ISTANBUL TECHNICAL UNIVERSITY ★ GRADUATE SCHOOL

THE EFFECTS OF EARTHQUAKES IN ANTIOCH AND ITS VICINITY: EVIDENCE OF REPAIR, REBUILDING AND URBAN REORGANIZATION BETWEEN THE FOURTH AND THIRTEENTH CENTURIES

Ph.D. THESIS

Mevlüde BAKIR

History of Art Department

Art History Graduate Programme

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İSTANBUL TEKNİK ÜNİVERSİTESİ ★ LİSANSÜSTÜ EĞİTİM ENSTİTÜSÜ

ANTAKYA VE ÇEVRESİNDE MEYDANA GELEN DEPREMLERİN ETKİLERİ: 4. VE 13. YÜZYILLAR ARASINDA YAPILAN TADİLAT, YENİDEN YAPILANDIRMA VE KENTSEL DÜZENLEME FAALİYETLERİ

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Date of Submission : 2 June 2022
Date of Defense : 6 July 2022

To my mom and dad (RIP),

...and to the people who suffer from Alzheimer's Disease.

FOREWORD

I would like to thank my advisor, Prof. Zeynep KUBAN TOKGÖZ for her invaluable supervision, guidance, and support throughout this journey. My co-advisor, Prof. Nevra NECİPOĞLU, introduced me to Byzantine Studies and always encouraged me to push myself. I am truly grateful to her for her advice, guidance and encouragement. My committee members Prof. Engin AKYÜREK, Prof. Gülgün KÖROĞLU, and Assoc. Prof. Bülent ARIKAN, provided consistent feedback and support to improve my thesis. I would also like to thank to Assoc. Prof. Bilge AR, and Assoc. Prof. Işıl POLAT PEKMEZCİ for their comments and contributions. I would like to extend my special thanks to Prof. Ayla ÖDEKAN with whom I started my journey. Alas, due to her retirement we could not complete it together. I am grateful for my time working with her.

The American Research Institute in Turkey (ARIT) Ankara Branch Office Director Dr. Elif DENEL and the amazing staff, Özlem ESER, Burcu YILDIRIM, and Çiğdem ÖNAL EMİROĞLU made my transition to living in Ankara welcoming. I would also like to thank Prof. Anthony GREENWOOD, former director of ARIT's İstanbul Branch Office, and Gülden GÜNERİ, who helped me find all the primary resources I needed to complete this thesis. Meryem İDİLER, at the Boğaziçi University Library, for her help with finding resources that at times were difficult to locate, I also wish to thank.

I would like to express my sincerest gratitude to Dr. Chryssi SIDIROPOULOU for her help and comments with a number of Greek text translations; and Kaan C. DEWAN for his help with German and French translations. I am extremely thankful and express my deepest appreciation to Mesut KOLBÜKEN for his creativity, endless help, and guidance with creating the maps.

My dearest friends in Ankara, Dr. Aylin S. DEWAN TÜRÜDÜ, Emrah TÜRÜDÜ, and Gökhan AKTÜRK have always been there for me. Now, we can finally celebrate. I should not forget friends, too many to name one by one here, but I thank you all for your support and encouragement throughout my period of study.

My appreciation also goes out to my family. My mom, Süheyla BAKIR, my dad, Abdullah BAKIR (RIP), my sisters Prof. Ayşen BAKIR, Dr. Aysel BAKIR TOKALP, and Dr. Nesrin BAKIR; my nephews Mert and Can; and my brother-in-laws Prof. Jeffrey BLODGET and Alper TOKALP always inspire and encourage me to reach my fullest potential. Without their support and love, this thesis would not have been completed. And, my soul-sister, my best supporter, my cheerleader, Dr. Kimberly M. BYRD continuously provided encouragement and was always willing and enthusiastic to assist in any way she could. Thank you Sis, for your care, patience, love, and keeping me grounded.

My late father battled with Alzheimer's Disease. As his disease progressed, he never stopped asking me whether or not I finished my thesis. Yes, papa. I am finally done. I know you are smiling and are proud of me.

JULY 2022

Mevlüde BAKIR
(Eğitimci)

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ABBREVIATIONS

AJA **:** American Journal of Archaeology

AJP : American Journal of Philology

ARST **:** Araştırma Sonuçları Toplantısı

AST **:** Arkeometri Sonuçları Toplantısı

BYZ **:** Byzantion

DOP **:** Dumbarton Oaks Papers

KST **:** Kazı Sonuçları Toplantısı

MÇKK **:** Müze Çalışmaları ve Kurtarma Kazıları

ODB **:** Oxford Dictionary of Byzantium

TAD **:** Türk Arkeoloji Dergisi

TPAPA **:** Transactions and Proceedings of the American Philological Association

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THE EFFECTS OF EARTHQUAKES IN ANTIOCH AND ITS VICINITY: EVIDENCE OF REPAIR, REBUILDING AND URBAN REORGANIZATION BETWEEN THE FOURTH AND THIRTEENTH CENTURIES

SUMMARY

Founded by Seleucus I Nicator on May 22, 300 B.C., Antioch, one of the most important cities of the Byzantine Empire, lies at the southwest corner of the Amuq Valley at an angle where the Orontes River (modern Asi Nehri) meets Mount Silpios (modern Habib Neccar Dağı). Antioch was routinely struck by earthquakes over the centuries since it is located on an active fault line. Some of these quakes were minor while others were highly destructive but all played a role in the life of Antioch. The city was critical to the spread of Christianity and it served as the axis point through which information flowed between Constantinople and the East. It was also at Antioch that Byzantine emperors based their military campaigns against the Persians and later the Arabs.

From its foundation and through the Middle Ages Antioch was occupied and ruled by different cultures. Each left its mark. Historians' and chroniclers' accounts as well as ecclesiastical histories, homilies, and other texts that survive focus on Antioch's history, social and intellectual life, and they provide information from different perspectives. All of these sources, especially those from the Byzantine era, record valuable information on the occurrence of earthquakes, the physical effects these disasters had on the built environment, and the resulting psychological impact. Information touches on Antioch proper as well as Seleucia Pieria and Daphne in the city's vicinity. In addition to primary sources, the Princeton University excavations of 1932-1939 as well as recent archaeological studies and explorations provide limited but crucial data. The original sources and archaeological material together give us some idea of the destruction to houses, ecclesiastical and public buildings that occurred as a result of these seismic events. In our study, we first provided historical background on the history and the buildings of the city and evaluated the accounts of the earthquakes starting with the quake of 341 and ending with the one that occurred on April 17, 1269.

One of the most important outcomes of this study is that we created three maps and focused on Antioch's three key historical periods. The first map covers the period from the foundation of the city to the seventh century. The second covers the period between the seventh and the eleventh centuries, and the third deals with the period of the siege of the city by the Crusaders in 1097/1098. In our study, a compendium of the ecclesiastical and public buildings and other structures has been created for Antioch and its environs. These maps and lists of buildings and structures helped form a picture of the city's buildings and topography and how these changed over time. Following these chapters, we focused on the various effects of earthquakes on public and ecclesiastical buildings and other structures. We considered structures that were reconstructed as a result of seismic events not only in Antioch but also in its surrounding areas between the fourth and the thirteenth centuries. We also discussed potential precautionary measures that appear to have been taken to reduce the effects

of the earthquakes. This included evaluating the techniques and materials used to strengthen the affected buildings and to make structures more resistant to earth tremors.

One of the difficulties we confronted during our study was the availability of information regarding the reconstruction efforts following the quakes. Although the Princeton University Excavation Reports provide essential data about the structures of the city, unfortunately, the archaeological findings were re-buried following the excavations. Therefore, we studied the excavation reports instead of physical remains. To be sure recent archaeological studies and explorations in and around the city have uncovered essential evidence reflecting the damage caused by quakes, but still more evidence is needed to gain a deeper understanding of the effects of earthquakes in Antioch and its vicinity. What is clear from the information we do have, though, is that the Antiochians were aware their city was located on a fault line. They learned how to live with it, and they took necessary precautions to reduce the effects of these tremors throughout the centuries.

ANTAKYA VE ÇEVRESİNDE MEYDANA GELEN DEPREMLERİN ETKİLERİ: 4. VE 3. YÜZYILLAR ARASINDA YAPILAN TADİLAT, YENİDEN YAPILANDIRMA VE KENTSEL DÜZENLEME FAALİYETLERİ

ÖZET

Ülkemiz deprem kuşağı üzerinde bulunmaktadır ve Anadolu toprakları üzerinde kurulan birçok medeniyet tarihleri boyunca yıkıcı depremlerle karşılaşmışlardır. Deprem kuşağında bulunuyor olmamıza rağmen, tarihsel süreçte meydana gelen depremler hakkındaki çalışmalar sınırlıdır. Bu durum, Bizans İmparatorluğu döneminde meydana gelen depremler için de geçerlidir. İmparatorluğun iki önemli kenti olan Konstantinopolis ve Antakya, yüzyıllar boyunca yıkıcı depremlere maruz kalmışlardır. Başkent olması sebebiyle Konstantinopolis'in önemi aşikardır, ancak Antakya'nın içinde bulunduğu stratejik konumu nedeni ile önemini yadsımamak gerekir.

M.Ö. 22 Mayıs 300 tarihinde Büyük İskender'in generallerinden Makedonyalı I. Seleukos Nikator (vefat M.Ö. 281/280) tarafından kurulan kent, Hristiyanlık dininin yayılışında önemli bir rol oynamıştır. Konstantinopolis ile Doğu arasında bilgi alışverişinde önemli bir merkez olmasının yanı sıra, imparatorların Doğu'ya yaptıkları askeri seferlerde hazırlık ve harekât üssü konumunda olması, Antakya'nın tarihi boyunca önemini arttıran faktörlerdendir. Stratejik konumu nedeniyle kent sürekli yabancı istilalarla savaşmak zorunda kalmıştır. İmparator Konstantinus'un 324 yılında mutlak hükümdarlığını ilan etmesinin ardından, 611 yılına kadar Bizans İmparatorluğu'nun idaresinde kalan kent, bu tarihte Pers istilasına son verilmesinin ardından 628 yılında yeniden Bizans'ın kontrolüne geçmiştir. 637/638'de başlayan ve üç yüzyıldan fazla süren Arap hâkimiyeti, 28 Ekim 969 tarihinde yeniden sağlanan ve ikinci Bizans hâkimiyet dönemi olarak adlandırılan süreç, 1084'te Selçuklular'ın kenti ele geçirmesine kadar devam etmiştir. 1097/1098'de kent Haçlı orduları tarafından ele geçirilerek, 1268 yılına kadar devam edecek olan Antakya Haçlı Prensliği dönemi başlamıştır. Memlûk Devleti'nin ele geçirdiği kent 1516 yılında Osmanlı İmparatorluğu'nun yönetimine geçmiştir. 1918-1939 yılları arasında Suriye'ye ilhak edilen kent, yapılan halk oylaması sonucunda Türkiye Cumhuriyeti topraklarına katılmıştır.

Antakya, coğrafi konum olarak Asi Nehri'nin Habib Neccar Dağı ile birleştiği noktanın güneybatı kanadında yer alan Amik Ovası'nda kurulmuştur. Aktif bir fay hattı olan Ürdün Rift Vadisi'nin kuzey ucu üzerinde bulunmasının yanı sıra, farklı tektonik hareketlerin de hissedildiği bir bölgede yer almaktadır. Kentte, tarihsel süreçte meydana gelen depremlerin bazıları hafif şiddette bazıları ise kaynakların da belirttiği gibi neredeyse taş üstünde taş bırakmayacak kadar yıkıcı şiddette olmuştur.

