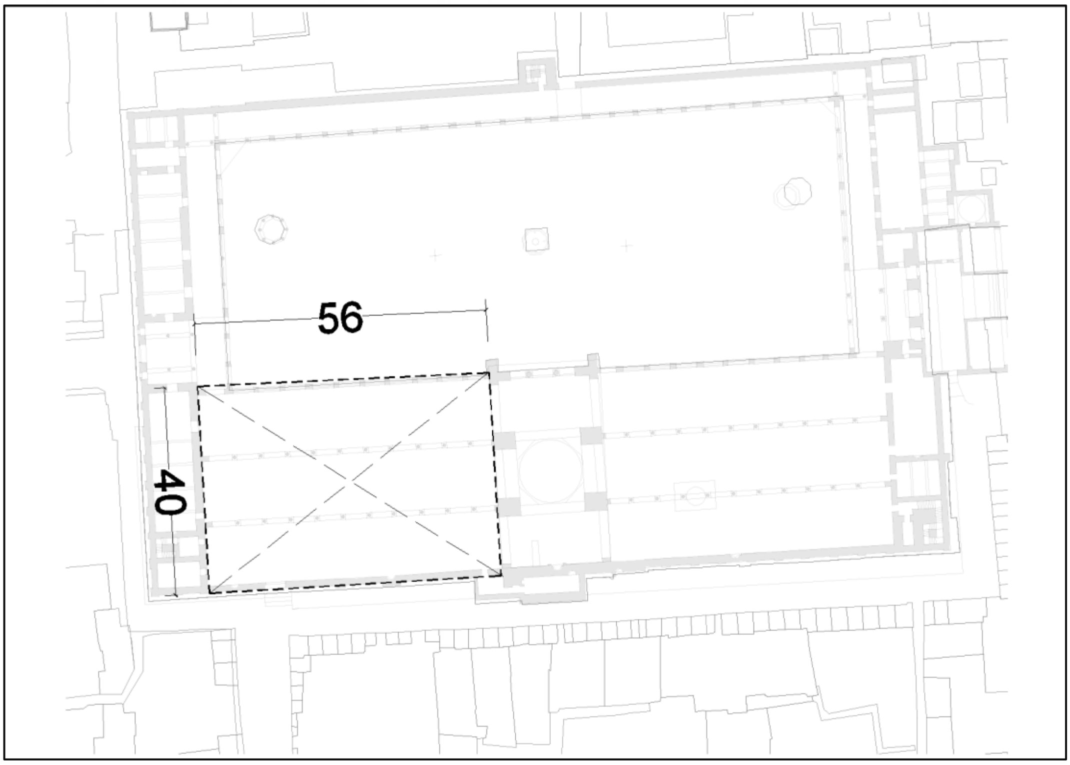


Figure 100. Measures of the western section of the prayer hall.

Another element which suggests the adoption of the Byzantine architecture in construction the Great Mosque appears in the structural details of the arcades, the prayer hall, and parts of the portico structures. It is observed that the western and eastern halls of the inner gates of the Mosque are similar to the western arcades still preserved at the opposite side of *Bab Al-Barid* as they both are composed of columns with pulvin on top of Corinthian capitals supported by arches of stone ashlars. These structural details are considered as strong indications of the continuation process of the building process as well as the adaptation of the various elements in constructing the Great Mosque. *Figure 101* shows the arcades at the western sides next to the structure of the *propylaeum,* while *Figure 102* shows the interior hall of the Bab Al-Barid area with taken during the late 19th century (Uqaili, 2008, p. 94).

Figure 101. Western arcades dedicated to the Byzantine era. Personal archive, 2009.

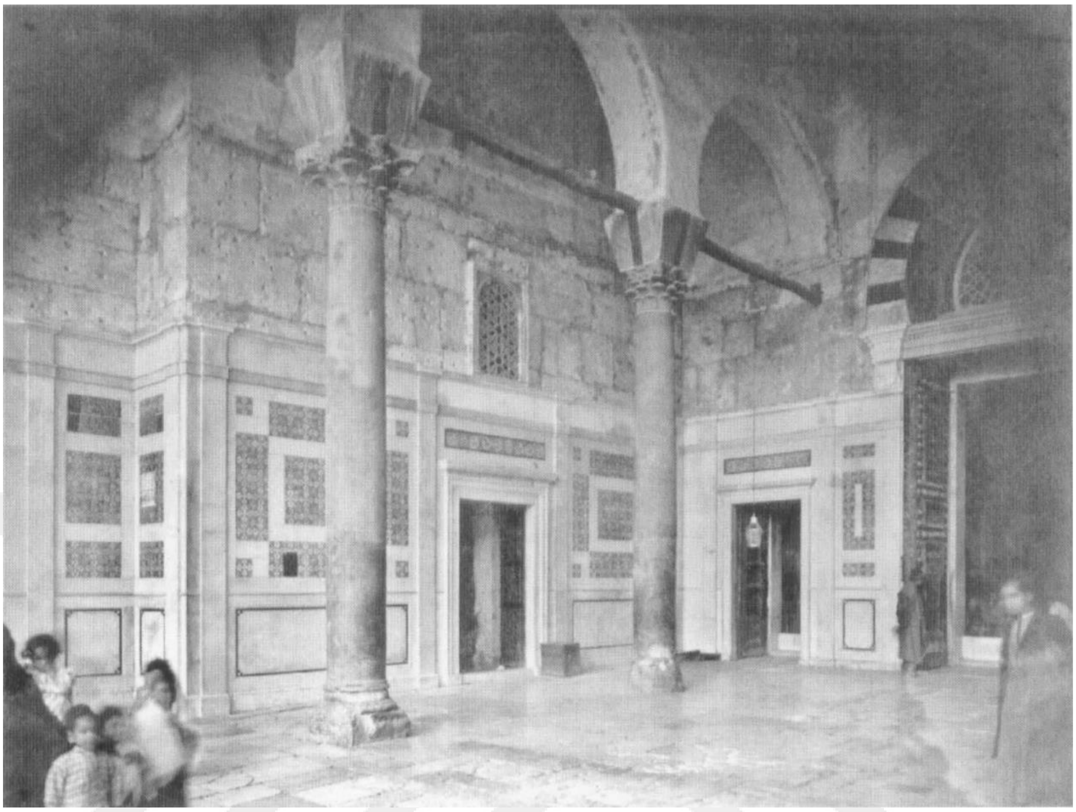


Figure 102. Structural details consisting of round columns with base, capitals, pulvin and arches on top, at the western hall of *Bab Al-Barid*. Adapted from *Al-Jami Al-Umawi fi Dimashq* [The Umayyad Mosque in Damascus] (p. 94), by T. Uqayli, 2008, Damascus: Barnamaj Taḥdith al-Idarah al-Baladiyah.

In addition, both elements of the outside and inside arcades are aligned on a unified access line (*Figure 103*). This indicated the relationship between the two structures and provided an estimate chronological remarks of the construction of both elements.

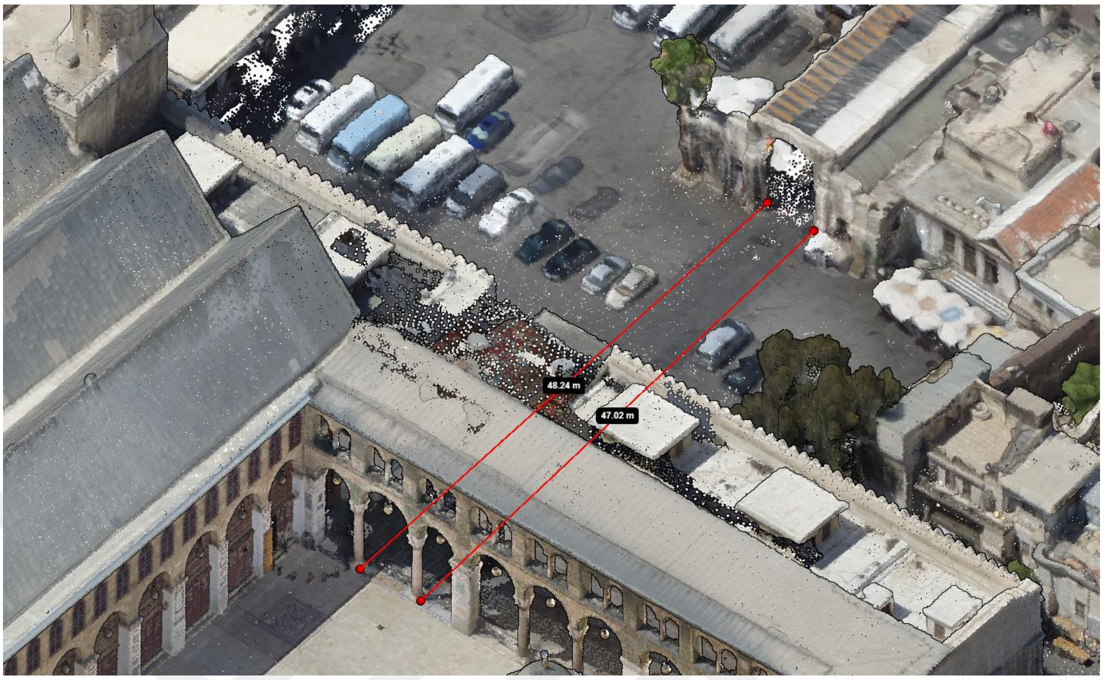


Figure 103. Arcade structure at the western side of the Great Mosque. Photo adapted from (ICONEM, n.d.)

In conclusion, *Figure 104* shows a plan of the remaining structures with an appearance to a Byzantine origin in red colour while a renovated parts possibly occurred during the Byzantine era is shown in black.

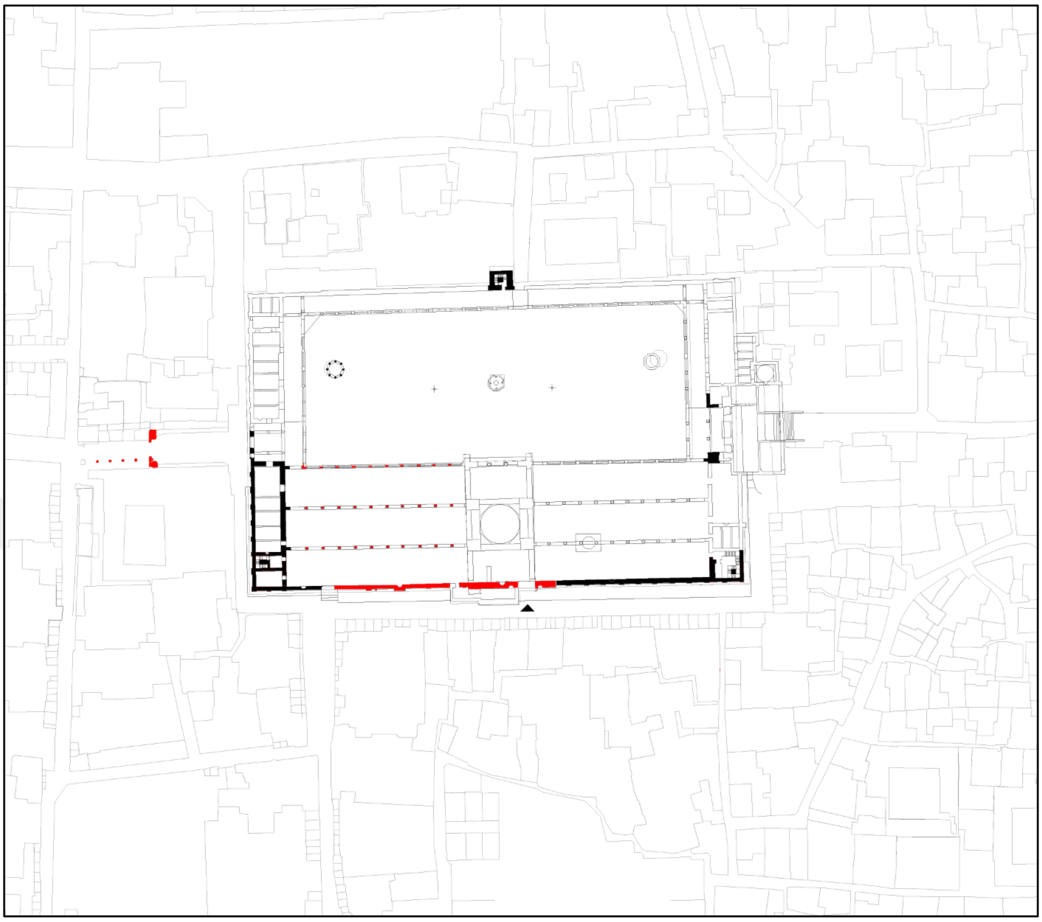


Figure 104. Indications of the church structure inside the current enclosure.