Bizans İmparatorluğu'nun birinci hâkimiyet döneminde, özellikle Antakya kentine yoğunlaşan ve bize detaylı bilgiler sunan tarihçi ve kronikerler bulunmaktadır. Bu kaynaklara ek olarak, dini tarihler, vaazlar, azizlerin yaşam hikâyeleri, seyahatnameler, sikkeler ve mozaikler de önemli bilgileri içerir. Bu kaynaklardan en önemlileri 4. yüzyılda yaşamış olan vaiz Libanios'un eserleri; İmparator Julianus'un

(361-363) yazdığı hiciv retoriği olan *Misopogon* adlı eseri; kentin önde gelen şahsiyetlerinden biri olan Aziz İoannis Hrisostomos'un kaleme aldığı söylevleri; 6. yüzyılda yazan ve Bizans'ın ilk kronikeri olarak kabul edilen İoannes Malalas'ın *Chronographia*'sı ve 6. yüzyılda yazan kilise tarihçisi Evagrios Scholastikus'un *Kilise Tarihi* adlı çalışmalarıdır. Bu kaynaklar, Antakya ve çevresinde meydana gelen depremleri anlatırken, depremlerin oluş şekilleri ile depremin kent üzerindeki etkilerine yönelik de önemli bilgi aktarımı sağlamaktadırlar. Ayrıca, 6. yüzyıla kadar kentin tarihi hakkında bize sundukları bilgilerde, dini, sosyal, politik, entelektüel ve ekonomik konulara değinirken, aynı zamanda kentin topografyası, depremin fiziksel ve psikolojik etkileri ile imparatorların deprem sonrası yardım faaliyetlerine yönelik verileri de farklı bakış açıları ile yansıtmaktadırlar. Bu kaynaklara ek olarak, gene 6. yüzyılda yaşamış olan ve İmparator Justinianus (527-565) döneminde 29 Kasım 528 tarihinde meydana gelen deprem ile 540 yılında kentin Persler tarafından işgalini takiben, kentteki yeniden yapılanma ve imar faaliyetleri hakkında detaylı bilgi veren tarihçi Prokopius'un *Yapılar Hakkında* adlı eseri unutulmamalıdır.

Kentin Arap hâkimiyetine girdiği dönem hakkında elimize ulaşan bilgiler, maalesef Bizans ana kaynaklarının bize sunduğu bilgiler kadar detaylı değildir. Arap hakimiyeti dönemine yönelik bilgi veren kaynaklar, genel olarak idari konular ile Bizans'a yapılan askeri akınlar üzerine yoğunlaşmışlardır. Ancak, buna rağmen, kentin bu dönemdeki topografyası ve kentte meydana gelen depremler hakkında bilgiler sunan eserler de bulunmaktadır. Bu kaynaklar arasında 10. yüzyıl tarihçisi Mes'ûdî; 10. yüzyıl coğrafyacıları İstahrî ve İbn Havkal; 11. yüzyıl kronikeri Antakyalı Yahya; geç 12 erken 13. yüzyıl tarihçisi İbnü'l Esîr'i sayabiliriz. Bizanslılar'ın kenti 28 Ekim 969 tarihinde yeniden ele geçirmeleri sürecine yönelik olarak, 10. yüzyıl tarihçisi Diyakoz Leon ile 11. yüzyıl kronikeri İoannis Skilicis'in eserleri hem kentin ele geçiriliş sürecini hem de imparatorların imar faaliyetleri hakkında önemli bilgileri içermektedirler. Süryani ve Ermeni kaynakları arasında sayacağımız 12. yüzyıl Ermeni kronikeri Urfalı Mateos, 12. yüzyıl Süryani kronikeri Mihail, 12. yüzyıl tarihçisi Azimî ile 13. yüzyıl tarihçisi Ebu'l Ferec Selçuklular dönemini de içeren bilgileri sunmaktadırlar. Antakya Haçlı Prensliği dönemi hakkında ise, anonim bir eser olan *Gesta Francorum et aliorum Hierosolimitanorum* (bundan sonra, *Gesta Francorum*), Surlu Başpiskopos William, Aachen'li Albert ile Şansölye Walter'ın eserleri kentin 11. yüzyıl topoğrafyasına yönelik önemli bilgileri içermektedirler.

Çalışmamızda ana kaynaklara ek olarak, ayrıca, modern zamanlarda yapılan çalışmalardan da faydalanılmıştır. Bu çalışmalar arasında en önemlisi, Glanville Downey'nin kaleme aldığı *A History of Antioch in Syria from Seleucus to the Arab Conquest* (1961) adlı çalışma bize ana ikincil kaynak olarak yol göstermiştir. Bu çalışma, kentin M.Ö. 22 Mayıs 300 tarihinde kuruluşundan 637/638 yılında Araplar tarafından istilasına kadar olan sürece yönelik önemli bilgileri içermektedir. Antakya üzerine yapılan en güncel çalışma Andrea U. De Giorgi ile A. Asa Eger'in ortak çalışması olan *Antioch: A History*'dir (2021). Antakya kenti üzerine yapılan bu çalışma ise, kentin kuruluşundan günümüze kadar olan tarihsel süreci anlatan detaylı bir kent biyografisidir. Kentte meydana gelen depremleri kronolojik olarak derlediğimiz bölümde de, E. Guidoboni, A. Comastri ve G. Traina'nin ortak çalışmaları olan *Catalogue of Ancient Earthquakes in the Mediterranean Area up to the Tenth Century* (1994), ile *Catalogue of Earthquakes and Tsunamis in the Mediterranean Area from the Eleventh to the Fifteenth Century* (2005); N. Ambraseys'in *Earthquakes in the Mediterranean and Middle East: A Multidisciplinary Study of Seismicity up to 1900* (2009) adlı çalışmaları yol gösterici olmuştur.

Antakya'nın tarihine yönelik bilgi veren ana kaynaklar ile günümüzde yapılan çalışmalara ek olarak, Princeton Üniversitesi tarafından 1932-1939 yılları arasında yürütülen arkeolojik kazılar ile Antakya, Samandağ ve Harbiye'de yapılan yüzey araştırmaları ve arkeolojik çalışmalardan da yararlanılmıştır. Ana kaynaklar ile arkeolojik veriler, depremler sonucunda yıkılan dini ve kamusal yapılar ile yaşamsal alanlar hakkında bize önemli ipuçları sunmaktadırlar.

Çalışmamızda, kentin kuruluş tarihine yönelik bilgiler ile imar faaliyetleri hakkındaki bilgiler derlenmiştir. 341 yılında meydana gelen deprem ile başlayıp 17 Nisan 1269 tarihinde meydana gelen deprem ile biten dönemdeki depremler kronolojik olarak incelenerek, değerlendirilmiştir. Çalışmamız kapsamında Antakya kent tarihi üzerine yaptığımız diğer önemli bir katkı da, Antakya'nın farklı süreçlerine yönelik olarak hazırladığımız harita çalışmaları olmuştur. Bu harita çalışmalarından ilki, kentin kuruluşundan 7. yüzyıla kadar olan dönemi kapsamaktadır. İkinci harita çalışmamız 7. yüzyıl ile 11. yüzyıl arasını kapsarken; üçüncü harita ise kentin 1097/1098 yılında Haçlılar tarafından istila sürecine yoğunlaşmıştır. Ayrıca, Antakya ve çevresindeki dini ve kamusal binalar ile diğer yapılara yönelik verileri içeren yapı listesi oluşturulmuştur. İlk defa oluşturulan yapı listeleri ve harita çalışmalarımız, Antakya'nın kent topoğrafyası ile yapılarının süreç içerisinde geçirdiği evrimi göstermesi açısından alana önemli katkılarda bulunmaktadır. Çalışmamızda, 4. ve 13. yüzyıllar arasında Antakya, Samandağ ve Harbiye'de meydana gelen depremleri takiben, yapılan tadilat ve yeniden yapılandırma faaliyetleri ile kentsel düzenleme üzerine bir değerlendirme yapılmıştır. Bu değerlendirmemiz sırasında, depremin etkilerini en aza indirmek için alınan ihtiyatı tedbirler tartışılmıştır. Bu tedbirler, kullanılan malzeme ile deprem sırasında zarar gören yapıları güçlendirmek ve yer sarsıntılarına karşı daha dayanıklı hale getirmek için uygulanan tekniklere yönelik bilgileri içermektedir.

Çalışmamız sırasında karşılaştığımız en önemli zorluklardan bir tanesi, depremleri takiben yapılan tadilat çalışmalarına yönelik verilere erişimde yaşadığımız sıkıntılar olmuştur. Princeton Üniversitesi tarafından yapılan kazılarda ortaya çıkarılan arkeolojik bulgular, kentin topoğrafik yapısına yönelik önemli verileri sunmaktadır. Lakin, kazıların tamamlanmasının ardından ortaya çıkartılan arkeolojik buluntuların tekrar kapatılması yapı kalıntılarına fiziksel erişimi engellemiştir. Bu nedenle, çalışmamızda fiziksel veriler değil Princeton Üniversitesi Kazı Raporları'nın sunduğu bilgiler değerlendirilmiştir. Günümüzde yapılan arkeolojik çalışmalar ile yüzey araştırmaları ise, kentte meydana gelen depremlere yönelik kısıtlı ama önemli verileri sunmaktadırlar. Ancak, depremlerin yapılar üzerindeki etkilerinin daha detaylı araştırılabilmesi için daha fazla somut veriye ihtiyaç duyulmaktadır. Elimizde olan kısıtlı veriler, bize Antakyalılar'ın deprem gerçeğinden haberdar olduklarını, depremle beraber yaşamayı öğrendiklerini ve depreme karşı kentlerini korumak, zararı en aza indirmek için farklı teknikleri uyguladıklarını düşündürmektedir. Belki de bu, kuruluşundan beri sürekli depremlere maruz kalmış ve stratejik açıdan önemli bir konumda kurulan kentte, yaşamın kesintisiz bir şekilde sürmesindeki en önemli faktörlerden bir tanesidir.

1. INTRODUCTION

After every major earthquake in modern times the academic community laments that they cannot get an understanding of past earthquakes in Anatolia, because there are so few studies that have been done for the pre-modern era. In particular, sufficient research is lacking for the Byzantine period. The Byzantine Empire was located on some of the most active fault lines in the world and earthquakes did, in fact, occur quite frequently. Earthquakes routinely damaged two of most important cities of the empire: Constantinople and Antioch[1].

As the capital of the Byzantine Empire, we are all aware of the importance of Constantinople. But, what was significant about Antioch? The significance of Antioch as one of the major cities of the Byzantine Empire should not be neglected. Antioch not only played an important role in regards to the spread of Christianity, more generally it served as the axis point through which information flowed between Constantinople and the East. It was an important connection point in the trade routes between East and West, and served too as a base for a Byzantine military campaigns on the Eastern frontier, especially against the Persians.

This study[2] will not only focus on Antioch but on its vicinity as well. Founded by Seleucus Nicator I on April 23, 300 B.C., Seleucia Pieria (modern Samandağ-Çevlik) pre-dated and is located twenty-three kilometers southwest of Antioch itself. Seleucia Pieria sits on the northern corner of the Amuq Valley (modern Asi Deltası), and it was an important port for Antioch. As Antioch grew, suburbs started to flourish around it and among those Daphne (modern Harbiye) stands out, which is situated approximately eight kilometers southwest of Antioch. The beauty of Daphne was so

[1] Since its foundation the city of Antioch was under the sovereignty of different empires and throughout its existence the city was called by different names. However, in this study, we will consistently use the name "Antioch" when discussing all periods. Nevertheless, in order not to confuse it with the other cities named Antiocheia in Anatolia founded by Seleucus Nicator I, the name Antioch-on-the-Orontes will only be used on the maps contained in this study.

[2] The spelling for names of Roman and Greek authors and other people for all periods covered in this study follows that used by the Oxford Dictionary of Byzantium. For the Early Islamic period the spellings used in the Encyclopedia of Islam have been followed. However, for the names of the sources and people which are not stated in either of these reference works, the most current common spelling in English will be used.

famous during the Hellenistic period that Antioch was sometimes referred to as the "Antioch near Daphne" (De Giorgi and Eger, 2021, p. 28). Libanios talks about the beauty of Daphne as follows:

> All these suburbs are the same form, but towards the west, Herakleis [the ancient name of Daphne], excels all possible appreciation just as it excels all other places. The only thing that is worthy of this is to see it, for if you heard the most glowing description of it you would not hear as much as is worthy of it. As soon as you pass through the gates, on the left are varied gardens and charming inns and an abundance of springs and houses hidden in trees and chambers which rise above the groves and luxurious baths, a place worthy of Aphrodite and her son the archer. As you go on you see both sides of the road a wealth of vineyards and beautiful houses and rose gardens and plants of all sorts and streams; one thing draws you to it and another draws you away again, and it is through such pleasures that you come to the supremely beautiful Daphne. About this nothing worthy has not yet been said, nor will it ever be said, unless, indeed, it should happen that the god himself with the Muses should sing of the place (Downey, 1959, p. 677)[3].