5.4 Transformation III: Umayyad Mosque

The building process of the Mosque inside the enclosure occurred in two subsequent stages:

1. The early Mosque which was built prior to the Umayyad capture by early Umayyads which was located at the eastern part of the *temenos* enclsoure. The spot of this early mosque was connected with a governing palace located towards its southern side.

2. The late Mosque built by attaching the early mosque with the western church

located at the inner enclsoure to extend the area of the Mosque across the southern wall by adopting the architectural and structural details of the church.

Several attempts to obtaine the church were faced with refusal from the Christian populations who negotiationed with early Umayyad governers, until the Caliph Al-Walid ibn Abdul-Malik who held control over the Umayyad Caliphate in 705 AD.

This stage was seen as an evidence of the desire of Umayyads to establish an identity of Islamic cultures in the region by enlarging the Great Mosque located at the Capital of the Umayyad's world. It was also seen as a sign of the increase of Muslim populations in the old city of Damascus.

It was continuously argued in history on how Al-Walid converted the Church into a Mosque especially when considering that most of the sources were written two centuries after the completion of the Umayyad Mosque. One of the earliest versions about the building of the Mosque was mentioned by the historian Yaqoob ibn Sufyan Al-Basawi who visited the city in (217 hijri / 832 AD) and mentioned based on the transmitted system of *Isnad* that:

Abu Yusuf Yaqoub bin Sufyan said that he saw at the *Qibla* wall of the Damascus Mosque gilded plates of lapis lazuli with a verse written on it and an inscription which says: He [Abdullah Al-Walid, Commander of the Faithful] ordered the construction of this mosque and the demolition of the church that was inside it in Dhul-Qa'dah in the year eighty-six [October, 705 AD)... and he said: this church was entered from the Qiblah wall of the mosque, current day the mihrab in where we pray. (AL-BASAWI, III, xxii, p. 434).

Ibn Jubayr wrote about the construction of the Great Mosque too, by stating:

It was Al-Walid who took that half of the church which remained in the hands of the Christians and **embraced [وأدخلها]** it in the Mosque". He added "For it had **two parts**, the eastern belonging to the Muslims and the western to the Christians (IBN JUBAYR, p. 292).

Thus, it seems that the total enclosure of the current day mosque, including the part of the courtyard were referred to as a holy spaces that once belonged to the temple, then to a church and finally to a mosque. This is also evident from the fact even in the current days, anyone wishes to enter the space of the prayer hall must take off their shoes before entering the entire enclsoure of the *temenos* walls. Therefore, the conversion which was mentioned by both scholars on the destruction or the "embracement" of the structure of the church maybe part of the inner enclosure to continue the building process and to expand the area of the early mosque. This was found more relevant to the continuation process rather than the physical destructions of the actual space of the church physical space.

Further investigations on the physical levels of the current enclosure may reveal other elements to reconstruct the formation process of the Great Mosque.

5.4.1 Typological Process of Early Mosques

Guidetti (2013) suggested that the construction of sacred areas in Islam took place in two phases: firstly, small mosques "*Masjid*" were constructed with a fundamental motive to provide Muslims with a place to pray; they were generally small in scale and built without prior planning. Secondly, large mosques "*jāmi*" were built by including congregational spaces such as courtyard with porticos, specifically designed to be a gathering point for Friday prayers and special religious occasions. *Figure 105* illustrates chronological mosques building in relation to their geographical locations.

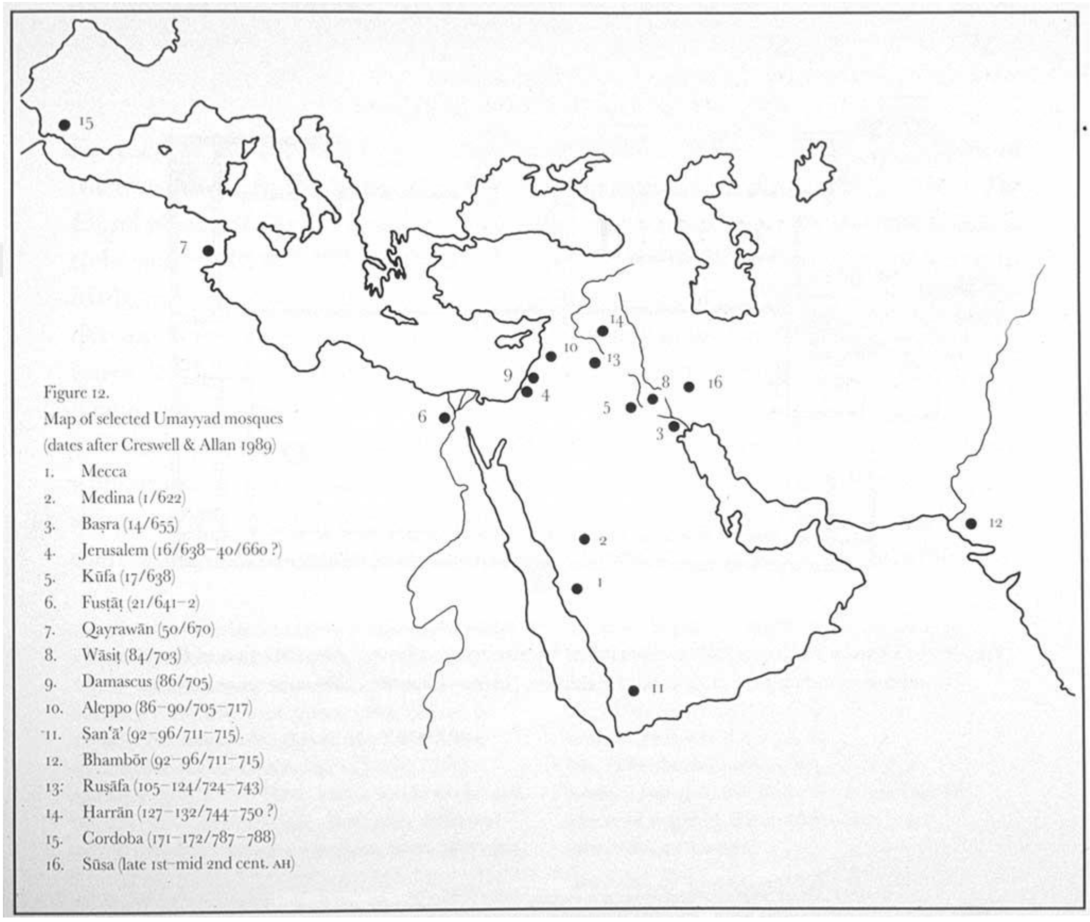


Figure 105. Map of early Mosques in Islam. Adapted from *A Short Account of Early Muslim Architecture*. (Revised edition, p. xviii), by K.A.C. Creswell, & J. Allan, 1989, Aldershot, England: Scolar Press.

Early mosques were built prior to the immigration "*Hijra*" of the Prophet Mohammed (PBUH) and his followers from Makkah to Medina in 622 AD. Preliminary materials were used in early mosque's construction without ornamental additions to avoid causing distractions to prayers and to meet the basic requirement to provide a space for Muslim believers. Alsayyad (1991) argued that the early formation of mosques in early Islam were not considered as visually attractive elements, however, their significance increased during the late Umayyad period when Muslims confronted the Byzantine's cultures. Only then, Umayyad governors realized the importance of establishing a strong Islamic identity across the region, therefore, they provided large and attractive structures. Thus, these structures were generally built after the widespread of Islam in the Levantine region by Umayyads which witnesses a large development especially during the rule of 4th and 5th Umayyad Caliphs, Abdul-Malik ibn Marwan (r. 685 – 705 AD) and his son, Al-Walid ibn Abdul-Malik (r. 705 – 715 AD). During these eras, many monuments were built including Umayyad garrison palaces (*Qusur*), public baths, and congregational mosques including those transformed from churches.

Examples of early mosques are Prophet's Mosque in Medina (c. 622 AD), in addition to Kufa Mosque (c. 638); Basra Mosque (c. 655); Al-Fustat Mosque (c. 641-42); and Al-Wasit Mosque (703) in Iraq. Nevertheless, the examples of late mosques are the early expansion of Prophet's Mosque (650), Al-Aqsa Mosque in Jerusalem (684-705), Great Mosque of Damascus (705-715), Great Mosque of Cordoba (787-788) and the late mosque of Al-Azhar (970-972). *Figure 106* displays a comparative matrix of the analysed mosques arranged chronologically to outline variant structures of Mosques.

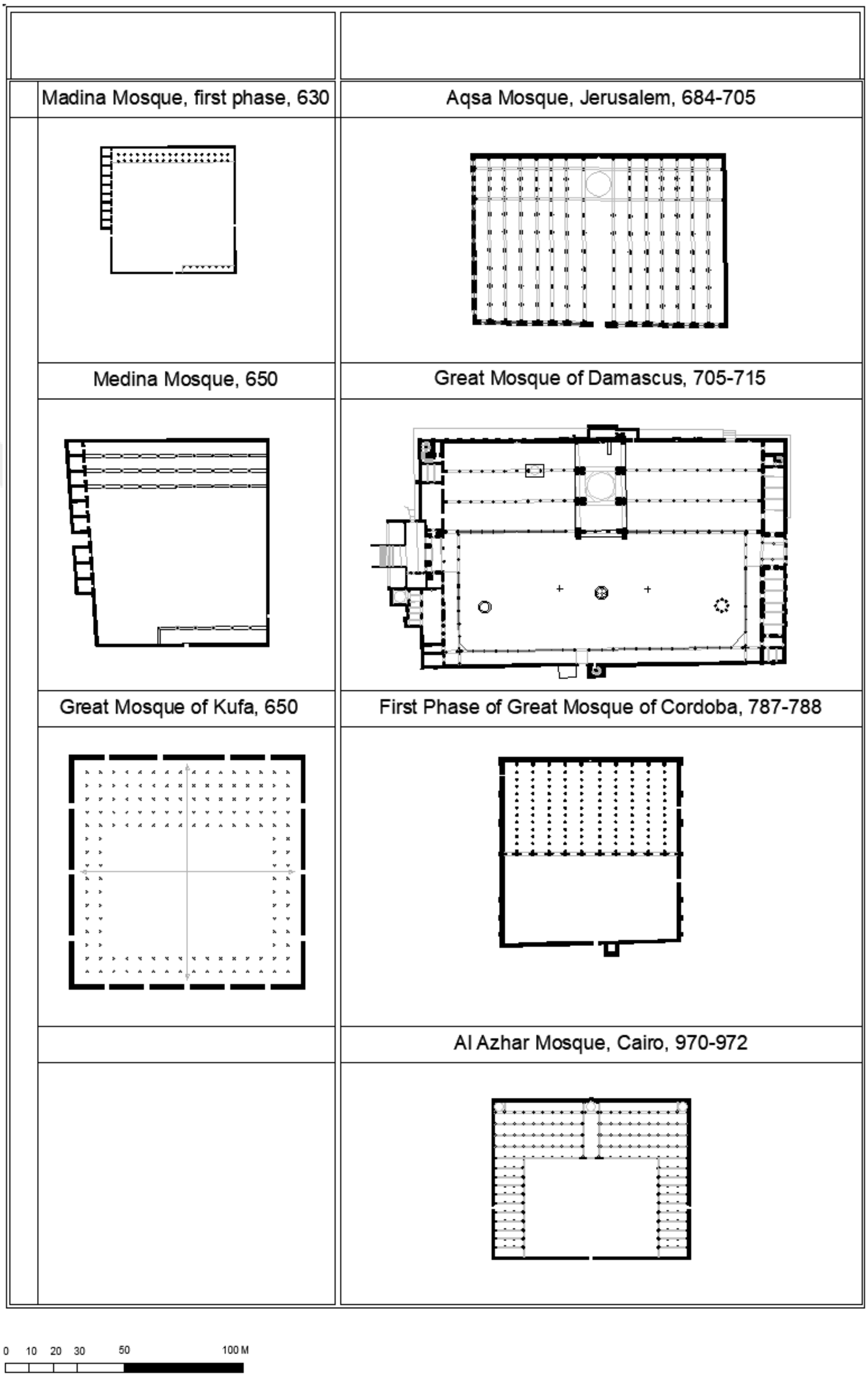


Figure 106. Comparative matrix of early mosques adapting Umayyad features.

The Prophet’s Mosque in Medina is considered the oldest examples of mosques built in around the middle of the 7th century; it is located at the western desert of the Arabian peninsula oriented north-east towards the direction of Makkah (438 km). The mosque in its current state is a result of many interventions, involving various expansions and renovation processes. The reconstruction plan of Sauvaget (1947) outlined the early phases of these expansions. Hence, it is observed that the inner courtyard was built during late phases. *Figure 107* exhibits survey and phase diagram on the Prophet’s Mosque in Median as depicted by Sauvaget.

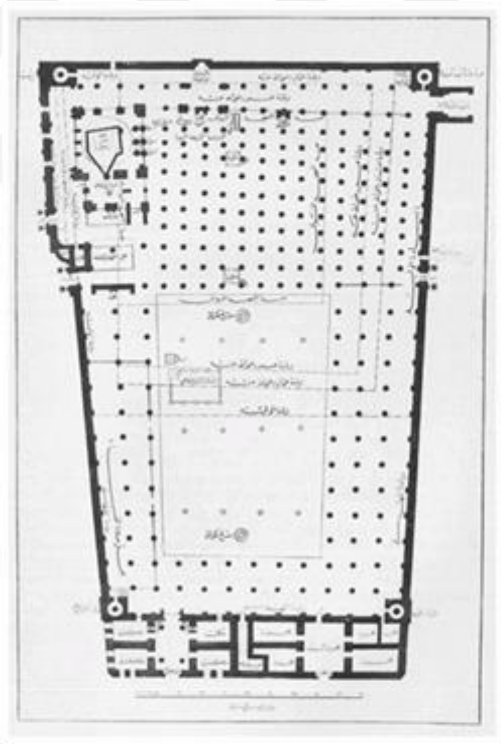


Figure 107. Reconstruction plan of early phase of Prophet’s Mosque in Medina. Adapted from *La Mosquée omeyyade de Médine: étude sur les origines architecturales de la mosquée et de la* basilique, by J. Sauvaget, 1947, Paris, France: Vanoest.

The early Umayyad configuration plan of Al-Aqsa Mosque known as "*Masjid Al-Aqsa*" which was built in the middle of 7th century in Jerusalem is considered an essential guideline to understand the formation of early mosques and their shifts to a larger mosques in the region. As this mosque was firstly constructed by the Umayyad Caliph Abdul-Malik ibn Marwan (r. 685-705), it had enlarged and completed by his son Al-Walid (r. 705-15). *Figure 108* displays a reconstruction plan made by Grafman and Ayalon (1999) outlining the relationship between the existed mosque and the reconstructed plan.

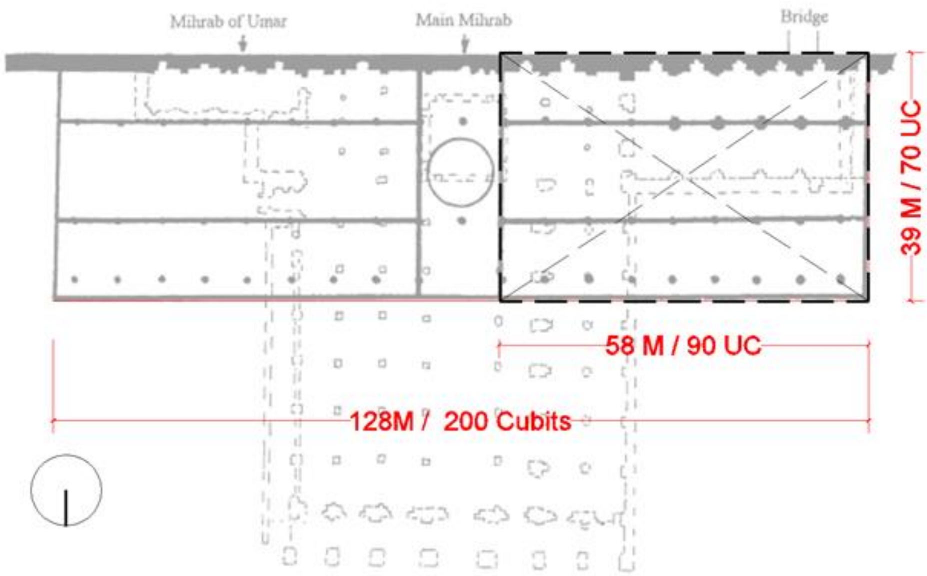


Figure 108. Reconstruction plan of Al-Aqsa Mosque. Adapted from "The two great Syrian Umayyad mosques: Jerusalem and Damascus", , by R. Grafman & M. R. Ayalon, 1999, *Muqarnas*, *16*, p. 6.

Grafman and Ayalon (1999) argued that the early space of Al-Aqsa Mosque was arranged from the ruins of the previous temple formed in late-Roman era. The mosque measured during 8th century as (220 x 70 Umayyad cubits / 123.2 x 39 metres)

(Grafman & Ayalon, 1990). The early mosque consisted of eight hypostyle halls in each of the east and west sections. Both sections included arcades facing the *Qibla* direction and centred with the southern main mihrab. The central part of the early mosque is similar to the transept of the prayer hall in the Great Mosque, but it does not hold any additional structure. Nevertheless, the position of the dome of Al-Aqsa inspired the Umayyads to construct a similar structure in Damascus and in many other cities.

Most of the transformed structures built during the Umayyad era followed a similar schematic plan adopted from the layout of the Great Mosque of Damascus and Al-Aqsa in Jerusalem (Grafman and Ayalon, 1990; Strappa, 2000). As noted, these two early mosques represented the early foundation of the second phase of building large mosques by establishing a visual Islamic identity across the region (Flood, 2001). The schematic early plan of these mosques relied on establishing a sheltered area for praying, open area for gathering, and sided gates for entering. Later, the prayer halls were divided into several transverse spaces across the longitudinal section facing the Qibla direction. Therefore, the polarity of the prayer hall plan was made for two main reasons: 1) The need to a central space for the *imam* in the prayer hall, and 2) The Muslim builders imitated the typologies existed in the region such as the basilica and *castra praetoria*.

Therefore, the adoption of this schematic plan was seen in many examples of Mosques which later built across the region. It is noted that the additional structures of dome, arcade, and other ornamentation were resulted from the interrelation between Muslim rulers and skilled craftsmen who had experiences in the local building culture. Therefore, special buildings of Umayyad dynasty were largely influenced by local building elements which led to create new typologies by emerging the structural elements of both cultures.

5.4.2 Indications of Umayyad Mosque in the Current Enclosure

To confirm the theory of the existence of an early mosque that was built before the expansion process of the existed Great Mosque, I will exhibit some photographs containing physical evidence of the early mosque that was built in the period prior to the construction of the Great Mosque. These elements including the following

1. The presence of a water well on the eastern side of the covered prayer hall, containing two symmetrical columns of grey marble stones and surrounded by stone ashlars of different sizes. This water well was probably used for ablution purposes.

2. The location of the *mihrab* in the middle of the southern wall at the eastern part indicates the early remarks of the building process by Umayyads. Especially when considering the cabinet which connected it with the southern palace known "*Maqsurat Al-Sahaba* [Companions]" mentioned by IBN JUBAYR (p. 295).

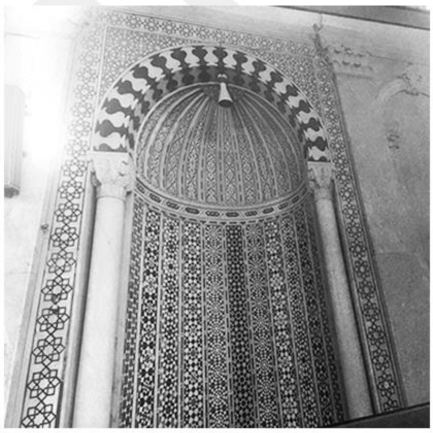
3. The palace of Umayyad governors at the southern east corner and their theorized connection with the Maqsura to protect the Caliph from possible assassination.

4. The presence of an extended spaces towards the eastern settlement at the vicinity of *Bab Jayroun.*

Figure 109 displays photographs of each of the discussed element, while

Figure 110 shows the measures of the early mosque and its location based on the early written sources. Additionally, *Figure 111* shows the final stage of building the prayer hall by merging the two structures of the church and the early mosque and completing the two structures along the southern wall of the *temenos*' walls. This step of the building process is seen as adjoining the two spaces into one single architectural entity by adapting what already existed inside the area of the church. Thus, this have clearly exhibited the process of continuation process while building the Great Mosque of Damascus.

Parts of the Eastern Section of the Prayer Hall



Early Mihrab

Parts of the Eastern Hall

Water Well

Figure 109. Photographs of areas indicating the placement of the early Mosque.

Figure 110. Indications of the Early Mosque on the current plan.

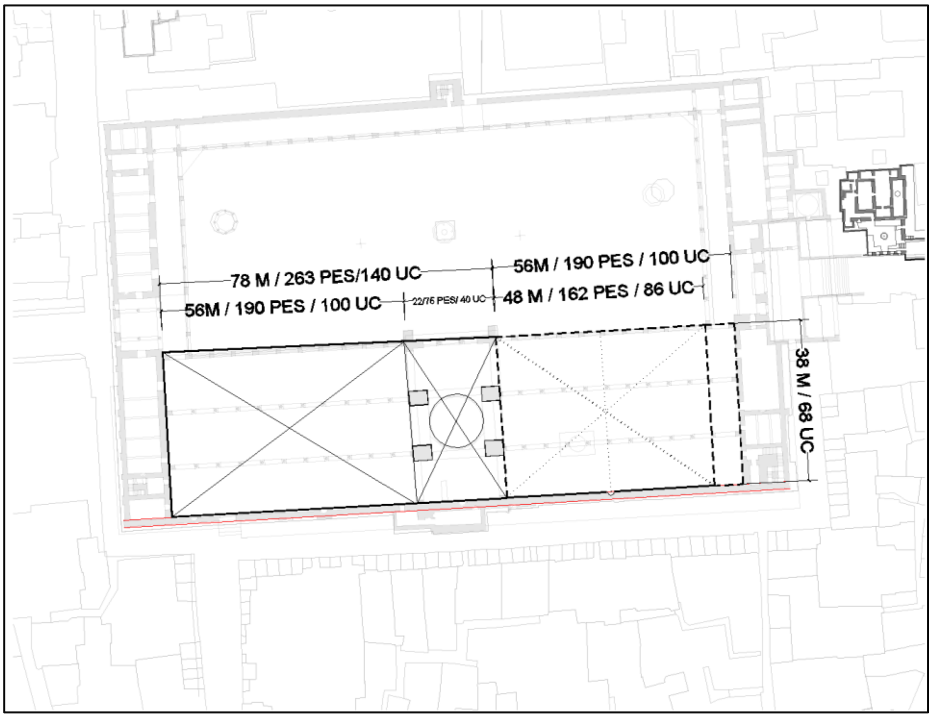


Figure 111. Indications of the Mosque built by Al-Walid on the current plan.