Besides the villas both in Seleucia Pieria and Daphne, Antioch itself contained splendid mosaics. The unearthed ecclesiastical and public buildings have contributed greatly to our knowledge and understanding of the history of Antioch.

In the late imperial period, Antioch was one of the greatest cities of the Roman East and the administrative center of Syria; but from the second half of the sixth century the city experienced several catastrophes and the city's fortunes declined. Antioch was visited by several natural disasters such as earthquakes, famines, plague, drought, and fires. In addition, there were also Persian invasions from the East, and, in fact, the Persians occupied the city in 611. Then, soon after the re-establishment of Byzantine rule in 628, the Arabs took the city in 637/638. From that time onwards Antioch lost its importance as a center of government, becoming first a military post for the Arabs and then a regional backwater until the Byzantine re-conquest of 969. The city

[3] In his account where he talks about Antioch and its surrounding areas, the Greek geographer Strabo (64/63 B.C. - A.D. 24) says few words about Daphne: Lying above Antiocheia, at a distance of forty stadia, is Daphne, a settlement of moderate size; and also, a large, thickly-shaded grove intersected by fountain-streams, in the midst of which there is an asylum-precinct and the Temple of Apollo and Artemis (Jones, 1930, vol.7, p. 245). The fourth-century historian Ammianus Marcellinus describes Daphne as a charming and magnificent suburb of Antioch (Rolfe, 1972, vol.1, p. 543).

remained under Byzantine control until the Seljuq Turks captured it in 1084. After a hard-fought siege in 1098 the Crusaders captured the city and the Frankish Principality of Antioch was founded. The city remained under their control until the Mamluks took the city in 1268. Up until 1516, when the Ottomans captured the city, Antioch remained under the control of the Mamluks. The Syrian government ruled over the city after World War I, and since the referendum in 1939, Antioch has been under the sovereignty of the Turkish Republic.

In relation to the earthquakes and rebuilding in the history of Byzantine Antioch, the sources provide ample material up to the middle of the sixth century. For this period, the accounts of chroniclers and historians provide extremely valuable information on urban life. However, the lack of information in Byzantine sources for the period after the second half of the sixth century is likely due to continuous foreign occupation of the city. The name of the city of course was mentioned in the general and military histories of the period, but these sources do not record sufficient information on the urban and topographical history of the city itself. Unfortunately, during the Arab occupation, Antioch lost its important influence in the political and cultural spheres of Byzantium and is hardly mentioned in the accounts of Arab historians. The Arab conquest of the city naturally was referred to in the Arabic sources, but following this period the city lost its role in the Byzantine world until its reconquest in 969. After that period very few Byzantine sources mention Antioch in their accounts. Sources available to us for the Seljuq occupation period mainly discuss Byzantine military campaigns and expansionary policy in Anatolia. However, sources from the Crusader period provide valuable information about the topographical setting of the city, including conditions in the city during their siege and the buildings the Crusaders erected during their sovereignty.

There are five Byzantine sources that touch on the history of Antioch which are some of the most reliable sources of literary evidence for the last phase of the Roman Empire. The works and orations of Libanios, the *Misopogon* of the Emperor Julian, the writings and sermons of Saint John Chrysostom, the *Chronographia* of John Malalas and the *Ecclesiastical History* of Evagrios Scholastikos provide valuable information not only for the history, but also for the social and intellectual life of the city. However, while using these sources, it should be kept in mind that none of them provide full accounts of the history, social and intellectual life of the city. They all

bring different perspectives and can be used, when compared, to partially provide an understanding of Antioch in this later Roman period.

The first resource is that of the fourth-century Greek orator and rhetorician Libanios, who was born in Antioch in 314 and died ca.393. He gives us an enormous amount of information concerning different aspects of life in Antioch: economic, intellectual, social and political. For example, he is much known for his work on Antioch, the *Antiochikos (Oration 11)*, which was written sometime between 356 and 360. His *encomium* is also valuable for giving detailed information about and a tour of Daphne, the famous suburb of Antioch (ODB, vol.2, p. 1222).

Another literary source is the *Misopogon* (or *Beard-Hater*), written by the Emperor Julian the Philosopher, who was born May/June 332 and died during his stay in the city on June 26, 363. This work provides information on the events and personal experiences of the emperor. It should be kept in mind that the work also reflects characteristic features of the emperor himself (ODB, vol.2, p. 1079).

A student of Libanios, Saint John Chrysostom, born in Antioch in the mid-300s and lived in the city until he was appointed Patriarch of Constantinople (398-404), was one of the most influential people of the city. His writings and sermons provide precious information on the social and ecclesiastical life of Antioch (ODB, vol.2, pp. 1057-1058).

The sixth-century world chronicler John Malalas composed an eighteen-book history, *Chronographia*, starting with the creation of the world and ending in 565. Since he was the first Byzantine universal chronicler, John Malalas almost certainly exerted a great influence on historians and chroniclers who came after him. His account also has value in terms of the history and buildings of Antioch. As an employee of the imperial bureaucracy in Antioch, he spent most of his life in the city and therefore Antioch figures significantly in his chronicle. Sometime between 535 and 540 he moved to Constantinople and continued his bureaucratic career there until his death in 570 (ODB, vol.2, p. 1275). We can assume that Malalas's service in the Byzantine government allowed him to have access to sources he might not otherwise have been able to have access for his work. One of the notable features of Malalas's work is that he cites sources that were available to him, yet he never criticizes the information they provide; he appears to use them without checking their reliability.

Evagrios Scholastikos was an ecclesiastical historian, who was born in Epiphaneia in Coele Syria ca.536 and died after 594. Like John Malalas, Evagrios also served in the Byzantine government as an advisor, in this case as an advisor to Patriarch Gregory (570-593); doubtless he was also able to access at least some official documents. His *Ecclesiastical History* consists of six books and covers the years between 431 and 594. His work is a crucial source about Antioch in the second half of the sixth century (ODB, vol.2, p. 761). As we will see in the forthcoming chapters, due to continuous natural disasters as well as the Persian invasions in the sixth century, the city was declining in prosperity. Evagrios's work is an important source of information on the social life of the city despite its decline in these decades.

The above-mentioned sources do provide valuable, if incomplete, information not only for the history, but also for the social and intellectual life of the city for the first period of the Byzantine sovereignty of the city. However, from the seventh century onwards until the end of the tenth century, when the Arabs were ruling the city, the accounts of the Arab historians do not provide as much as information about the city as the Byzantine chroniclers and the historians did. The sources from this period usually focus on the administrative issues of Antioch and how the city is an important frontier for the military campaigns of the Arabs against the Byzantines. However, among those sources the tenth-century historian and traveler Mas'ūdī; tenth-century geographers al-Istakhrī and Ibn Hawkal; eleventh-century chronicler Yahyā-Ibn-Sáïd, who focused on Byzantine and Muslim relations; late twelfth-early thirteenth-century historian Ibn al-Athir provide valuable information about the physical appearance of the city during the Arab occupation.

In addition to the Arabic sources, Syrian and Armenian sources also recorded events that occurred in the city. The account of the twelfth-century Armenian chronicler Matthew of Edessa covers the period between 952 and 1136, and focuses on the events that took place in and around Antioch. The twelfth-century Syrian chronicler Michael the Syrian wrote a world history from the creation of the world to the end of the twelfth century, informs us about the events in the city. Similarly, the twelfth-century historian al-Azīmī provides chronological details about the history of the city during the Seljuq occupation. Abu'l Faraj, writing in the thirteenth century, covers the period from the creation of the world until his time.

Regarding the second period of the Byzantine sovereignty of the city, the tenth-century historian Leo the Deacon and the eleventh-century chronicler John Skylitzes provide valuable information about how the Byzantines took the city back from the Arabs.

Among the contemporary and almost contemporary Latin sources, the anonymous author of the *Gesta Francorum*, the accounts of William Archbishop of Tyre, Albert of Aachen, and Walter the Chancellor not only provide some information about how the city was captured by the Crusaders, but also clues about topography of the city.

In addition to the accounts of the chroniclers and historians, homilies, ecclesiastical histories, and other materials also provide valuable information. These include: hagiographies, occasionally letters, inscriptions, coins, archaeological studies and explorations, mosaics, and reports of travelers to Antioch. Travelers' accounts since the Middle Ages contain valuable information lacking in other sources. Some travelers copied inscriptions and others made drawings of the monuments they visited. In addition, the Reports of the Princeton University Excavations of 1932-1939 are extremely useful for our study. These excavations were conducted in Antioch and its hinterland, in Seleucia Pieria and in Daphne, by C.R. Morey of Princeton University and resulted in published reports that helped to identify and study individual buildings and the mosaics they contained. However, these excavations were mainly focused on the ancient period of the city not the medieval and Islamic periods. The physical evidence from the excavations provided very limited information for the later periods, but this evidence included materials such as inscriptions and a limited number of coins and ceramics.

Following the excavations by the Princeton University in the 1930s, archaeological research on Antioch was not resumed until the 1990s. Archaeological and art-historical investigations undertaken by W. Djobadze in the area west of Antioch from 1962 to 1965 were published in 1986. In his work, he focused on the Monastery of Saint Barlaam on Mount Casius (modern Keldağ), the Monastery of Saint Symeon the Younger on the Wondrous Mountain (modern Samandağı), and the Church of the Wood of Life in the Black Mountains (modern Amanos Dağları) (Djobadze, 1986). The ongoing Amuq Valley Regional Project, conducted by the Oriental Institute of the University of Chicago started in 1995 (Yener et al., 2005). In 1999, the Orontes Delta Archaeological Project was begun by H. Pamir of Mustafa Kemal University in Antakya in collaboration with T. Wilkinson and A. Yener from the Amuq Valley Regional Project team (Pamir & Nishiyama, 2002, pp. 294-314). As part of the Orontes

Delta Archaeological Project, ongoing excavations began with a focus on Antioch and Seleucia Pieria in 2003 (Pamir & Brands, 2005a, pp. 89-102; Pamir & Brands, 2005b, pp. 103-109). The Directorate of Hatay Archaeology Museum started the most recent excavations around the hippodrome area in Antioch in 2011 (Pamir, 2016, pp. 301-306). In addition, the Hatay Archaeology Museum has been conducting rescue excavations in Antioch and its surrounding areas. As a result of the outcomes of the excavations, we believe that interest in studies on Antioch has started to increase over the past years and different workshops and conferences have been held. In 2001, for instance, a three-day conference, "Antioch de Syrie: Histoire, images et traces de la ville antique" was held in Lyon. Following the conference in Lyon, the Open University and the Institute of Classical Studies organized a one-day workshop in London also in 2001. A conference entitled "Les sources de l'historie du paysage urbain d'Antioche sur l'Oronte" was held at the University of Paris in 2010, and in the same year Dumbarton Oaks organized the "Antioch Study Day". Furthermore, in 2010 a pilot project "The New Committee for the Excavations of Antioch and Its Vicinity" was started in the sectors 13-R, 17-O, and Daphne and includes data which the Princeton University 1932-1939 excavation team was unable to publish. This work is still in progress and will no doubt make a huge contribution to our understanding of the different periods of Antioch as well as the city's topography and the effects of the earthquakes there.

Not only the results of the Princeton University excavations but also recent studies and explorations provide essential archaeological evidence and are helpful in identifying individual buildings and mosaics. For instance, a respected and notable source for the topography of Antioch was discovered in the mosaic of Megalopsychia[4], found in a villa in Yakto (modern Camus Ayna or Yeşilpınar) near Daphne. This work is usually referred to as the Yakto Mosaic. It dates to the third quarter of the fifth century and is generally considered to represent a walking route one would follow between Daphne and Antioch. Also, hunting scenes appear on four sides of the mosaic; the borders

[4] As a result of the rescue excavations conducted in the city center, several mosaic floors were found. For example, a private villa was unearthed which had a room containing a mosaic pavement that includes a representation of the personification of Megalopsychia. This is the second example of a Megalopsychia mosaic having been discovered in Antioch. The image includes a woman's portrait surrounded by assorted male and female birds in the central medallion. This mosaic is dated to the mid-fifth century (Pamir, 2013, p. 105; Pamir, 2014d, pp. 110-111).

depict buildings and scenes of everyday life in Antioch (Levi, 1947, vol.1, pp. 323-345; Cimok, 2000, pp. 251-275) (Figure 1.1).

In addition to the Yakto Mosaic, two mosaic pieces with fragments of a topographical border dated to the late second-early third-century were found on the former island section of the city. These two pieces were discovered at ground level without any other materials. These pieces either depict the city of Antioch or a large walled villa with two gates and a tower on the corner and provide a general view of the topography of the city (Levi, 1947, vol.1, pp. 345-346; Campbell, 1988, pp. 39-40) (Figure 1.2).

We should also not forget to mention the *Tabula Peutingeriana* (*The Peutinger Table*), a parchment roll dated to the fourth or to the fifth century. On the map, personifications of Rome, Constantinople, and Antioch are easy to identify. Antioch is represented wearing her crown and shield, seated on a high throne. In her right hand she holds the spear of Tyche and with her left points to a male figure representing the Orontes River. Water flows from Orontes' bowl towards Daphne and this representation of the city notes Antioch's water sources by also depicting its important aqueducts (Levi & Trell, 1964, pp. 227-236) (Figure 1.3).

Figure 1.1 : Plan of the Megalopsychia Yakto Mosaic (URL-1).

Figure 1.2 : Fragment of a topographical border (URL-2).

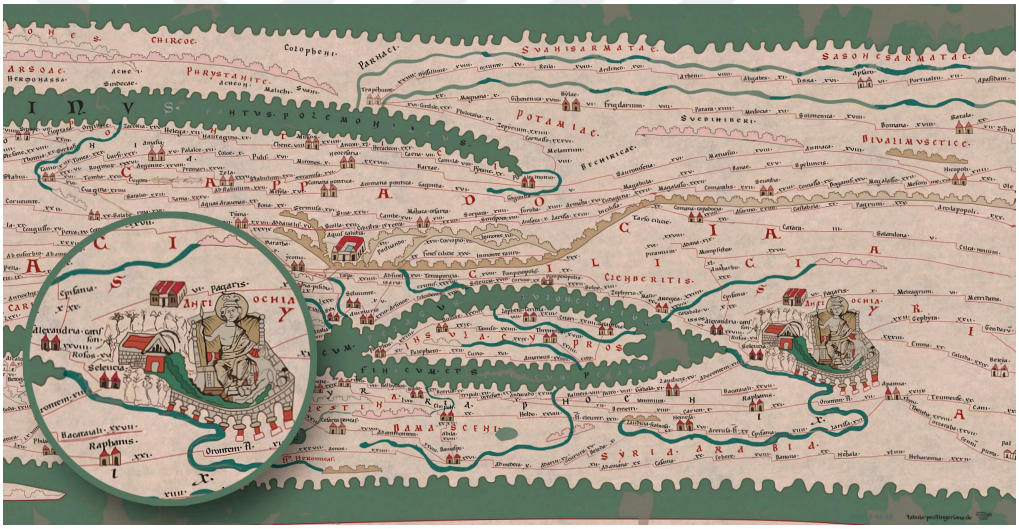

Figure 1.3 : Detailed view of Antioch region from *Tabula Peutingeriana* (URL-3).

This study opens with a chapter on the foundation and history of Antioch, its description in the sources, the size of the city, and its buildings. In the third chapter, we will provide accounts of the earthquakes that occurred between the fourth and the thirteenth centuries, starting with the earthquake of 341 and ending with that of April 17, 1269. The quake of 1269 is the last recorded by the sources that mention Antioch and its vicinity for the thirteenth century. The latter is also the final quake that occurred one year after the end of the Crusaders' occupation of the city. We will focus on the chronology, locations, and descriptions of these disasters. The fourth chapter will deal with the effects of earthquakes on the city's buildings and evidence of rebuilding. Using material available in the written sources along with archaeological evidence, in

the final chapter we will focus on the effects of earthquakes on buildings and structures that were then reconstructed. Information on the geographical position of the city will provide background for why the city is prone to earthquakes. By analyzing physical and written evidence we will seek answers for questions such as the following: Did the state have a policy towards earthquake prevention and repair? If it did, which steps were taken to prepare for or to mitigate these disasters? Did these regularly occurring earthquakes force the architects and workmen of the time to take practical measures to reduce the effects of the earthquakes? Were there changes in the techniques or in the building materials to make Antioch's buildings and structures more resistant to these seismic events?

In addition to the primary sources and archaeological evidence, this study will also analyze secondary literature[5]. We will look in particular at the contribution by G. Downey. Downey's *A History of Antioch in Syria from Seleucus to the Arab Conquest* (1961) will be our main secondary source. Although his work focuses on the period up to the death of Emperor Herakleios (610-641), it is one of the soundest profiles of the history of Antioch for the first part of the period that we cover. The most recent work on Antioch, *Antioch: A History* by Andrea U. De Giorgi and A. Asa Eger was published in 2021. It covers the city's history from its foundation to modern times and includes the results of the most recent archaeological studies and explorations of Antioch and its vicinity.

For considering the historical accounts of the earthquakes, the following works have been used as secondary materials: E. Guidoboni, A. Comastri, and G. Traina's *Catalogue of Ancient Earthquakes in the Mediterranean Area up to the Tenth Century* (1994), and their *Catalogue of Earthquakes and Tsunamis in the Mediterranean Area from the Eleventh to the Fifteenth Century* (2005); and N. Ambraseys's *Earthquakes in the Mediterranean and Middle East: A Multidisciplinary Study of Seismicity up to 1900* (2009). These publications are the latest and most detailed and focus on mainly the Mediterranean earthquakes. Their lists and descriptions have been particularly useful.

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[5] The first modern study of Antioch is the *Antiquitates Antiochenae*. It was completed by C.O Müller in 1839. Although Müller never visited the city, he compiled his work by studying the historical evidence including the accounts of travelers. He also produced an apocryphal map of the city. His work has doubtless been useful to scholars who have studied the history of the city. We do not have access to Müller's study. The book was not available in Turkey and it was not obtainable via the internet or from international interlibrary loan.

Unlike previous studies of Antioch, such as histories and earthquake catalogues, this study focuses in particular on Antioch as a physical, inhabited space. This study will examine the effects of the earthquakes on the built environment, the state's policy in regards to earthquake prevention and reconstruction, as well as the repair and rebuilding efforts and urban reorganization after earthquakes occurred. In this regard, this study is the first detailed comprehensive study of earthquakes in Antioch and its vicinity.

Primary sources document the earthquakes that occurred in Antioch provide essential information regarding their occurrence and their impact on the city and effects on the built environment. These sources tell us much about specific destruction to houses, ecclesiastical buildings, statues, and other structures. However, while the accounts of chroniclers and historians are invaluable, one should be careful in interpreting the information they provide. Although, occasionally, we do find reliable contemporary evidence and even records of actual eyewitnesses to earthquakes, chroniclers and historians sometimes contradict each other. In addition, many of the sources that record earthquakes were often written long after the events to which they refer. In using their accounts, we have remained sensitive to several issues. The first has to do with the dating of the quakes. In some cases, the sources do not give a clear date for a quake. Therefore, in such instances, we had to analyze other details that the author(s) provided in order to estimate a date for the catastrophe mentioned. Secondly, the accounts often differ when describing the earthquakes, depending on an author's reading of his/her sources, his/her own reckoning, the authors' goals, and circumstances when writing of the same disaster. In order to glean the most reliable and accurate information possible on earthquakes, we have noted and analyzed all the accounts of the chroniclers and historians within their historical contexts and attempted to extract the most concrete information.

The excavations conducted by Princeton University between 1932 and 1939 provide essential archaeological evidence for Antioch's topography and architecture. As the excavated remains were recovered at the conclusion of the final digging season, we have not had access to the physical remains themselves. Furthermore, the excavated areas are for the most part located where the current city is laid out and it is not possible to again unearth these sites today. So, although it is difficult to form a specific view of the buildings and their orientations, the data from the Princeton excavations has allowed us to do so to a degree. In addition, more recent archaeological studies and

explorations have presented enlightening information as well as new findings about the topography of Antioch and its vicinity[6].

To formulate a whole picture of earthquakes and their effects, and the repair and rebuilding efforts in Antioch in the covered period, this study will integrate and analyze the historical, architectural and archaeological evidence. Additionally, in order to provide as clear a picture as possible of the built environment and topography of the city based on the findings of this study, three maps have been created to cover Antioch's different historical periods. The first of these maps covers the period from the foundation of the city on May 22, 300 B.C. to the seventh century (see Appendix D.1). The second covers the period between the seventh and the eleventh centuries (see Appendix D.2); and the third focuses on the siege of the city by the Crusaders in 1097/1098 (see Appendix D.3). The maps have been adapted from the one created by the Princeton University excavators at the conclusion to the 1932-1939 excavations. When devising the maps for this study, data provided by the primary sources, the Reports of the Princeton University Excavations of 1932-1939, recent archaeological studies and explorations, and other secondary materials have been taken into account. One of the challenges in creating these maps was determining the exact locations for many of the buildings. Sometimes the locations of structures were specifically stated in a source. In other cases, building locations had to be estimated based on the descriptions of other buildings or events. In the cases when locations are not definite, information provided by the sources has been carefully evaluated to approximate locations so the given buildings could be placed on the maps. Each map has been divided into different periods and each period indicates the date ranges for when the buildings and other structures were in use.

In addition to the above-mentioned three maps, an additional map for Seleucia Pieria and Daphne was also prepared. When creating this map, data provided by Djobadze (1986, Plan A) and Mayer and Allen (2012, p. 291) was used (see Appendix D.5). On this map, only the main, excavated or standing structures are indicated and again their approximate locations have been given.

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[6] Detailed information on these findings can be found in the Research Result Reports (Araştırma Sonuçları Toplantı Raporları), Archaeometry Result Reports, (Arkeometri Sonuçları Toplantı Raporları), Excavation Result Reports (Kazı Sonuçları Toplantı Raporları), and Museum Studies and Rescue Excavation Reports (Müze Çalışmaları ve Kurtarma Kazı Raporları). The latest published versions of the reports of the archaeological studies and explorations have been used; reports or data published after the year 2019 have not been included in our study.

In this study we also provided the most current information on the buildings of Antioch and its environs. For this purpose, two different tables have been provided. This has allowed us to gain a more thorough understanding of the nature of Antioch's structures. The first of these tables identifies public and ecclesiastical buildings mentioned only in the primary sources (see Table A.1). Each structure on this table is listed in chronological order including its name, date or time period of use as well as reference(s) to any sources in which it is mentioned. The data also includes reconstruction and repair efforts that are noted in the primary sources. Occasionally, the sources do identify a structure which is not recorded in any other source; in terms of identifying said structure's location the names of these buildings are also included on the list. Table A.4 focuses on the public, ecclesiastical and other structures in Antioch and its surrounding areas. All of the buildings in this table are also listed in chronological order from the foundation of the city and the findings of the current excavations are included. This compendium of tables is presented in four different categories: archaeologically studied structures that are not known in the primary sources; archaeologically studied structures that are known in the primary sources; structures that are known in the primary sources but not in the archaeological studies; and structures that remain today.

The maps and the lists of the public and ecclesiastical buildings and other structures in this study contribute to scholarship in that they provide the first detailed and complete overview of the topography of the city and its evolution from the fourth through the thirteenth centuries.