Conclusion of the Chapter

The interpretation of Umayyad Mosque through stating many physical evidences in respect of its development stages contradicts the hypothesis which indicated the demolishing of the entire church to build the Great Mosque in its place. In this regard, this study reviewed not only the church but several other examples of Roman and Byzantine buildings by referring to their systematic convergence in the method of construction, materials, architectural elements, and typological process of some buildings such as the development of the *praetorium* into Roman fortresses and then to Umayyad palaces. In this explanatory study, the typological analysis on the Great Mosque is considered as an extended step of the adopted methdology which started by analysing the territorial organsim of the city of Damascus narrowed to the surrounding urban tissues of the Great Mosque and finally to the building elements.

The typological comparisons displayd in this chapter outlined number of corrolations between the enclsoure of the Great Mosque and the diachronic building varients located in the Syrian region. In conclusion, these comparisons revealed that there are strong physical similarities between parts of the current Mosque and the analysed buildings. *Figure 112* displays a comparative matrix of some of these buildings to recognize their physical attributions to the building process of the Great Mosque.

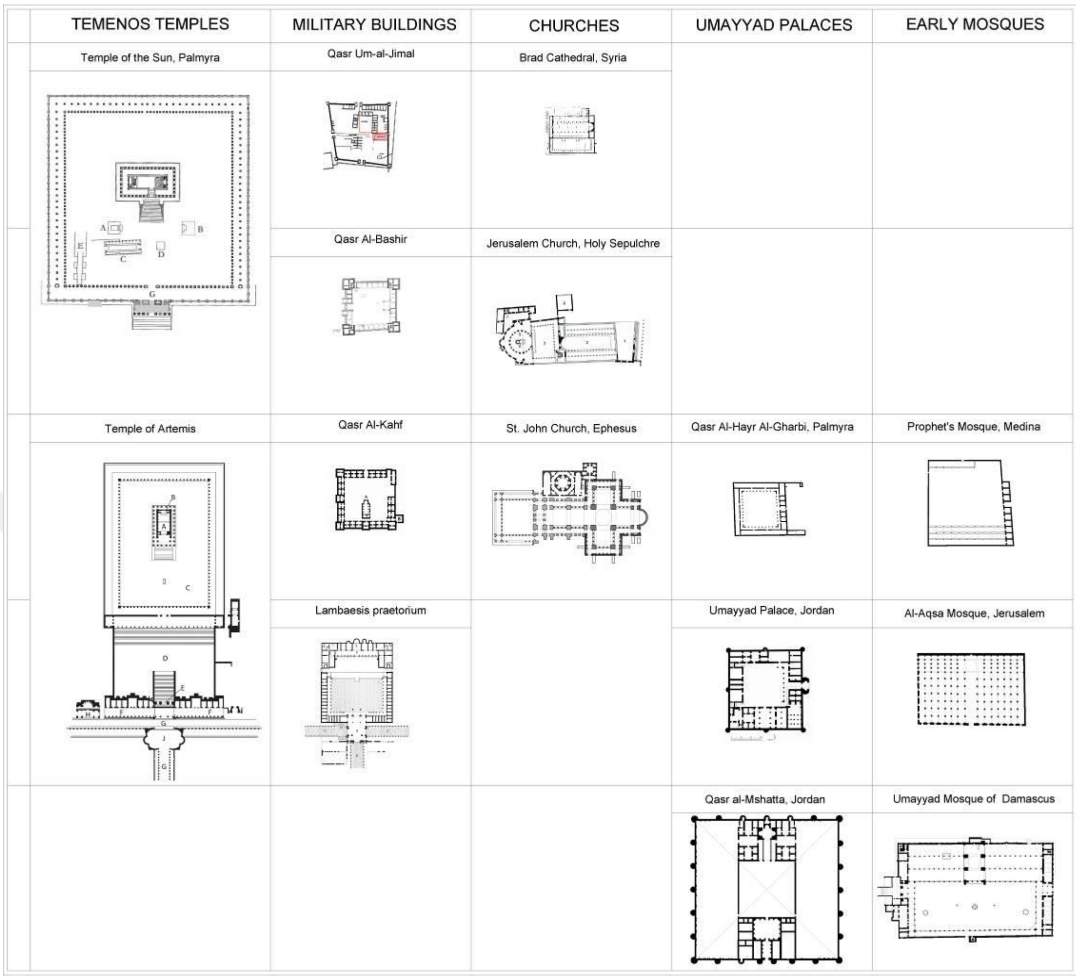


Figure 112. Comparative matrix of the analysed buildings.

Throughout this chapter, the Great Mosque appeared to have several elements derived from many of the discussed eras. In this context, we note, after reviewing the 3rd century buildings which belonged to the Imperial Roman era, a level of correlations were observed between them and parts of the mosque. This idea supports the hypothesis that there was a transitional phase in which partial changes took place inside the inner enlcosure of the *temenos*. Moroever, the presence of several common architectural features were a sign indicating to the reusual of the existed materials by Umayyads. Hence, this also supports the continuation process of the inner enclosure.

The main reason of using the existing materials was because of the urgent need to construct buildings with a minimum cost. Therefore, the construction of the Great Mosque represented a processual continuation revealed by the correspondence of the historical events with the physical factors existed within the area of the current enclosure of the Great Mosque.

It is important to remember that the study of the typological process of the Great Mosque belongs to the "critical consciousness" process which contrasts with the "simultaneous process" of building structures (Caniggia & Maffei, 2001). Thus, the sequential transformation of the Mosque as a special typology is resulted from the critical evolution of multiple types with set of requirements of each culture since all were observed within different parts of the Great Mosque.

The study of the formation process of historical Roman buildings in the East Roman territories is influential since they were adopted in many examples in the region; their mutual aspects of ratio, structural elements, ornaments, and arrangements of the ground levels, greatly influenced the region's building typologies, nonetheless relied on the local resources. Therefore, further explorations on the diachronic variants of different types can lead to many conclusions in respect of the relevant similarities between the Roman buildings and the early Islamic structures.

CHAPTER VI

GENERAL DISCUSSIONS AND CONCLUSIONS

The analysis performed on the various scales provided a glimpse on the transformation process of the pre-Islamic structure of Umayyad mosque and its surrounding urban fabrics throughout the specific eras as mentioned in the historiographical study of the region, the city, and the temple.

The reinterpretations of the transformation processes were supported by referring to the textual sources and discovering the physical similarities in buildings which dated to different phases by pointing out to their functions and their chronological features. Therefore, we concluded that the current enclosure was derived from a combination of elements existed in the analysed historical buildings.

Since the Mosque is considered among the category of special buildings according to the methodology of Caniggia and Maffei (2001), its sequential transformations were resulted from the critical evolution of multiple types with set of requirements of each culture, as they all are observed in different parts of the Great Mosque.

6.1 Phase Plans of the Surrounding Urban Tissues

As we previously discussed, we notice that there is a strong relationship between the spot of the Great Mosque, the surrounding urban tissues, and the natural element of the Barada River. In summary, the elements which are still preserved in the current urban tissues including archaeological remains indicated the presence of large Roman headquarters in the centre of the old city in which the area of Great Mosque was part of it. This was outlined by the large difference in scale between the Mosque and its surrounding urban settlements. In addition, the existence of the straight roads which surrounded the area was another evidence which indicated the isolation of this area to be an extension of the outer enclosure of peribolos. Additionally, as noted from the study of the urban morphological analysis made on the current city, most of the important building blocks were erected in relation to the Barada river. This indicated the reason why the area was constructed at the banks of the river since its early construction as a protective settlement in the Roman city centre.

Figure 113 displays the formation process of the early spot of the Mosque and its surrounding urban tissues by demonstrating the hypothetical phases from Roman to Umayyad with a brief information on the early Aramean temple and the foundation of the temple. This diagram summarizes the process in eight sequential phases by considering the natural changes of the Barada river and the main urban routes surrounding the analysed enclosure.

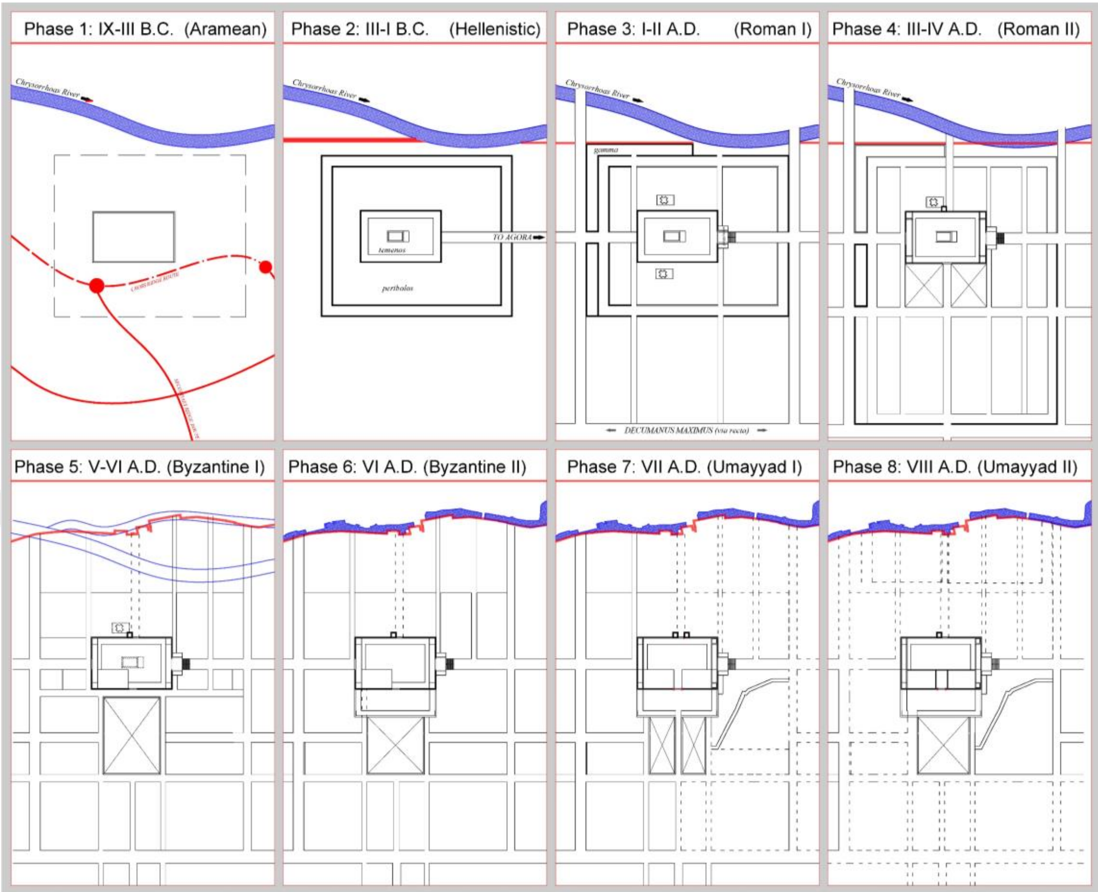


Figure 113. Phase plans of the Great Mosque and the surrounding urban tissues

Phase 1: Showed the early construction of the Aramean temple known as Hadad-Ramman indicated by the Egyptian stylized triangular ornaments above the western wall, in addition to a basalt of a lion with a head of a human figure found at the northern east of the inner enclosure. Moreover, based on the study of the territorial organism, the early enclosure was formed with reference to the location of Barada river.

Phase 2: Marked the Hellenistic embellishment of the inner enclosure by enlarging the area and including an outer walled enclosure known as the peribolos. This area was constructed at the boarder of Barada river and connected with a gate located at the eastern side which was leading to a public space known as Agora. The Agora and the Hellenistic temple were the primary features of the Hellenistic city.

Phase 3: Described the early arrival of Romans to the old city. The Hellenistic temple witnessed additional enlargements by including public marketplace known as gamma consisted of row of shops at the western side where fragments of this place still persist on the current urban tissues. The formation of this space was determined by the natural organization of Barada river. Along the streets neighbouring the peribolos and the gamma two paralleled bridges located at both sides of the enclosure were formed to connect the early northern and southern settlements as seen on iconographical sources. Finally, additional gate located at the western side was added by constructing a large structure known as propylaeum and enhancing the eastern gate with another one.