2. HISTORICAL BACKGROUND OF ANTIOCH

2.1 The Foundation of the City and Its Description in the Sources

The city of Antioch lies at the southwest corner of the Amuq Valley at the point where the Orontes River (modern Asi Nehri) meets Mount Silpios[7] (modern Habib Neccar Dağı). Regarding the foundation of Antioch, there are many different accounts, some of which seem to be legendary. Native Antiochenes Libanios and John Malalas have the fullest information for its foundation. According to John Malalas, the city was founded by Alexander the Great's general Seleucus I Nicator[8] on May 22, 300 B.C. Malalas writes:

> He came to the city of Antigonia built by Antigonos Poliorketes, which was surrounded by another river, the Arkeuthas, also known as Iaphta, coming out from the lake, and was in a secure position. He made a sacrifice there in honor of Zeus at the altars built by Antigonos, and cut up the meat. He prayed with the priest Amphion to learn by the giving of a sign whether he ought to settle in the city of Antigonia, though changing its name, or whether he ought not to settle in it, but built another city in another place. Suddenly a great eagle came down from the sky, picked up some meat from the burnt offering on the altar-fire, and went off to Mount Silpios. He pursued it with his men, and found the sacred meat and the eagle standing on it. When the priest, the augurs and Seleucus saw the wonder, they said 'It is here that we must settle; we must not settle in Antigonia nor should it become a city, since gods do not want this.' Then he discussed with them where to place the city to make it secure. Since

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[7] Starting from the sixth century the northern part of the mountain has been called Mount Staurin, or Haç Dağı in Turkish.

[8] Seleucus Nicator I named other cities of the tetrapolis after members of his family: Seleucia Pieria was named for Seleucus, Apamea for his wife, and Laodikeia for his mother. There are nearly sixteen places named *Antiocheia* in Anatolia, but the most important ones are the *Antioch-on-the-Orontes* (*Antiocheia ad Orontem* - modern Antakya), *Antioch of Pisidia* (modern Yalvaç, Isparta), and *Antioch on Caria* (modern Nazilli, Denizli). Before the foundation of the city of Antioch, Seleucus founded Seleucia Pieria on April 23, 300 B.C. According to Downey, he specifically chose the site as his capital due to its strategic location by the Mediterranean Sea and because the Acropolis on the site was unconquerable (1961, pp. 61-62).

> he was afraid of the streams from Mount Silpios and the torrents that came down from it, it was there on the floor of the valley, opposite the mountain near the great river Drakon, renamed the Orontes, on the site of the village as Bottia, opposite Iopolis, that they marked out the foundation of the wall. Through the agency of Amphion, the chief priest and wonder worker, he sacrificed a virgin girl named Aimathe, between the city and the river on May 22, at the first hour of the day, at sunrise. He called the city Antioch after his son, who was known as Antiochos Soter[9]. He immediately built a temple, which he called that of Zeus Bottios, and raised up the walls also to be really tremendous with the help of the architect Xenarios. He set up a bronze statue of a human figure, the girl who he had sacrificed as the Tyche of the city, above the river and he immediately made a sacrifice to this Tyche. (Jeffreys & Scott, 1990, pp.105-106)

In its most prosperous era, the city of Antioch was ranked with Rome, Constantinople and Alexandria as one of the four leading cities in the late Roman Empire. Proof of this can be seen in the set of four Tyche statuettes (Gonosová, 2000, pp. 116-117) which were found on the Esquiline Hill in Rome (Sandwell, 2004, p. 1). Libanios, a native of the city, in his *encomium Antiochikos*, which was delivered around 360, compares his city with Rome and Constantinople:

> What city can we say is worthy to be compared with this? More fortunate than the oldest, it is superior to some in size, surpasses others in the nobility of its lineage, and others in its all-producing territory. By one it may be excelled in walls, but it is greater than this in the abundance of its water and in the mildness of its winter, in the refinement of its inhabitants and in its pursuit of learning; and it is more fair than that city which is even larger, because of that fairest thing, Hellenic education and literature. (Downey, 1959, p. 681)

One feature the sources commonly stress when describing Antioch is the city's beauty. But, how else was the city described in the sources? The fourth-century historian Ammianus Marcellinus describes the city as, "… a city known to all the world, and without a rival, so rich is it in imported and domestic commodities; likewise, for Laodikeia, Apamea and also Seleucia, most flourishing cities from their very origin"

[9] However, according to Libanios, Seleucus named the city after his father Antiochus: "From Seleucus the city took its surname, but its name from his father Antiochus, and while it was created by the former, it preserved the memory of the latter" (Downey, 1959, p. 663).

(Rolfe, 1972, vol.1, p. 69). One of the most respected and influential figures in Antioch, Saint John Chrysostom called the city "the head and mother of eastern cities" in his homily *On the Statues* (URL-4). It is recorded by the Emperor Julian that one time the city was even called by the name of Emperor Constantine[10] (Wright, 1949, vol.1, p. 105). This usage must be an honorific one since we have not come across it elsewhere in the sources available to us.

In the sixth century it is recorded by John Malalas that after the earthquake of November 29, 528 the name of the city was changed to Theoupolis[11] [City of God]. He records:

> In that year, Antioch was renamed Theoupolis by the order of the emperor [Emperor Justinian]. Also, a written oracle was discovered at Antioch, which read as follows, 'And you, unhappy city, shall not be called the city of Antiochos.' Likewise, it was found in the papers of those who record the acclamations in the city, that they had provided an omen when they had chanted for the city's name to be changed. (Jeffreys and Scott, 1990, p. 258)

The change in the city's names not only appears in the written evidence, but also in surviving numismatic material (Figure 2.1).

The tenth-century historian Leo the Deacon states that before the recapture of the city by the Byzantines, Emperor Nikephoros II Phokas (963-969) gave a motivational speech to his soldiers and considered the city the third largest city in the world[12] in terms of both its population and its strong walls:

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[10] Emperor Julian, states that: I often hear that even Antioch now calls herself by your name. Her existence she does indeed owe to her founder, but her presence wealth and increase in every sort of abundance she owes to you, since you provided her with harbours that offer good anchorage for those who put in there. (Wright, 1949, vol.1, p. 105) In his *Misopogon*, Julian called the city as a "prosperous and gay city" (Wright, 1949, vol.2, p. 433).

[11] In his account, the sixth-century historian Evagrios Scholastikos also calls the city of Antioch Theoupolis (Whitby, 2000, pp. 12, 19, 20, 38, 205, 261, 266, 277, 283, 284, 296, 298, and 302). The author of the seventh-century chronicle Chronicon Paschale also refers to the city as Theoupolis (Whitby & Whitby, 1989, pp. 125,128). The ninth-century chronicler Theophanes the Confessor also mentions the change in the city's name (Mango & Scott, 1997, p.270). Among the Arab sources, which are available to us, the tenth-century historian al-Mas'ūdī also refers to the city as City of God, the City of the King and the Mother of the Cities (Le Strange, 1965, p. 368). In his account where he provides a detailed description of the city, the twelfth-century Latin historian William Archbishop of Tyre likewise calls the city Theoupolis and says: This city voluntarily and eagerly received the preaching of the apostle and was converted as one body to the Christian faith. She was the first to embrace and to teach the name which, like precious ointment, diffuses its fragrance far and wide. Hence a new name was appointed for her and she was called Theoupolis. (Babcock & Krey, 1943, vol.1, p. 200)

[12] The historian William Archbishop of Tyre also states this view. When he provided a detailed description of the city he states that: "Antioch is a noble and glorious city. To it has been described the

Figure 2.1 : Coin from the sixth century showing the change in the city's name (URL-5).

> But, a kind of pity for this city has gradually come over me, that the city that is third in the world on account of the beauty and size of its walls (for you to see what height they rise), and also because of the multitude of its people and the extraordinary construction of its buildings, should be reduced to rubble, like some poor fortress. (Talbot & Sullivan, 2005, pp. 123-124)

Towards the end of the eleventh century, the anonymous author of the *Gesta Francorum*, a work that covers the era of the Crusades, also described the beauty of the city. However, from reading the text we can assume that the anonymous author is describing Antioch during its glory days in Late Antiquity (Hill, 1962, pp. 76-77). William Archbishop of Tyre, a twelfth-century Latin historian who wrote during the period of the Crusades, provides a very detailed description of the city. He not only talks about the foundation of the city, but also provides very detailed information on the geographic setting and refers to the city as noble and glorious (Babcock & Krey, 1943, vol.1, pp. 199-203) (see Appendix B.1).

One of the distinctive features of Antioch is that the city had a street light system, which was rare at the time. Information on this system comes from Libanios and Saint Jerome. In his *Oration 22* addressed to Ellebichus, Libanios talks about the chaos caused when money was needed for the maintenance of the empire. He writes, "They [the rioters] proceeded to the bath nearby, and used their knife to cut the ropes, from

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third or possibly the second place of dignity (for there is much controversy over this question) after Rome itself" (Babcock & Krey, 1943, vol.1, p. 199).

which were suspended the lamps that give us our light of a night-time" (Norman, 1977, p. 379)[13].

2.2 The Size of the Population of Antioch

As to the size of the population we do not have very clear information, but it is possible to derive some idea from the accounts of the chroniclers and historians. It is recorded by John Malalas that at the foundation of the city in 300 B.C., the population was at least 5,300. He writes:

> After destroying Antigonia, Seleucus made the Athenians who used to live in Antigonia migrate to the city that he had built, Antioch the Great. Antigonos had left them there in Antigonia with his son Demetrios and some others, some Macedonians -a total of 5,300 men. (Jeffreys & Scott, 1990, p. 106)

This number represents the Athenians and the Macedonians who were settled in Antioch by Seleucus Nicator I, but unfortunately, John Malalas does not state whether this number represents the entire citizen body or merely the adults. However, the number Malalas provides reflects the population of an ideal city as stated by the Greek philosopher Plato (429 B.C-347 B.C). For Plato, the number 5,040 represents the landlords and heads of householders in an ideal city (Downey, 1958, p. 85). To support this claim, the Greek geographer Strabo also states that during the first years of Emperor Tiberios's reign, the size of the population in Antioch was not much smaller than Seleucia on the Tigris and Alexandria in Egypt (Jones, 1930, vol.7, p. 243). Although, he does not provide a number for the size of the population in the city, in his *Oration 10 -On the Plethron*, Libanios talks about the increase in population:

> For he [Proculus] doubled the stone seats [of the *theatron*] by adding to them as much as they had formerly consisted of. This of course doubled the number of those who came to see the spectacle… But now it is considered a misfortune that a greater source of corruption does not take possession of it. The city, some say, has become more populous. I would have wished, in the first place, that the misfortunes of other cities should not have increased ours with their people,

[13] The street lighting system is also mentioned in his other orations such as in his *Antiochikos (Oration 11*) (Downey, 1959, p. 681); *Oration 16 -On the Emperor's Angers* (Norman, 1969, p. 237), and *Oration 33 -To the Emperor Theodosios, Against Tisamenus* (Norman, 1977, p. 227). Saint Jerome also mentions the street-lighting system of the city in his *Dialogue Against the Luciferians*. He wrote: "The dispute was not settled when night interrupted the debate and the lighting of the street-lamps gave the signal for the assembly to disperse" (Fremantle, 1893, p. 320).

> but that each should have kept its own, and that we should had fewer people rather than so many; but since those whose misdeeds cast them out of their homes have flowed together here, I should have wished that we should not enlarge the *theatron* for this reason... (Downey, 1961, pp. 690-692)

In his homily *On the Holy Martys Ignatuis*, Saint John Chrysostom says the population was around 200,000 during this period. He writes: "… but to be entrusted with so large a city and a population stretching into the 200,000s, of how much virtue and wisdom do you imagine that to be proof?" (Mayer & Neil, 2006, pp. 109-110).