Phase 4: Represented the second phase of the Roman era which witnessed military empowerment of the Roman Empire in the region. This phase was hypothetically illustrated by the morphological analysis performed on the surrounding urban tissues as well as the textural sources which indicated the presence of a military headquarter in Damascus. Moreover, a large complex area was constructed by expanding the outer enclosure of the peribolos towards the south to reach the Straight Street known as Decumanus Maximus. This enclosed area included various facilities including an administrative headquarter (praetorium) in the area of the temple of Jupiter, and barracks, arms factories, and residential units for the Roman soldiers in the surrounding urban tissues.

Phase 5: Symbolized the decline of the Roman power in the region and beginning of Byzantine age. As a result, Damascus shifted from pagan rituals to Christianity which led to establish churches by converting the former temples. The temple of Jupiter was dismantled, and the church was constructed at the western side of the inner enclosure of temenos which led the main central street which used to lead to the praetorium to shift towards the east and west directions. Additionally, number of other urban routes were enhanced with a Byzantine style arcade such as the ones still preserved at Al-Miskiyye square, at the western side of the Great Mosque. It is worth noting that during this phase the river was of less importance, hence, the surrounding urban settlements began to spread towards the northside forming the northern urban tissues.

Phase 6: Displayed the second stage of Byzantine era in which the church was expanded under the rule of Emperor Arcadius, son of Theodosius, who ordered the erection of an atrium space with arcades at the southern part of the inner enclosure. This phase also witnessed the reconstruction of a Byzantine administrative buildings such as the early palace built in the end of 5th century for the Byzantine governor of the Phoenice Libanensis province, where Damascus was its capital (Burns, 2005).

Phase 7: Marked the early arrival of the Arab Muslims led by Umayyads to Damascus city. The enclosure was divided into two parts; the church remained as it was while the Muslims built a mosque at the eastern part of the inner enclosure. Moreover, the urban tissues surrounding the mosque soon began to occupy by the new Muslim settlers in eastern part of the inner enclosure especially near the eastern gate of Jayorun. The Byzantine palace built in previous phase was transformed to an

Umayyad administrative palace to be a residence for the Umayyad Caliph Muawiya ibn Abi-Sufyan and called it Dar Al-Khilafa, as mentioned by Ibn Jubayr, and connected with a special entrance with the early Mosque.

Phase 8: Represented the second phase of Umayyad building process inside the city centre and the inner enclosure. During this phase, the space of the western church was attached to the area of the Mosque by Caliph Al-Walid ibn Abdul-Malik and extended towards the eastern part to form the area of the prayer hall. This was done by partial demolishing the church's eastern wall where the apse probably stood and continued with its interior arrangement towards the eastern side forming the prayer hall of the Great Mosque. Umayyad palace located south of the early mosque was also expanded and enhanced to include a Green-Dome and called as "Dar Al-Khadra" mentioned by the early sources. The similarity between the mosaic of Basilica of St. Apollinare Nuovo and the architectural order of early churches indicated the adoption of the typologies of late-Roman buildings within parts of the Mosque's enclosure. Likewise, the presence of a relatively similar structural details of the preserved Byzantine arcades located at the western urban tissue with parts of the portico inside the courtyard indicated the continuation of building process from the early structure of the temple to the church and then to the Great Mosque.

6.2 Phase Plans of the Mosque's Inner Enclosure

Studying the architectural elements related to each era and the typological comparison of special buildings located in the Syrian region helped to identify the stages through which the Umayyad Mosque was formed. *Figure 114* shows the indications of these elements inside the current enclsoure.

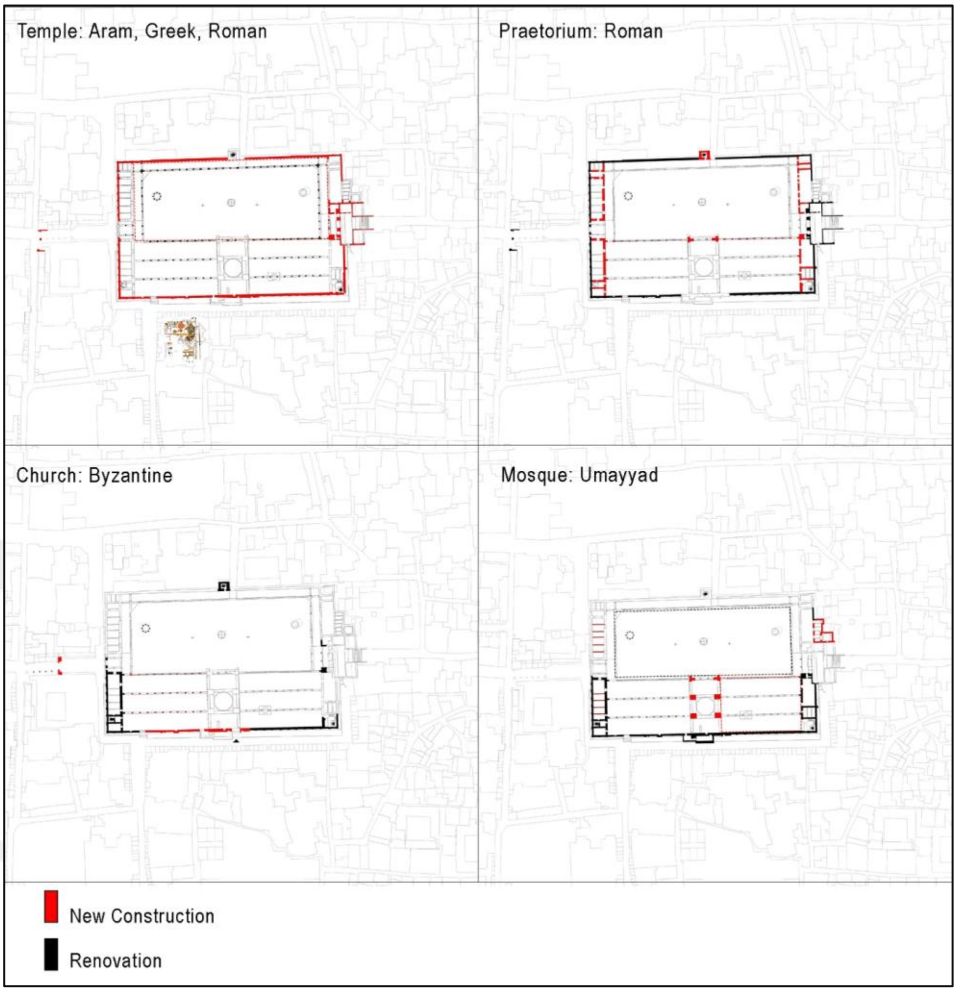


Figure 114. Indications of each phase on the current enclosure.

This led to develop a schematic phase plan to clarify the formation of each stage by concentrating on the most important elements of each historical stage. My objective is to demonstrate a conceptual model of each stage from the Graeco-Roman temple to a Roman *praetorium*, then to a Byzantine church, and finally to an Umayyad Mosque. *Figure 115* demonstrates the phases of the formation process of the ancient enclosure from a Graeco-Roman temple until the complete completion of the Great Mosque by combining all the structures located within the area of the *temenos* enclosure.

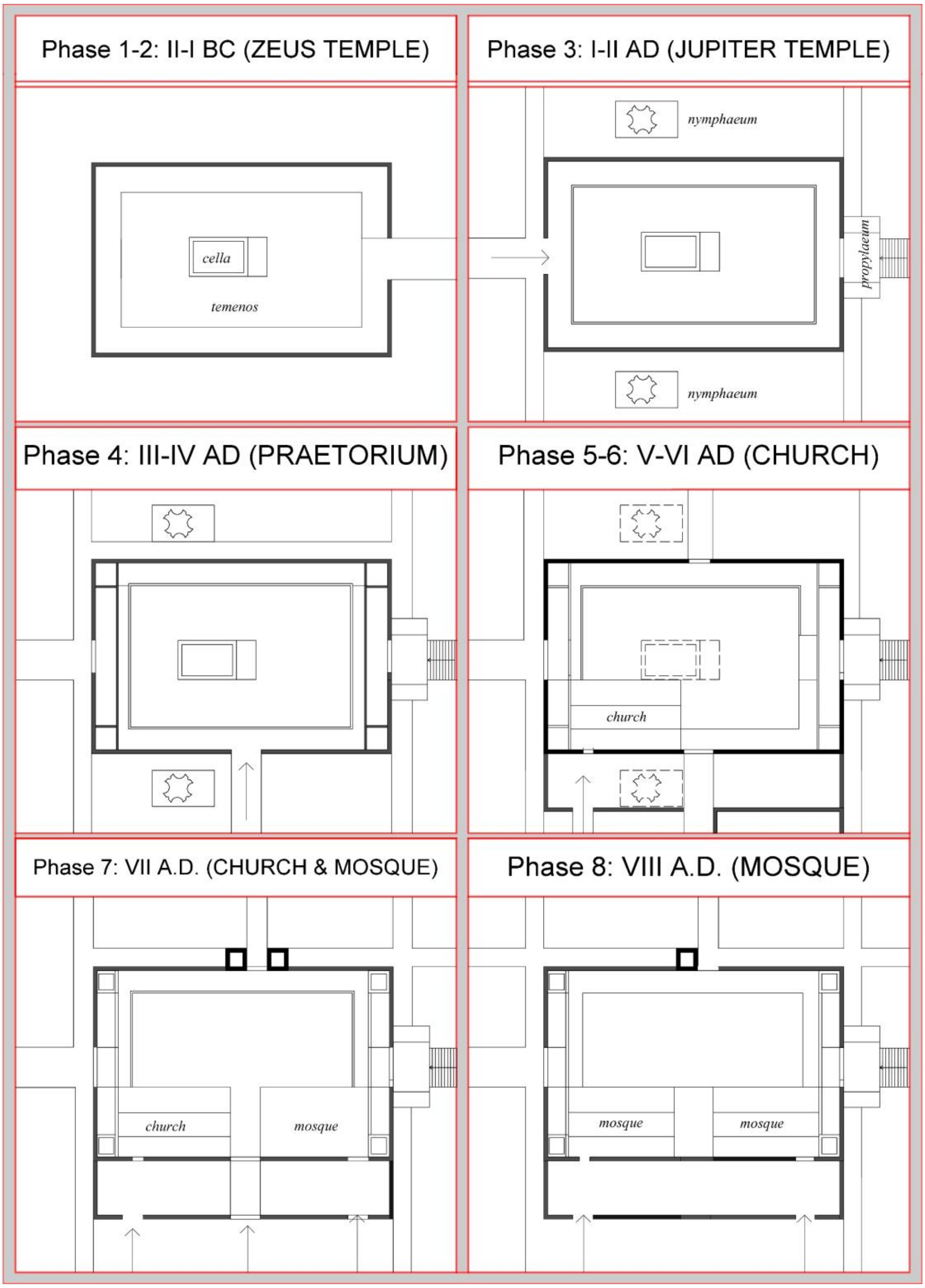


Figure 115. The formation process of the Great Mosque (II BC – VIII AD).

6.3 Conservation, Preservation, and Design Opportunities for the Great Mosque and the Surrounding Urban Tissues

In this section, I will enlist some recommendations to reinforce strategies for conservation and preservation of the Great Mosque of Damascus and its historical surroundings and to suggest urban design solutions on the surrounding urban tissues. Furthermore, these suggestions take into consideration the global standards imposed by international organizations such as UNESCO and ICOMOS with the guidelines of the local authorities in Damascus Directorate General of Antiquities and Museums. The overall objective of these suggestions is to promote active maintenance and suggest different applications to achieve conservation strategies on the archaeological and the built heritage of the studied area.

Most of the principles entailed in this thesis were discussed and outlined as a general remark, however, conservation, preservation, and design opportunities for the Mosque and the surrounding urban tissues was not the main objective of this research and consequently it was not what this thesis intended to explore since the beginning of its construction. Therefore, further studies and research are encouraged and highly recommended for future investigation and research to suggest further design solutions and detailed tactics to conserve, preserve, survey, and excavate the studied area mentioned in this thesis.

It was foreseen that the Mosque and its surrounding urban tissues are part of the ancient city of Damascus which is enlisted in the List of World Heritage in Danger by UNESCO. Therefore, it is highly important to implement an extensive digital survey on the site of the Great Mosque and all the building blocks located within its vicinity immediately after it is retrained from the list and becomes safe for experts and academicians.

The Great Umayyad Mosque features a continuation process which can be tracked by the nature of its materials, the composition of its form, and the connection with its surrounding urban tissues. Therefore, the best practices in conserving the building structure of the Great Mosque will be by (1) Connecting the Mosque with its surrounding elements through reconstructing the ancient urban routes, (2) Revitalizing its historical identity, (3) Preserving its original materials, and (4) Providing further evidence on the nature of its formation process through addressing it to the general public.

Since the Mosque appeared as the main public area during ancient times, it is important to implement strategies to enhance the courtyard area of the Great Mosque by reconnecting it with the surrounding urban settlements. This can be done by reconstructing the *in-situ* monuments located within the highlighted enclosure utilizing modern technologies and performing constant maintenance on the built landscape according to the preservation principles. Additionally, it is highly recommended to implement design solutions by referring to the outcomes entailed in this thesis in addition to previous academic work which addressed the surrounding elements and provided series of scientific arguments and schematic reconstruction drawings based on fragments of the preserved monuments.

Developing a preservation and conservation strategies frameworks on the enclosure of Great Mosque of Damascus should take in account the specific procedures and relevant principles entailed in previous charters such as: (1) The

Athens Charter for the Restoration of Historic Monuments (1931), (2) International Charter for the Conservation of Monuments and Sites, also called by the Venice Charter (1964), and (3) Charter for the Protection and Management of the Archaeological Heritage (1990).

All elements previously discussed in this thesis which are still preserved on its current enclosure represented different phases and transmission. Therefore, important considerations should be taken when renewing any parts by reviewing its material and the form before implementing any physical interventions. As stated by Brandi (2005) that "restoration consists of the methodological moment in which the work of art is recognized, in its physical being, and in its dual aesthetic and historical nature, in view of its transmission to the future" (Brandi, 2005, p. 48).

The southern part of the Great Mosque included a connection with major imperial buildings, constructed during antiquity phases, later developed to serve as Umayyad administration center. Therefore, since this study attempted to reconstruct parts of the southern urban tissue, it is highly advised to reconstruct parts of its physical fragments including the location of the atrium spaces, arcades, cavalry barracks, and the palace of Al-Khadra and to perform further archaeological expeditions on this area. This will lead to a definite separation between what has been imposed on the urban tissue and what was historically built on the original strata. Such interventions could also be carried by stressing the importance of the other urban tissues by creating a visual connection from the ground level towards (a) the main urban routes that connected the highlighted surroundings with the city and major routes, (b) the river of Barada as it plays an important role in connecting the organization to its early foundations, and (c) the exhibiting the archaeological findings revealed on the historical layers of the surrounding urban tissues.

The overall outcome of this study suggests implementing further on-site explorations on the Mosque and the highlighted studied area surrounding it. This can be done by conducting further archaeological excavations on different historical layers and by surveying the building plot of the Great Mosque and its surrounding urban tissues according to Article 4 of Charter of Protection and Management of the Archaeological Heritage (1990). The technical requirement of the survey methodology is highly advised to be carried by using 3D digital scanning devices to identify more detailed matrix of the building typologies and produce a typological plan to assess Architects and urban planners to implement proper design solutions and determine damage levels and original functionalities of the surveyed buildings.

The typological plan which will be resulted from the digital surveys on the surrounding urban tissues will allow further understandings on the relationship between different functional zones inside the highlighted area and provide further understandings on the hierarchy of accessibility routes of each urban block. Therefore, I believe that this will permit the urban planners' experts as well as researchers to develop an appropriate master plan by tracking the evolution process of the old city, the urban tissues, and the building plots located within the highlighted area. By this way, these investigations may ensure best possible practices for future interventions on the physical layers without causing damages to the historical fabrics possessed in their original identities.

Similar approaches are encouraged to be handled by urban planners and decision makers of the governmental bodies to develop local strategies based on the surveyed buildings to renovate and re-inhabit the residential areas located within the surrounding urban tissues which are extensively populated yet neglected. This can be done by designing and implementing a master plan and design guidelines for the conservation and enhancement of the residential urban tissues.

Parallel planning exertions can be done to find appropriate design solutions to attract visitors to Barada river, its channels and streamside. Such initiative can be implemented by reinforcing its original placement, providing seating areas, electrical transportation, and avoiding the vehicle accessibilities to the area. These steps will ensure to make the river of Barada and its surrounding areas near the Great Mosque an attractive urban public space in the city center, since, as seen from this research, it is considered as a main landmark and an important contributor in establishing the first urban settlement and forming the antique morphology of the old city of Damascus.

6.4 Recommendations for Future Research and Studies

Further research on the formation process of Mosques is extremely recommended especially the areas located in the Anatolian region. The methodology of carrying such research must compare them with the Great Mosque in Damascus with careful attention to the spatial, geographical, urban, the special characters of the city since the conclusion of this research mentioned that the formation process of each building is closely related to its urban context and the larger territory in which the building is located. It is similarly important to remember that we should not ignore the fact that Mosques in general are considered of a “special building” typology, i.e., relevant to a specific cultural attribute that follow a “critical evolution process”. Therefore, they should be compared and studied with all relatively similar special buildings by finding their commonalities such as their physical, metrical and evolution processes taking into consideration the historical timeline of any of the compared structures.

Moreover, as briefly highlighted in this study, residential blocks in the surrounding urban areas are extremely neglected at the time they can provide further evidence on the nature of the transformations on the Great Mosque and the surrounding urban tissues. Therefore, it is highly advisable to conduct comparative typological studies on the Syrian courtyard houses located within the urban tissues surrounding the Great Mosque.

Further analytical studies are strongly recommended to be carried out between the city of Damascus and other historical towns located at the same historical routes and the routes resulted from the theoretical representation of the territorial cycle. This method can provide further evidence on the formation process of the old city of Damascus and of major historical towns located in the region.

Finally, further historical studies are strongly suggested to be done on “inter-transitional phases” as mentioned in this research during the 3rd century AD since this phase witnessed major events which affected the entire region. Therefore, further investigations based on textual and physical sources are recommended on this era elevated in future scholarships to provide further evidence about the nature of the military significance which was given to the city of Damascus and their theoretical effects on the enclosure and consequently on the main landmarks of the old city.

REFERENCES

PRIMARY SOURCES (arranged in a chronological order)

Jones, H. L. (Trans.). (1930). *Strabo: Geography* (vol. VII, xv-xvi). Harvard, England: Harvard University Press. [I BC – I AD].

Jeffreys E., Jeffreys M. & Scott, R. (Eds.). (2017). *The Chronicle of John Malalas.* Canberra, Australia: Brill. [527 AD].

Whitby, M. W. (Ed.). (1989). *Chronicon Paschale 284-628 AD. translated texts for Historians* (Vol. 7). Liverpool, England.: Liverpool University Press. [628 AD]

Adomnán, S. (Ed.). (1889). *The Pilgrimage of Arculfus in the Holy Land.* London, England: Adelphi. [670 AD].

Karami, A. (Ed.). (2009). *Tarikh al-Umam wa al-Muluk: Tarikh Al-Tabari (224-310 Hijri)* [History of Nations and Kings: History of Al-Tabari (224 – 310 Hijri). Amman, Jordan: Beit Al-Afkar Al-Duwaliya. [838-922 AD].

Al-Basawi, A. (1989). *Kitab Al-Ma'arefah wal Tarikh* [Book of Knowledge and History]. J. Al-Nahawi, & A. Al-Umari (Eds.). Medina, Saudi Arabia: Maktabet Al-Dar. [890 AD].

Al-Taba'a, A. & Al-Taba'a O. (Eds.). (1987). *Futuh al-Buldan: Tasnif Al-imam Abi Abbas Ahmad bin Yehya bin Jaber al-Baladhuri* [Conquest of Countries: Classification of Al-Baladhuri]. Beirut, Lebanon: Mussaset Al-Ma'arif. [c. 891 AD].

Al-Muqaddasi, S. (1906). Ahsan al-taqasim fi marifat al-aqalim [The Best Divisions for Knowledge of the Regions]. M. J. De Geoje (Ed.). Leiden, Netherlands: Brill. [X AD].

Ioannes, S. (1126). *Synopsis historiarum.* [Biblioteca Digital Hispánica]. [1126 AD]

Al-Idrisi, M. (2002). *Kitab Nozhat al-Mushtaq fi ikhtiraq al-Aafaq* [The Excursion of One Who is Eager to Traverse the Regions of the World]. Cairo, Egypt: Maktabet Al-Thakafa Al-Diniyyah. [1154 AD]

Al-Umrawi, O. (Ed.). (1995). *Ibn Asaker: Tarikh Madinat Dimashq* [Ibn Asaker: The history of Damascus city]. Beirut, Lebanon: Dar Al-Fikr (80 vols.). [1163 AD].

Broadhurst, R. (Ed.). (2020). *The Travels of ibn Jubayr: A medieval journey from Cordoba to Jerusalem* [EBSCOhost]. London, England: I.B. Tauris. [1144-1217 AD].

Al-Dhahabi, S. (1985*). Duwal Al-Islam* [Countries of the Islam]. Beirut, Lebanon: Muassaset Al-Almi lil Matboa'at. [c. 1345 AD].

SECONDARY SOURCES

Ahmad, T. (2018). The monumental fontana del santuario di Damasco - Siria (Sūq l-ṣāġa). *Syria, 95*, 343-356. doi:10.4000/syria.6880

Al-Hafiz, M. (1985). *Al-Jami al-umawi bi-Dimashq: nusus li Ibn Jubayr wal-Umari wa'l-Nuaymi* [Umayyad Mosque of Damascus: passages by Ibn Jubayr, Al-Umari, and Nuaymi]. Damascus, Syria: Dar Ibn Kathir.

Al-Munajid, S. A. (1948). *Al-Nusus al-athariya al-muta'alaqa bi Dimashq: Masjid Dimashq* [Ancient texts in regard to Damascus: Damascus Mosque]. Damascus, Syria: Al-Hashimiya Press.

Alsayyad, N. (1991). *Cities and caliphs: on the genesis of Arab Muslim.* New York, NY: Greenwood Press.

Alsayyad, N. (2011). Islamic Urbanism. *Encyclopedia of Architecture*. Retrieved from: https://www.academia.edu/39941615/Islamic_Urbanism.

Ambraseys, N. (2009). *Earthquakes in the Mediterranean and Middle East: A Multidisciplinary Study of Seismicity up to 1900* (1st ed.). Cambridge, England: Cambridge University Press.

Arce, I. (2015). Severan *Castra*, Tetrarchic *Quadriburgia*, Justinian *Coenobia*, and Ghassanid *Diyarat*: Patterns of transformation of limes Arabicus forts during late antiquity. In R. Collins, M. Symonds, & M. Weber (Eds.), *Roman Military Architecture on the Frontiers* (pp. 98-122). [ProQuest E-book]. Oxford, England: Oxbow Books.

Ball, W. (2000). *Rome in the East: The transformation of an empire*. [ProQuest E-Book]. New York, NY: Routledge.

Bellini, G. (1511). *Reception of the Venetian Ambassadors* [Painting on canvas 175 x 201 cm]. Retrieved from https://meoc.hypotheses.org/9895

Bonfils, M. (1867). *Damas. Colonnade dans l'intérieur de la grande mosquée / Bonfils* [Photograph]. Retrieved from https://www.loc.gov/resource/ppmsca.04358/ [Library of congress].

Brandi, C. (2005). The Concept of Restoration (C. Rockwell, Trans.). In G. Basile (Ed.), *Theory of Restoration* (pp. 47-50). Florence, Italy: Nardini Editore.

Britannica, T. Editors of Encyclopaedia (2021, September 19). Michael III. Encyclopedia Britannica. https://www.britannica.com/biography/Michael-III-Byzantine-emperor

Burns, R. (2003). The defence of Roman Damascus. *Electrum*, *7,* 47-70. Retrieved from https://researchers.mq.edu.au/en/publications/the-defence-of-roman-damascus

Burns, R. (2005). *Damascus: A History* [ProQuest E-Book]. Florence, SC: Taylor & Francis Group.