While describing the events during the reign of Emperor Theodosios II (408-450), John Malalas states:

> As soon as he [Antiochos, nicknamed Chouzon, the Elder] was promoted to *prefect,* he reported to the Emperor Theodosios that the great city of Antioch in Syria had spread out and increased in size and had many buildings extending up to a mile outside its walls. (Jeffreys & Scott, 1990, p. 188)

But Malalas does not provide exact numbers of people or buildings. When we come to the sixth century, we see a severe decrease in the population due to continuous natural disasters that the city experienced. In the earthquake of May 20/29, 526 John Malalas claims that 250,000 people perished as the earthquake occurred during the great festival of the Ascension of Christ when the city had many visitors in town. (Jeffreys & Scott, 1990, p. 239); whereas according to Prokopios the number of dead was 300,000 (Dewing, 1914, p. 383). During the catastrophe which visited the city on November 29, 528, losses were given at about 5,000 by John Malalas (Jeffreys & Scott, 1959, p. 257), and 4,870 by Theophanes the Confessor (Mango & Scott, 1997, p. 270). During the earthquake of October 31, 588, Evagrios Scholastikos recorded that, "an unquantifiable multitude was caught; as certain people conjectured, inferring from the bread supply, this affliction consumed about 60,000" (Whitby, 2000, p. 299). It is not possible to determine the exact numbers of those who perished during these catastrophes. When describing these events, chroniclers and historians mostly state vaguely that many people died. They often do not provide exact numbers. However, during the earthquake of November 24, 847, although this information does not come from an eyewitness account, the thirteenth-century historian al-Dhahabī claims that 50,000 people died in the ruins (Guidoboni et al., 1994, p. 378).

Although it is hard to derive concrete information about the size of the population of the city after this period, we can assume that following the Arab conquest some local people left the city. Since states or empires often had resettlement policies, it is possible that Arab officials encouraged their people to move into the area or helped others to settle in the city. One of the important historians of the early Islamic period, al-Balādhurī, confirms this. According to him, the caliph Mu'āwiyah transplanted Persians from Ba'alabakk, Hims, Basra, and Kūfā to Antioch sometime between 661 and 663 (Hitti, 1916, vol.1, p. 180). It is possible that the succeeding caliphs followed the same policy. The number of the people who died in the earthquake of 847 gives us an idea that the population of the city was still high. It is also possible to assume that the population of the city was a mixture of different ethnic groups and each had their own quarters as stated by Liebeschuetz (1972), "…There was no civic cohesion. Different racial or religious groups lived in separate quarters, often divided by walls and gates, possessing their own mosques, baths, and market" (pp. 263-264).

After the Byzantine re-occupation in 969 our sources rarely mention Antioch, and when they do, they refer to in the context of the political history of the empire. Decker (2007) states that, in Late Antiquity Antioch's population was around 150,000; when the Byzantines took over the city, its population was certainly nothing close to its Late Antique peak and most probably was something between 50,000 to 75,000 (pp. 235-236). To boost Antioch's Greek population, the Byzantine emperors probably encouraged its citizens from various parts of the empire to settle there, and established *dioceses* in Antioch and its surrounding areas (Cheynet, 2003, p. 79; Eger, 2013, p. 103). The Arabic speaking Greek-Orthodox Melkites were the dominating group. They were called *ru'asā al-madīna* (the leaders of the city; *archontes* or *prouchonte*s in Greek) and they were the leaders in the city's affairs (Todt, 2001, p. 182; Eger, 2013, p. 103). Greek-Orthodox Christians and Syrian-Orthodox Jacobites from the Islamic parts of Syria, Palestine and Egypt were invited to repopulate the reconquered territories of the Antioch and its vicinity (Todt, 2000, p. 486).

Unfortunately, the available sources do not provide any concrete information regarding the population of the city during the short Seljuq occupation.

When we come to the twelfth century, there happened very destructive earthquakes, such as the earthquake of November 13, 1114, the earthquake of November 29, 1115, and the earthquake of June 29, 1170; but none of the sources for these earthquakes indicate the numbers killed.

In the accounts of the Byzantine, Arabic and Syriac chroniclers and historians, terms and expressions such as “many”, “great”, and “thousands upon thousands” were used to indicate the number of deaths during the earthquakes. However, it is not possible to determine the precise demographic effects of the earthquakes on the city’s population. One can assume that the population remained high, but perhaps not as high as in former periods.

2.3 Buildings of the City and Its Vicinity

There are limited structural remains we can study that date from Antioch’s ancient and medieval eras. This problem creates an obstacle to conducting in-depth research on the city’s buildings and structures that did exist. Therefore, it has been challenging for archaeologists to access the remains of the city and its vicinity. Earthquakes were a major issue but in addition alluvium accumulated either from the Orontes River or from the slopes of Mount Silpios. This added to researchers’ problems. Therefore, it is difficult to form a general view of the buildings which were erected over the course of Antioch’s history and how, in fact, those that were erected managed to survive. However, this study has taken on this task. A deep analysis of the primary sources along with the secondary material was essential in this One outcome of this effort resulted in a listing all the public and ecclesiastical buildings and other structures mentioned in the primary sources from the foundation of the city until thirteenth century in chronological order. This alone will provide present and future scholars a better understanding of the city’s topography and nature.

2.3.1 Hellenistic period (320 B.C.-31 B.C.)

Emperor Seleucus I Nicator founded Seleucia Pieria on April 23, 300 B.C. and following its foundation he founded the city of Antioch on May 22, 300 B.C.

Seleucus I Nicator (died in 281/280 B.C.): Our primary sources do not provide detailed information about the public buildings erected after the foundation of the city. However, Libanios gives a detailed description and plan of the building facilities during the reign of Seleucus (Downey, 1959, p. 663).

Upon the foundation of the city, Seleucus built a temple in honour of Zeus and called it Zeus Bottios (which stood on the agora) and commissioned the architect Xenarios to build the city walls (Jeffreys & Scott, 1990, p. 106) (Figure 2.2).

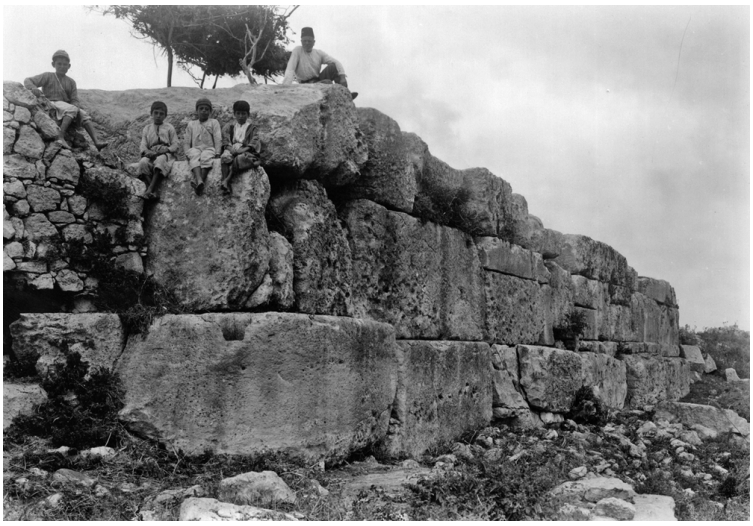

Figure 2.2 : View of the city walls in Seleucia Pieria (URL-6).

The sources do not specifically mention anything concerning the water supply of the city. However, Libanios's account allows us to infer that aqueducts were built to bring water to the city: "Some rulers bringing the waters from the suburbs [most probably from the famous Daphne for its springs] of the city, while others conducted them to the newer part of the city from the springs with which the older part abounds" (Downey, 1959, p. 666).

Our sources mention a number of statues erected during this period. The most important of these is the Tyche of the city. The most detailed description of it is provided by John Malalas: "He [Seleucus] set up a bronze statue of a human figure, the girl who had been sacrificed as the Tyche of the city, above the river, and he immediately made a sacrifice to this Tyche". A marble statue was set up in honour of the priest Amphion at the Romanesian Gate. In addition, after razing the whole city of Antigonia to the ground, Seleucus set up a bronze statue of Tyche Antigonia and placed it in a high position, placing a lofty altar in front of it (Jeffreys & Scott, 1990, pp. 106-107).

The Greek historian Polybius (ca.200-ca.118 B.C.) states that a sewage system existed in the city and that it emptied into the Orontes River. In addition, according to the anonymous Arabic description of Antioch, it is believed that two grain elevators were built to ensure the city's grain supply (Downey, 1961, p. 72).

Our sources do not provide any information on the building activities for the reigns of *Antiochus I (281/280-261 B.C.)* and *Antiochus II (261-247/246 B.C.)*.

Seleucus II Callinicus (246-226 B.C.): According to the Greek geographer Strabo, a new quarter to the city was added during this period:

> Antioch is likewise a tetrapolis, since it consists of four parts; and each of the four settlements is fortified both by a common wall and by a wall of its own. Now Nicator founded the first of the settlements, ….the third by Seleucus Callinicus; and the fourth by Antiochus Epiphanes (Jones, 1930, vol.7, pp. 241-243).

Information on the building activities in Antioch and its vicinity does not survive for the reign of *Seleucus III (226-223 B.C.)*.

Antiochus III (223-187 B.C.): Information on the building activities for this period is contradictory. In contrast to the above-mentioned statement of Strabo, Libanios claims that Antiochus the Great founded the new quarter on the island, not Seleucus II Callinicus:

> Antiochus, who received his name of Great because he undertook great things and was equal to them, thinking it was a small thing merely to conserve what he possessed, intended to add to what already existed. This he did by building, as an addition, the newer part of the city that, which the river flows about- which was not much smaller than the old. (Downey, 1959, p. 665)

It is possible to assume that due to growth in population, the building of the new quarter was started by Seleucus II Callinicus and completed during the reign of Antiochus III.

Building activities were not recorded in our sources for the reign of *Seleucus IV (187-175 B.C.)* for Antioch and it surrounding areas.

Antiochus IV Epiphanes (175-163 B.C.): The sources usually identify Antiochus IV Epiphanes as the 'second founder of the city'. One of the most noteworthy building activities during his period is the foundation of a new quarter as a result of the growth in population. The Greek geographer Strabo states:

> Now Nicator founded the first of the settlements, transferring thither the settlers from Antigonia, which had been built near it a short time before by Antigonus; the second was founded by the multitude of settlers; the third by Seleucus Callinicus; and the fourth by Antiochus Epiphanes. (Jones, 1930, vol.7, p. 243)

John Malalas specifies the location of the quarter when he writes, "He [Antiochus IV Epiphanes] also built some other constructions outside the city and called this area the

city of Epiphanes[14] after himself; but he did not build a wall for it, and the settlement was left open on the mountain" (Jeffreys & Scott, 1990, p. 108). Our sources do not provide any architectural plans for the new quarter, but John Malalas writes:

> The Emperor Antiochus, known as Epiphanes, first built in Antioch the Great outside the city the building known as *bouleuterion*[15] so that all the senators might assemble there with the city officials and all the landowners of the city and discuss what should be done about the matters that arose and then refer their recommendations to him (Jeffreys & Scott, 1990, p. 108).

According to Vitruvius (ca.80-70 B.C.-after ca.15 B.C.), the Roman architect Cossutius, with great skills and supreme knowledge, was in charge of some of the building activities during the reign of Antiochus IV (Morgan, 1914, p. 236). The physical evidence for this architect's works is provided by an inscription found during the Princeton excavations of 1936. Cossutius's name was inscribed twice in the cement of the wall of an aqueduct, the Aqueduct of Cossutius. The excavators believe that his name was probably carved either by a workman or by himself to indicate the completion date of the structure (Downey, 1938b, pp. 160-161).