Butcher, K. (2003). *Roman Syria and the Near East.* London, England: British Museum Press.

Butler, H., & Smith E. (Ed.). (1929). *Early churches in Syria: Fourth to seventh centuries* (part I). Princeton, NJ: Princeton University.

Butler, S. (1925). *Atlas of ancient and classical geography.* London, England: Dent & Sons. Retrieved from https://bit.ly/3qXnHxa

Camiz, A. (2008). La veduta di Ravenna in S. Apollinare nuovo e il palatium di Teodorico. *Il tesoro delle città: Strenna dell'Associazione Storia della Città, 5*, 114-138.

Caniggia G. & Maffei G. L. (2001). *Interpreting basic buildings*. Florence, Italy: Alinea.

Creswell, K. A. C. (1969). *Early Muslim architecture with a contribution by Marguerite Guatier-van Berchem.* Oxford, England: Clarendon.

Creswell, K.A.C. & Allan J. (1989). *A Short Account of Early Muslim Architecture*. (Revised edition). Aldershot, England: Scolar Press.

Dapper, O. (1677). *Naukeurige beschryving van gantsch Syrie, en Palestyn of Heilige Lant.* Amsterdam, Netherlands: Jacob van Meurs, Boekverkoper. Retrieved from https://archive.org/details/gri_33125010857817/page/n1/mode/2up

Dussaud, R. (1922). Le Temple de Jupiter Damascénien et ses transformations aux époques chrétienne et musulmane. *Syria*, *3*(3), 219-250.

Euratlas. (2007). *The complete Tabula Peutingeriana - a Roman road map compared with a modern map* [Map]. Retrieved from https://www.euratlas.net/cartogra/peutinger/index.html

Flood, F. B. (2001). *The Great Mosque of Damascus: Studies on the Makings of an Umayyad Visual Culture.* Leiden, Netherlands: Brill.

Freyberger, K. S. (1989). Untersuchungen zur Baugeschichte des Jupiter-Heiligtums in Damaskus. *Damaszener Mitteilungen, 4*, 61-86. https://ixtheo.de/Record/1649979878

Georg, B., & Franz, H. (1575*). Vol II (55) Damascus* [Image]. [Cartography, David Rumsey Map Collection/ Cartography Associates]. Cologne, Germany: Peter von Brachel. Retrieved from https://bit.ly/3kA1r8G

George, A. (2021). *The Umayyad Mosque of Damascus: Art, Faith and Empire in Early Islam*. London, England: Gingko.

Grafman, R. & Ayalon M. R. (1999). The Two Great Syrian Umayyad Mosques: Jerusalem and Damascus. *Muqarnas, 16*, 1-15.

Guidetti, M. (2013). The contiguity between churches and mosques in early Islamic Bilad al-Sham. *Bulletin of the School of Oriental and African Studies, 76*(2), 229-258. doi:10.1017/S0041977X13000086

Heiske, P. (1998). *Propylaea of Jupiter Temple* [Photograph]. Retrieved from https://syrianheritage.gbv.de/

Herzfeld, E. (1948). Damascus: Studies in Architecture-IV. *Ars Islamica, 13*, 118-138. Retrieved from http://www.jstor.org/stable/4515649

ICAHM & ICOMOS. (1990). Charter for the Protection and Management of the Archaeological Heritage. In M. Petzet & J. Ziesemer (Eds.), *International Charters for Conservation and Restoration* (Vol. I, pp. 104–106). Munich, Germany: ICOMOS. Retrieved from http://openarchive.icomos.org/431/

ICOMOS. (2011). *The Athens Charter for the Restoration of Historic Monuments - 1931 - International Council on Monuments and Sites*. Retrieved from https://www.icomos.org/en/resources/charters-and-texts/179-articles-en-francais/ressources/charters-and-standards/167-the-athens-charter-for-the-restoration-of-historic-monuments

ICONEM. (n.d.). *Iconem Platform*. Material Console. Retrieved November 19, 2021, from https://app.iconem.com/

Isaac, B. (1990). *The Limits of Empire: The Roman Army in the East.* New York, NY: Oxford University Press

Jones, H. L. (1930). *Strabo: Geography, Books 15–16 (Loeb Classical Library No. 241)* (Volume VII). Harvard, England: Harvard University Press. Retrieved online from https://bit.ly/Strabo

Keilo, J. (2014). *Mapping Roman legions: How "limits tell about the centre*. Retireved from https://centrici.hypotheses.org/572

Kennedy, D., & Riley, D. (1990). *Rome's desert frontier from the Air.* London, England: B.T. Batsford Limited.

Kidner, F. (1996). *West Church, Burj Haidar, Syria* [Photograph]. Retrieved from http://id.lib.harvard.edu/images/8001563123/urn-3:DOAK.RESLIB:34209397/catalog

Kiwan, K. N. (2010). *Intaj Al-Maskokat wa Tadawoluha fi Dimashq wa Rifiha min Al-Qarn al-Awwal ila Al-Qarn Al-Thalith Al-Miladi* [Production and Exchange of Coins in Damascus and its Suburbs]. Damascus, Syria: Directorate General of Antiquities and Museums.

Maffei, L. G., & Maffei, M. (2018). *Interpreting Specialised Buildings: Curatorship, introduction, and critical glossary*. Florence, Italy: Altralinea.

Marsham, A. (2020). *The Umayyad World*. [VitalSource Bookshelf]. London, England: Routledge. Retrieved from https://bookshelf.vitalsource.com/books/9781317430049

Millar, F. (1994) *The Roman Near East, 31 BC– AD 337*. Cambridge, MA: Harvard University Press.

Neglia, G. A. (2012). Processes of Formation of Ottoman Damascus. *Bulletin d'études orientales*, *61*, 223-242. doi:10.4000/beo.930

Otto, N. (1930). *Damaskus: 300 v. Chr. - 300 n. Chr. – 1500* (p. 69) [Map, David Rumsey Map Collection: Cartography Associates]. Leipzig, Germany: Bibliographic Institute. Retrieved from https://bit.ly/3c8JwRx

Ousterhout, R. (2019). *Eastern Medieval Architecture: The Building Traditions of Byzantium and Neighbouring Lands*. Oxford, England: Oxford University Press

Petzet, M. (2004). "Principles of Preservation. An Introduction to the International Charters for Conservation and Restoration 40 years after the Venice Charter. In M. Petzet & J. Ziesemer (Eds.), *International Charters for Conservation and*

Restoration (Vol. I, pp. 7–29). Munich, Germany: ICOMOS. Retrieved from http://openarchive.icomos.org/431/

Petzet, M., & Ziesemer, J. (2010). *International Charters for Conservation and Restoration = Chartes Internationales sur la Conservation et la Restauration = Cartas Internacionales sobre la Conservación y la Restauración*. Munich, Germany: ICOMOS Open Archive. http://openarchive.icomos.org/id/eprint/431/

Piperno, R. (2011). *Capital of Roman Arabia - Qanawat (Canatha)* [Photograph]. Retrieved from https://www.romeartlover.it/Qanawat.html

Pitard, W. (1987). *Ancient Damascus: A Historical Study of the Syrian City-State from Earliest Times until Its Fall to the Assyrians in 732 B.C.E* (1st ed.). Winona Lake, IND: Eisenbrauns.

Pococke, R. (1743-1745). *A description of the East: and some other countries.* London, England: W. Bowyer.

Poidebard, A. (1934). *La trace de Rome: dans le désert de Syrie.* Paris, France: Librairie Orientaliste Paul Geuthner.

Porter, R. J. L., A.M., & F.R.S.L. (1855). *Five years in Damascus*. London, England: John Murray.

Ptolemaeus, C. (1469). *Cosmographia, libri VIII, interprete Iacobo Angelo* (128r) [Cartography]. Retrieved from https://digi.vatlib.it/view/MSS_Vat.lat.5699/0271

Rabbat, N. (2003). *Floor plan and perspective drawing of Umayyad Mosque, Damascus*. Retrieved from https://www.archnet.org/publications/1271

Regette, F. (1980). *Baalbek*. New Jersey, NJ: Noyes Press.

Roman Provincial Coinage. (n.d.). RPC VIII, — (unassigned; ID 26773). Retrieved from https://rpc.ashmus.ox.ac.uk/type/26773

Saad, H. (2015). A New Place of Worship Dedicated to Zeus Theandrios inside the Temple Precinct of Damascene Jupiter. In J. Abdul Massih & S. Nishiyama (Eds.), *Archaeological Explorations in Syria 2000-2011* (pp. 65-72). Oxford, England: Archaeopress.

Sack, D. (1989). *Damasku - Entwicklung und Struktur einer orientalisch-islamischen Stadt*. Mainz, Germany: Verlag Philipp von Zabern

Sack, D., Krauskopf, C., & Mollenhauer, A. (2009). Le Souk El-Sagha. Archéologie dans le centre de Damas. *Les Annales Archéologiques Arabes Syriennes, IL-LII*, 101-104.

Saliby, N. (1997). Un palais Byzantino-Omeyyade a Damas. *Les Maisons dans la Syrie antique du IIIe millenaire aux delbuts de l'Islam.* Beirut, Lebanon: Ifpo Press.

Sauvaget, J. (1932). *Les monuments historiques de Damas.* Beirut, Lebanon: Ifpo Press. doi: 10.4000/books.ifpo.3611

Sauvaget, J. (1935). *Esquisse d'une histoire de la ville de Damas.* Paris, France: P. Geuthner.

Sauvaget, J. (1947). *La Mosquée omeyyade de Médine: étude sur les origines architecturales de la mosquée et de la* basilique. Paris, France: Vanoest.

Sauvaget, J. (1949). Le plan antique de Damas. *Syria, 26*(3-4), 314-358. doi: 10.3406/syria.1949.4519

Sauvaget, J., Mouterde, R. P. R., & Mouterde, R. P. B. (1934). Le Plan De Laodicée-Sur-Mer. *Bulletin d'études Orientales*, *4*, 81–116. Retrieved from http://www.jstor.org/stable/41603141

Shboul, A. (1994). Change and Continuity in Early Islamic Damascus. *Aram*, *6*, 67–102.

Skylitzes J. (1081). Chapter V: Michael III (842-867) [Drawing]. *Synopsis Historiarum* (Online edition), 62. Retrieved from http://bdh.bne.es/bnesearch/detalle/bdh0000022766

Spiers, R. P., F.S.A, & F.R.I.B.A. (1905). *Architecture East and West: A collection of essays written at various times during the last sixteen years.* London, England: MCMV.

Strappa, G. (2000). Enclosures in Islamic Architecture. *Islamic Environmental Design Research Centre, 20* (1-2), 50-59.

Strappa, G. (2018). Urban morphology following the Muratorian tradition. In A. S. Kubat, E. Kürkçüoğlu, E. Küçük, İ. Kurtuluş, Kç Eskidemir, & M. Akay (Eds.),*"DeğişKent" Değişen Kent, Mekân ve Biçim: Türkiye Kentsel Morfoloji Araştırma Ağı II. Kentsel Morfoloji Sempozyumu.* (pp. 81-87). Istanbul, Turkey: Marmara Belediyeler Birliği Kültür Yayınları. Retrieved from https://kentselmorfolojisempozyumu2018.wordpress.com/

Talbert, R. (2000). *Barrington Atlas of the Greek and Roman World*. Princeton, NJ: Princeton University.

Tchalenko, G. (1973). Travaux en cours dans la Syrie du Nord. *Syria*, *50* (1/2), 115-136.

Thayer, B. (1932). *LacusCurtius, Strabo's Geography: Book XVII Chapter 1*. Retrieved from https://bit.ly/StraboE17A1

UNESCO. (1979). *Ancient City of Damascus*. Whc.Unesco.Org. Retrieved October 25, 2021, from https://whc.unesco.org/en/list/20/

Ünlü, A. (1998). Cross-Cultual Analysis of Northern mespotamian Vernacular Houses. *Open House International, 23,* 37-44.

Uqayli, T. (2008). *Al-Jami Al-Umawi fi Dimashq* [The Umayyad Mosque in Damascus]. Damascus, Syria: Barnamaj Taḥdith Al-Idarah Al-Baladiyah.

Watzinger C., & Wulzinger, K. (1924). *Damaskus: die Islamische Stadt*. Berlin, Germany: Walter de Gruyter.

Watzinger, C., & Wulzinger, K. (1921). *Damaskus: die antike Stadt*. Berlin, Germany: Walter de Gruyter.

Weber, S. (2009). *Damascus: Ottoman Modernity and Urban Transformation (1808-1918).* Aarhus, Denmark: Aarhus University Press.

Whitcomb, D. (2016). Notes for an Archaeology of Muawiya: Material culture in the transitional period of believers. In A. Borrut and F. M. Donner (Eds). *Christians and Others in the Umayyad State* (pp. 11-26). Chicago, IL: University of Chicago.

Whitcomp, D. (2007). An urban structure for the early Islamic city: An archaeological hypothesis. In A. K. Bennisons & A. L. Gascoigne (Eds.), *Cities in The Pre-Modern Islamic World* (pp. 15-26). Cornwall, England: Taylor & Francis Group.

Wiegand, T. (1917). *Palmyra: Ergebnisse der expeditionen von 1902 und 1917.* Heidelberge: Keller. Retrieved from https://digi.ub.uni-heidelberg.de/diglit/wiegand1932ga

Will, E. (1994). Damas antique. *Syria, 71*(1/2), 1-43. Retrieved from http://www.jstor.org/stable/4199058

Yegül, F., & Favro, D. (2019). *Roman Architecture and Urbanism: From the Origins to Late Antiquity*. Cambridge, England: Cambridge University Press.

BIBLIOGRAPHY

Al-Badri, A. (1980). *Nozhat al-Anam fi Mahasin Al-Sham* [Picnic of the creatures in the pros of Al-Sham]. Beirut, Lebanon: Dar Al-Raid Al-Arabi.

Al-Dhahabi, S. (1987). *Tarikh Al-Islam* [The History of Islam]. Beirut, Lebanon: Dar Al-Kitab Al-Arabi.

Al-Qalanisi, H. A. (1983). *Tarikh Dimashq* [History of Damascus] (2 vols.). Damascus: Hassan lil Tiba'a wal-Nashr.

Al-Tantawi, A. (1960). *Al-Jami Al-Umawi fi Dimashq* [Umayyad Mosque of Damascus]. Damascus, Syria: Matba'at Al-Hukuma.

Al-Ulabi, A. (1989). *Khotat Dimashq: Dirasah tarikhyya shamila lidawir al-Quran wal-Hadith wal-Madaris wal-Bimaristanat wal Jawam'e al-kubra …* [Plans of Damascus: Complete historical study on the Qura'an and Hadith circuits, schools, hospitals, great mosques …]. Damascus: Dar Al-Taba'a.

Badran, A. (1985). *Munadamet Al-Atlal wa Musamaret Al-Khayal* [Intimate of ruins and confabulation of imagination]. Beirut, Lebanon: Al-Maktab Al-Islami. Retrieved from https://archive.org/details/skrdieh_lau_20181114. (pp. 357-368).

Behrens-Abouseif, D. (1993). Alternatives to Cadaster Maps for the Study of Islamic Cities. In A. Petruccioli, *Environmental Design: Journal of the Islamic Environmental Design Research Centre* (Vol. 1-2, pp. 92-95). Rome: Dell'oca Editore. Retrieved from www.archnet.org/publications/3274

Bilal, G. (2002). *The Environmental Effect of the Rehabilitation to Hamideayieh Souk in Ancient Damascus City* (Unpublished diploma's study). Damascus University, Damascus, Syria.

Bowersock, G. W., & Bowersock, P. E. A. H. G. W. (2006). *Mosaics as History: The Near East from Late Antiquity to Islam.* Cambridge: Belknap Press of Harvard University Press.

Camiz, A. (2009). Storia dell'urbanistica di Ravenna nel Medioevo. In S. Benedetti (Ed.), *Gli studi di storia dell'architettura nelle ricerche dei dottorati italiani Autore del Libro* (vol. 42-43-44, pp. 301-304). Roma, Italy: Gangemi Editore.

Camiz, A. (2018). Diachronic transformations of urban routes for the theory of attractors. In D. Urios, J. Colomer, & A. Portalés (Eds.), *Conference proceedings 24th ISUF International Conference* (pp. 1359-1369). Valencia, Spain: Editorial Universitat Politècnica de València. doi:10.4995/ISUF2017.2017.5639

Camiz, A. (2018). Gothic, Frankish or Crusader? Reconsidering the Origins of Gothic Architecture, in Proceedings of the workshop. In G. Verdiani, P. Cornell, & L. Seppänen (Eds.), *Architecture, Archaeology and Contemporary City Planning: Reformation, Regeneration and Revitalisation* (pp. 147-158). Raleigh NC: Lulu Press.

Camiz, A. (2019). The emerging role of Urban Morphology in practicing and teaching architectural and urban design. In E. Konstantindiou, & D. Nikolaou (Eds.), *Place and locality vs. modernism: Examples of emerging new paradigms in architectural design* (pp. 70-79). Retrieved from http://hdl.handle.net/10679/6359

Collins, R., Weber, M., & Symonds, M. F. A. (2015). *Roman Military Architecture on the Frontiers: Armies and Their Architecture in Late Antiquity*. [ProQuest E-Book]. Oxford, England: Oxbow Books.

Dabbour, L. M. (2021). Morphology of quarters in traditional Arab Islamic city: A case of the traditional city of Damascus. *Frontiers of Architectural Research, 10* (1), 50-65. doi:10.1016/j.foar.2020.11.004

Ettinghausen, R., Grabar, O., & Madina, M. J. (2003). *Islamic Art and Architecture 650-1250* (2nd Edition). New Haven, CT: Yale University Press

Haddad, N. A., Jalboosh, F. Y., Fakhoury, L. A., & Ghrayib, R. (2016). Urban and Rural Umayyad House Architecture in Jordan: A Comprehensive Typological Analaysis at Al-Hallabat. *Archnet-IJAR: International Journal of Architectural Research, 10*(2), 87-112. Retrieved from https://www.archnet.org/publications/10696

Johnson, M. J. (1988). Toward a History of Theoderic's Building Program. *Dumbarton Oaks Papers, 42*, 73-96. doi:10.2307/1291590

Kuran, A. (1987). Form and function in Ottoman building complexes. In A. Petruccilio (Ed.), *Environmental Design: Journal of the Islamic Environmental Design Research Centre* (Vol. 1-2, pp. 132-139). Rome, Italy: Carucci Editions.

Lababedi, Z. (2008) *The urban development of Damascus: a study of its past, present and future* (published master's thesis). UCL University College, London, England. Retrieved from https://discovery.ucl.ac.uk/id/eprint/14328/

Macaulay-Lewis, E., & Burns, R. (2015). A Roman monumental building in south-east Damascus. *Levant*, 47(1), 93-111. doi:10.1179/0075891415Z.00000000058

Magie, D. (Trans.) (1921). *Historia Augusta* (Vol. I). Cambridge, MA: Harvard University Press.

Miller K. (1964*). Itinerarium provinciarum Antonini Augusti, in Itineraria Romana. Römische Reisewege an der Hand der Tabula Peutingeriana*. Roma: Brettschneider. (Stuttgart, 1916).

Muratori, S. (1959). *Studi per una operante storia urbana di Venezia* (Vol. 1). Roma, Italy: Poligrafico.

Nancy, K. (2011). *Damascus After the Muslim Conquest: Text and Image in Early Islam.* New York, NY: Oxford University Press.

Neglia, G. A. (2021). *The Cultural Meaning of Aleppo: A Landscape Recovery for the Ancient City.* Bristol, England: Intellect.

Neglia, G. A. (2008). Some historiographical notes on the Islamic city with particular reference to the visual representation of the built city (L. Adams, Trans.). In S.K. Jayyusi, R. Holod, A. Petruccioli, & A. Raymond (Eds.), *The City in the Islamic World* (pp. 2-46). Leiden, Netherlands: Brill.

Neglia, G. A. (2014). Process typology and formative processes of Middle Eastern urban open spaces. In M. Bovati, M. Caja, G. Floridi, & M. Landsberger (Eds.), *Cities in Transformation Research & Design: Ideas, methods, techniques, tools, case studies* (vo. 1, pp. 183-191). Padova, Italy: Poligrafo.

Northedge, A. (1992) *Studies on Roman and Islamic Amman. History, Site and Architecture*. Amman: British Institute in Amman for Archaeology and History

Petruccioli, A. (1985). *Dar Al-Islam: Architetture del territorio nei paesi islamici.* Roma: Carucci Editions. Cambridge, MA: AKPIA.

Petruccioli, A. (1999). The Arab city: neither spontaneous nor created. *Environmental design: Journal of the Islamic Environmental Design Research Centre, 1-2*, 22-33.

Petruccioli, A. (2007). *After Amnesia: Learning from the Islamic Mediterranean Urban Fabric*. Bari, Italy: ICAR.

Petruccioli, A. (Ed.). (1998). *Typological process and design theory*. Cambridge: Aga Khan Program for Islamic Architecture (1 ed., vol. 1).

Procopius, (1940). *On Buildings.* (G. Dewing, Trans.). Cambridge, MA: Harvard University Press.

Ragette, F. (2003). *Traditional Domestic Architecture of the Arab Region.* Fellbach, Germany: Edition Axel Menges.

Strappa G., Carlotti P., & Camiz A. (2016). Morfologia urbana e tessuti storici - Urban Morphology and Historical Fabrics: Il progetto contemporaneo dei centri minori del Lazio - Contemporary design of small towns in Latium. Roma, Italy: Gangemi Editions.

Strappa, G. (1995). The notion of enclosure in the formation of Special Building Type. In A. Petruccioli (Ed.), *Typological Process and Design Theory* (1 ed. vol. 1, pp. 91-187). Cambridge: Aga Khan Program for Islamic Architecture at Harvard University and Massachusetts institute of Technology.

Strika, V. (1986). The Umayyad Garden: Its Origin and Development. In A. Petruccioli (Ed.), *Environmental Design: Journal of the Islamic Environmental Design Research Centre.* (Vol. 1, pp. 72-75). Rome: Carucci Editions. Retrieved from https://www.archnet.org/publications/4351

Tamari, S., & Hudson, L. (1996). Historical Research and Resources in Damascus. *Middle East Studies Association Bulletin, 30*(1), 10-17. Retrieved from http://www.jstor.org/stable/23061563.

Totah, F. (2014). *Preserving the Old City of Damascus* (1st edition). Syracuse, NY: Syracuse University Press.

Wollina, T. (2012). A View from Within: Ibn Ṭawq's Personal Topography of 15th century Damascus. *Bulletin d'études orientales, 61*, 271-295. Retrieved from http://www.jstor.org/stable/44299851.

VITA

Holds a B.Sc. degree (with honor) in Architecture and Design (Özyeğin University, 2018). During his master's program, he wrote several research papers on various topics including *New Global Tradition and Its Effects on The Local Housing Projects*, *The Role of Imagination and Memory to Perceive Architectural Phenomena of a Steven Holl's House, Istanbul as a smart city*, and *Achieving Energy Efficiency through Daylight System via Optimum Glazing Typologies*. More recently, he also wrote a research paper on the same topic of his thesis study *From Roman to Umayyad: The Formation Process of the Great Mosque of Damascus and the Surrounding Urban Tissues* (Cities in Evolution: Diachronic Transformations of Urban and Rural Settlements, 2021). He is a participating member at DRUM (Dynamic Research of Urban Morphology) laboratory, Özyeğin University, where he conducted several research projects and participates in academic events, conferences, and summer schools. His research interests include Islamic architecture and urbanism, urban morphology, building typology of historical towns, environment behavior, and energy efficiency.

Beside his scholarly achievements, Louai has been working as a freelance Architect in Istanbul with five years of professional experience in the field of design, restorations, and construction.