John Malalas claims that temples were also built, but he does not record their names (Jeffreys & Scott, 1990, p. 123). Likewise, the Roman historian Livy (59-17 B.C.) states that the emperor started building a Temple to Jupiter Capitolinus, but he does not specify its location (Downey, 1961, p. 100). Libanios records:

> When a band of robbers had gathered in the Taurus who were plundering with impunity the property of the Cilicians and were destroying the intercourse of men with each other, he fell upon them and made an end of them…. And by casting out the fear, which hung over them, he opened up the roads to the merchants. In gratitude for this, he was commemorated in a statue, by those

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[14] In order to find the location of the quarter called Epiphanes (modern Affan Mahallesi), a geophysical survey was conducted on the eastern fringe of the Mount Staurin plateau which included 2.25 hectares. Sources provide conflicting information about the exact location of the quarter. The surveyed area is in agricultural use and the research could not reveal any concrete information regarding the building structures on the site. However, according to Brands and Meyer, the existence of a natural cave on the southern edge of the plateau accessible with an arched entrance of large ashlars of limestone walls, suggests the possible presence of urban landscape which warrants further investigation (2005, p. 150; Pamir & Brands, 2005a, p. 94). The large amount of ceramics, roof tiles and tesserae found on the site are dated from the Roman to the Byzantine periods and it is assumed by researchers that they belonged to two different buildings in the area (Pamir, 2012, p. 264).

[15] Libanios also mentions the foundation of a *bouleuterion*, but he does not identify the founder (Downey, 1959, p. 666).

whom he had benefitted, in which he was shown taming a bronze bull, the animal representing the mountain of the same name. (Downey, 1959, p. 666)

The only existing monument we have from Antiochus IV's reign is the Charonion (see Chapter 4.4.1 for detailed information). (Figure 2.3).

Figure 2.3 : View of the Charonion and the figure on its right shoulder (Photo credit Mevlüde Bakır).

After the death of Antiochus IV Epiphanes, the political situation in Antioch was unstable and there were continuous struggles for the throne. The death of Antiochus VII Evergetes Sidetes (138-129 B.C.) marked the end of the Seleucid Dynasty. From the death of Antiochus IV Epiphanes (163 B.C.) to the reign of Antiochus XIII Asiaticus (69/68 B.C.) our sources do not provide information on building activities. However, when John Malalas talks about the reign of Tiberios (14-37), he mentions a fire in 23/24 and states that the Temple of the Muses (*Mouseion*) and a library, built during the reign of Antiochus Philopator with the money left in the will of the Syrian merchant Maron of Antioch, were among the affected structures. Unfortunately, Malalas does not specifically mention which Antiochus Philopator (Antiochus IX, Antiochus X, and Antiochus XII both had the title of Philopator) was responsible for the construction (Jeffreys & Scott, 1990, p. 125; Downey, 1961, pp. 132-133).

The proconsul of Syria, Quintus Marcius Rex, visited Philip II (reigned in 67/66 B.C. and again in 66/65 B.C.) in the city in 67 B.C., and gave orders for building a palace[16], a circus in the old city on the island[17], and a basilica which he named the Basilica of Kaisarion (Jeffreys and Scott, 1990, p.114). Following the reign of Philip II, Antiochus XIII Asiaticus was again on the throne for a very short period of time (65/64 B.C.), and building activities were not recorded.

2.3.2 Roman period (31 B.C.- 324)

After the decline of the Seleucid Dynasty, the city became the capital of the Roman province of Syria in 64 B.C. upon the arrival of the Roman commander Pompey. Upon his arrival in the city, Pompey gave orders for the repair of the *bouleuterion* which was probably damaged during the earthquake that occurred sometime between 83-69 B.C. (Jeffreys & Scott, 1990, p. 111). (see Appendix D.1)

The administrators of Antioch were preoccupied by warfare during this period. Unfortunately, we do not hear of any building activities until when Julius Caesar visited the city in 47 B.C. and started beautifying it. John Malalas sums up the building activities conducted by *Julius Caesar* as follows:

> He built a basilica, which he named the Kaisarion, opposite the Temple of Ares which was renamed the Macellum, and set up there a bronze statue of the Tyche of Rome. Equally he built, up on the place known as the Acropolis, on the mountain of Antioch the Great, a public bath for the inhabitants of the Acropolis, bringing the water from what are known as the waters of the road to Laodikeia through the aqueduct built by him. He also built up there a *monomacheion* [amphitheatre] and a theatre. He stored the Pantheon since it was on the point of collapsing, and re-erected the altar. (Jeffreys & Scott, 1990, p. 114)

Augustus (31 B.C.-14): Information on the building activities during the reign of Augustus mostly comes from the chronicler John Malalas. After winning the battle of Actium in 31 B.C. against Mark Antony and Cleopatra VII, Augustus entered Antioch to celebrate his triumph with Agrippa, his brother-in-law. Agrippa was delighted with

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[16] In his book where he talks about Antioch, Strabo mentions a palace in the city: "Antiocheia is the metropolis of Syria; and here was established the royal residence for the rulers" (Jones, 1930, vol.7, p. 243).

[17] This new section of the city on the island was usually referred to as the "Basileia" since supposedly the imperial palace was located there.

the beauty of the city and decided to commission some building activities there. He first built a public bath outside the city near the mountain and named it Agrippianon after himself, which was also known as the Baths in the Vineyards or the Ampelion bath. He also founded a new quarter and named it after himself (Agrippitai), and included a bath as well. Due to increase in the population of the city he built and added another tier above the first in the theatre of the city. During his visit to the city around 20 B.C., he cleared the old hippodrome of rubble, which had been accumulated as a result of the earthquake of 83-69 B.C. (Jeffreys & Scott, 1990, pp. 117-119). One of the most important events of this period is the foundation of the Olympic Games in Antioch. According to John Malalas, after the death of the senator Sosibius, who was a native of the city, Antioch received his income in order to hold theatrical performances, athletics and chariot races for a period of a month every quinquennium (Jeffreys & Scott, 1990, p. 119; Downey, 1939, pp. 428-438).

Tiberios (14-37): The building activities under the reign of Tiberios consisted of various additions and improvements to the city's appearance. One of the prominent building activities during his reign was the foundation of the Colonnaded Street (now modern Kurtuluş Caddesi) near the Mount Silpios, which ran throughout the city for a length of four miles. He built a vaulted tetrapylon at the cross-streets, adorning the cross streets with mosaic work and marble, and ornamented the street with bronze figures and statues. He also surrounded the Colonnaded Street with a wall, enclosing the mountain within it and united the new wall to the old city wall, which was built by Emperor Seleucus. To appreciate his hard work in the city, the council and the people of Antioch set up a bronze statue of him and placed it on a great Theban column in the street in the center of the Colonnaded Street he had built (Jeffreys & Scott, 1990, p. 124). During the Princeton University excavations, trial trenches were dug in order to seek out the remains of the Colonnaded Street which lies beneath the modern road running through the city of Antioch. One of the trenches was dug in the garden of the former soap factory, today's Savon Hotel, and some remains of the Roman road were uncovered (URL-7) (Figure 2.4). In another trial trench around the Habib Neccar Mosque, close to the soap factory, remains of a Roman basalt pavement with curved steps were uncovered (Lassus, 1934a, pp. 93-94).

Building activities during Tiberios' reign continued with the construction of temples around the city. He first completed the Temple of Capitoline Zeus, which was left unfinished by the Emperor Antiochus IV Epiphanes, and then erected a temple to

Dionysus near the mountain and set up outside the shrine two great statues of Amphion and Zethos to honour them. The last temple built during the reign of Tiberios is the one located behind the theatre called the Temple of Pan. He built a public bath in the eastern part of the city which Alexander the Great supposedly had named after his mother Olympias. The name of the river was changed from Drakon to Orontes, which means "Eastern" in Latin. He started building the theatre and added another tier to the theatre on the side by the mountain and sacrificed a virgin girl, but could not complete the construction of the theatre. Last, Tiberios built the Eastern Gate and set up a stone statue of Romulus and Remus on top of it. By doing this, John Malalas states that Tiberios wanted to underscore that a construction of Roman origins had been added to the city of Antioch (Jeffreys & Scott, 1990, pp. 124-125).

Figure 2.4 : Trial trench in the garden of the old soap factory revealed the remains of the Roman road (URL-7).

Helios Gaius Caligula (37-41): During the first year of Caligula's reign, Antioch and its suburb Daphne suffered an earthquake in 37. The emperor immediately sent three of his officials, the *prefect* Salianus and the Senators Pontius and Varius, to Antioch to oversee restoration work. Salianus constructed a great aqueduct from Daphne, cutting through the mountain and bringing water to the bath he had built (Figure 2.5). Salianus also built temples. The Senators Pontius and Varius were sent to protect the city and rebuild it thanks to benefactions made by the emperor, and equally to make donations to the city from their private income and to live there. They built many dwellings out of their private income. In addition to the dwellings, the senators built

other structures in the city of Antiochus out of their private funds. These included the great public bath known as the Varium down by the wall near the river, where they built their own dwellings close to the public bath, and a very handsome Trinymphon which they decorated with statues for the weddings of all the maidens of the city. They restored buildings in the city of the Antiochenes with the aid of imperial benefactions (Jeffreys & Scott, 1990, p. 129).

Figure 2.5 : Arch from the period of Emperor Caligula (URL-8).

Claudius (41-54): Antioch suffered two major natural disasters during this period: a famine and an earthquake. According to John Malalas the earthquake destroyed the Temple of Artemis, Ares and Heracles and several houses in the city (Jeffreys & Scott, 1990, p. 131).

Our sources do not provide any information on the building activities during the reigns of *Nero (54-68)*, or *Galba, Otho*, and *Vitellius (68-69)*.

Vespasian (69-79): John Malalas states the building activities during this time as follows:

> Outside the city gate, what is known as the Cherubim, he fixed there the bronze Cherubim, which Titus his son had found fixed to the Temple of Solomon. When he destroyed the temple, he removed them from there and brought them to Antioch with the Seraphim, celebrating a triumph for the victory over the Jews that had taken place during his reign. He set on an upper level a bronze statue in honour of Selene [the moon] with four bulls facing Jerusalem, for he had captured the city at night by moonlight. He also built the theatre of Daphne,

> inscribing on it "*Ex praeda Iusaea*" [from the spoils of Judaea]. The site of the theatre had formerly been a Jewish synagogue, but he destroyed their synagogue to insult them and made it a theatre, setting up there a marble statue of himself, which stands to the present day. … He also built near the theatre in Antioch the Great a temple, which he called the Temple of the Winds. (Jeffreys & Scott, 1990, p. 138)

For the short reign of *Titus (79-81)*, the sources do not provide any information either about the history of the city and only little about the building work done there. We have some information according to the inscription found on the wall of the northeast entrance of the Titus Tunnel (Figure 2.6) that construction on this tunnel was started during the reign of his father Emperor Vespasian and was completed during Titus's time. The purpose in building this tunnel was to prevent the accumulation of sediment.

Domitian (81-96): For the building activities during this period, John Malalas states:

> He [Domitian] built a public bath known as Medea, because he put a marvelous statue of Medea in it, and so the citizens used to call the public bath by this name and not the Domitian (originally called *το Δομετιανόν*). This public bath had been built by the mountain (on the slope of the mountain), near the *monomacheion* (of Caesar) and the Temple of Aphrodite. The emperor also built there a Temple of Asclepius. (Jeffreys & Scott, 1990, p. 139)

Our sources do not provide any information for the building activities during the reign of *Nerva (96-98)* in Antioch and its vicinity.

Trajan (98-117): Antioch suffered from one a severe earthquake during the reign of Trajan in 115. Although various building activities took place during this time, it is hard to determine whether these activities were planned before the earthquake happened or were conducted as a result of the earthquake. The future emperor Hadrian conducted building activities by Trajan's order. For the building activities during this period John Malalas states:

> [Following the account of the earthquake of 115] The surviving Antiochenes who remained then built a temple in Daphne on which they inscribed, "Those who were saved erected this to Zeus the Saviour". Trajan began his building activities first with a building known as Middle Gate (*Μεση Πυλη*) near the

Figure 2.6 : Inside the Titus Tunnel (Photo credit Mevlüde Bakır).

Temple of Ares where the Parmenius [modern Hacı Kürüş Deresi] torrent flows down, very close to what is now called the Macellum; he had carved above a statue of a she-wolf suckling Romus and Remus, so that it should be recognized that the building was Roman. He sacrificed there a beautiful virgin girl from Antioch, named Calliope, as atonement and for the purification of the city, holding a bridal procession for her. He also restored immediately the two great colonnades and built many other things in the city of Antiochus, including a public bath and an aqueduct (Figure 2.7a-b), having diverted the water pouring out from the springs of Daphne into what are known as the Agriai. He named both the baths and the aqueduct after himself. He completed the theatre in Antioch, which was unfinished, and placed in it a gilded bronze statue of the girl whom he had sacrificed. The statue stood above four columns in the middle of the nymphaeum in the *proscenium* [the stage of an ancient theatre] she was seated above the River Orontes and was being crowned by the emperors Seleucus and Antiochus in the guise of the city's tyche. He also built in Daphne a temple to Artemis in the middle of the grove. (Jeffreys & Scott, 1990, pp. 145-146)

Hadrian (117-138): After Trajan's death, Hadrian continued his building activities in the city. John Malalas records:

> He also built in Antioch the Great a public bath and aqueduct named after himself. He also built the theatre of the Springs of Daphne, and diverted the waters flowing out into the ravines known as Agriai. He constructed piers and made them solid at great expense, in order to withstand the force of the water and to convey it through the aqueduct made by him to the city of Antiochus as a plentiful supply for the city. He also built the Temple of the Springs from which the streams flow out at Daphne, and erected in the Temple of the Nymphs a large seated statue of Zeus holding the celestial sphere, in honor of the Naiads; this as a thank-offering for having completed such a tremendous task. He made the water that bubbled from the spring known as Saramanna flow out through a channel and pour into the channel of the spring in the "Little Theatre" [*theatron*]… the water coming out of the temple in five different streams, which he called, *pentamodion*, *tetramodion*, *trimodion*, *dimodion* and *modion*. (Jeffreys & Scott, 1990, p. 147)

In contrast to John Malalas's sixth century account which mentions the reign of Julian, the fourth-century Latin historian Ammianus Marcellinus states that Hadrian closed the Castalia springs with a huge mass of stone and it was reopened during the reign of Julian (361-363) (Rolfe, 1928, vol.2, p. 269).

Downey, quoting from the mid-tenth-century *Souda* lexicon and from John of Antioch (the latter either a seventh-century chronicler or a person who lived in the tenth century), states that after the death of the Emperor Trajan, Hadrian came to the city and constructed the Temple of Trajan to honour his predecessor (1961, p. 220).

Antoninus Pius (138-161): John Malalas states that, Antoninus Pius carried out the paving of the street of the great colonnades that had been built by the Emperor Tiberios. He used millstone, generously contributing stone from the Theban granite[18] out of his resources, and the remaining expenses too from his own pocket. He recorded this generosity on a stone tablet (which did not exist during his time) and placed it at

[18] However, Downey argues that the streets of Antioch were paved during the reign of Emperor Caracalla, who was also called Antoninus. It is most probable that Malalas confused his name with that of Antoninus Pius (Downey, 1961, pp. 224-225, 246).

the gate known as the Cherubim, for it was there he had begun (Jeffreys & Scott, 1990, p. 149).

Marcus Aurelius (161-180): It is stated by John Malalas that, this emperor either built or reconstructed the public bath known as the Centenarium, which had collapsed in the earthquake that had occurred during the reign of Trajan in 115. In addition, he also built the Muses (*Mouseion*) and its sigma-shaped nymphaeum, and made a representation of Oceanus in it in a mosaic (Jeffreys & Scott, 1990, p. 150).

Commodus Augustus (180-192): As stated by John Malalas, the prominent buildings during the reign of Commodus are the construction of the *xystos* (running track), which stood opposite of the Temple of Athena, and a public bath named for Commodus. In addition, at the lower end of the *xystos*, he built a temple to Olympian Zeus (Jeffreys & Scott, 1990, p. 151).

Emperor Commodus did not have an heir and after his death *Pertinax*, *Didius Julianus* and *Pescennius Niger (193-194)* proclaimed themselves as emperors. Didius Julianus built the Plethron[19] in Antioch to hold the wrestling competitions of the Olympic Games and provided funding for its construction. The Plethron was located near the *xystos* and the Baths of Commodus (Jeffreys & Scott, 1990, p. 154).

Septimius Severus (193-211): According to John Malalas, a large public bath was built by the mountain and was named after him, the Severianum. Severus also ordered the city officials to build another public bath for the city from the surplus of the money, which had accumulated as funds for heating baths that had collapsed. The city officials bought up the whole residence of Livia, an Antiochene citizen, including her bath and her garden, and built a public bath there in the level area of the city. When the bath was finished, it was named the Livianum after the woman who sold the site (Jeffreys & Scott, 1990, pp. 156-157).

Antoninus Caracalla (211-217): One of the most important events of his reign was the revitalization of the Olympic Games (Downey, 1961, pp. 244-245).

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[19] On his *Oration 10 -On the Plethron*, Libanios talks about the original structure of the Plethron: Since I see that many people are grateful to Proculus for the addition that makes greater the *theatron* which has for sides, in the midst of which the Plethron receives afternoon toil to the athletes who come for the Olympic Games, I wish to show that he is at fault in making this addition, and that some have been induced to praise what should instead have been blamed…There were two rows of seats of stone, and as much of the ground as was near the first row was used for seats. There was no need of more, for the attendance was not great; there were no slaves, no school-boys, no workingmen, no idlers. (Downey, 1961, pp. 688-694)

Following the reign of Antoninus Caracalla, our sources do not provide any information on the building activities for the reigns of *Macrinus (217-218)*, *Elagabalus (218-222)*, *Severus Alexander (222-235)*, *Maximinus Thrax (235-238)*, *Pupienus (238)*, *Balbinus (238)*, *Gordian III (238-244)*, *Philip the Arabian (244-249)*, *Decius (249-251)*, *Hostilianus (251)*, *Gallus (251-253)*, *Volusianus (251-253)*, or *Aemilianus (253)*.

Valerian (253-260): According to fifth and sixth-century historian Zosimos, after hearing of the Persian attacks, Valerian set out from Rome and came to Antioch. Upon his arrival in the city, Valerian found Antioch in ruins and immediately appointed his *praetorian prefect* [civil administer] Successianus to oversee the rebuilding activities (Ridley, 1982, p. 10). According to John Malalas, Valerian also built a palace in the city. We derive this information from his account when he talks about the Emperor Diocletian's activities: "He [the Emperor Diocletian] built there a large palace, having discovered foundations which had been laid formerly by Gallienus Licinianus [Emperor, 253-268]" (Jeffreys & Scott, 1990, p. 167). Since Valerian and his father Gallienus Licinianus briefly co-ruled, it is most probable that John Malalas confused the father and the son. The foundation of the palace on the island was most probably laid during the reign of Emperor Valerian.

Our sources do not provide any information on the building activities during the reigns of *Gallienus Licinianus (253-268)*, *Macrianus and Quietus (260-261/262)*, *Palmyrene regime in Antioch (261-272)*, *Claudius II (268-270)*, *Aurelian (270-275)*, or *Tacitus (275-276)*.

Probus (276-282): Antioch was captured by the Persians two times, first in 259 and then in 260. It is most probable that the Emperor Probus focused on the restoration of the city in order to repair the damage caused by the Persian attacks. However, our sources (except for John Malalas) do not provide any information for this period. Malalas states that the Emperor Probus decorated the Muses (*Mouseion*) and the sigma-shaped nymphaeum, which had a mosaic of Oceanus in it (Jeffreys & Scott, 1990, p. 165).

Information on buildings were not recorded by our sources for the reigns of *Carus (282-283)*, *Numerianus (283-284)*, or *Carinus (283-285)*.

Diocletian (284-305): The empire was divided to East and West and Diocletian ruled the eastern part of the empire. Described as an avid builder by John Malalas, Emperor Diocletian continued extensive restoration of Antioch during his reign. The first structure constructed was the building of a palace. Libanios provides an elaborate description of this palace, but does not name the founder (see Appendix B.2). When talking about the monk Aphraates, the fourth-century historian Theodoret of Cyrrhus locates this palace to the north of the Orontes River (Wace & Schaff, 1892, p. 127). In contrast to these accounts, without providing any details, John Malalas only states that a large palace was built after the discovery of foundations of a palace that had been established previously. In addition to the foundation of the palace mentioned by Libanios, John Malalas talks about other building activities during this period and writes:

> Diocleatian built a public bath[20], which he called the Diocletianum, in the level part of the city near the old hippodrome. He also built granaries to store corn, and gave everyone measures for corn and all other commodities on sale. He also built what is known as the stadium at Daphne… Diocletian also built a Temple of Olympian Zeus in the stadium at Daphne, and at the curved end of the stadium he built a temple to Nemesis. He reconstructed the Temple of Apollo and decorated it with different kinds of marble. He also built a subterranean temple to Hecate with 365 steps. He built a palace in Daphne for the emperors to stay. He built three arms factories for the manufacture of weapons for the army. He also built a mint in Antioch so that coins might be struck there, for the mint had been destroyed by an earthquake and was now reconstructed. He also built a bath and called it the Senatorial, and likewise three other baths. (Jeffreys & Scott, 1990, pp. 167-168)

Until the emergence of Constantine as sole emperor, we hear almost nothing further about the history of Antioch and building activities in the city. However, at this point it will be helpful to provide a few words about "The Old Church or Palaia or the Apostelic Church", before we talk about the building activities of the Emperor Constantine. As will be seen below, the Great Church in the city was referred to as "The New Church" by some of our sources. These sources, which are available to us,

[20] During the excavations conducted by Princeton University, the fragment of a marble statue was discovered that presumably belonged to a fountain-piece that had stood in Bath C, which is believed to be part of the Baths of Diocletian (Elderkin, 1934, p. 49).

mention a church by specifying it as the Old Church. It was called the Old Church due to being located in the old part of the city. However, the New Church was built on the island where the city was extended. Our sources do not mention a date when the Old Church was built, but, the fourth-century historian Theodoret of Cyrrhus states that the Old Church was restored by the bishop Vitalis (ca.314-320) after the tyrants destroyed it; and the reconstruction of it was completed by his successor Philogonius (320-324) (Wace & Schaff, 1892, p. 34). Further in his account, Theodoret also states that in 360, Euzoius (360-376), who was a supporter of Arians, was appointed as bishop and he worshipped together with the Arians at the Apostolic Church situated in the part of the city called Palaia (Wace & Schaff, 1892, p. 93). Theodoret then adds that when the bishop Meletius returned to the city from exile he worshipped in the Palaia (Wace & Schaff, 1892, p. 95; Whitby and & Whitby, 1989, p. 38). The name of the church is also mentioned in the sermons of Saint John Chrysostom. In his sermon titled to *Saint Lucian* delivered on January 7, 387, the word "mother" used in the opening paragraph is identified with the Old Church (Mayer & Neil, 2006, p. 66). The name of the church is again mentioned in his sermon *Opposed Him to His Face* which was delivered in the Old Church (Mayer & Allen, 2000, pp. 140-141). Because of the opening of the Great Church, it is possible that the Old Church lost its importance in the city. We do not come across the name of the church in the following years and it is most probable that the church was affected by one of the destructive earthquakes that hit the city.

2.3.3 Byzantine period (324-637/638)

Constantine I (306-337): Starting with Constantine's reign[21], our sources provide more detailed and concrete information about the history and the building activities of the city. The most remarkable building activity during this period is the construction of the Great Church (Cameron & Hall, 1999, pp. 140-141)[22]. Construction of this monumental building started during Constantine's reign in 326/327, and nearly six years later it was completed by his son Constantius. The church was called by various

[21] The relief of a bearded man crowned with a laurel wreath found during the Princeton University excavations at Selecuia Pieria is thought to represent the Emperor Constantine who wore the laurel wreath until 325-326 (Weitzmann, 1941, p. 145).

[22] In his *Ecclesiastical History*, the historian Eusebios provides a focused description of the Great Church (see Appendix B.3 for the description of the church). In addition, the fifth-century historian Sokrates states that during his time, the altar was located towards the west side of the church: "At Antioch in Syria, the site of the church is inverted; so that the altar does not face towards the east, but toward the west" (Wace & Schaff, 1891, p. 132).

different names, such as “the Golden Church”, “the New Church” (Kelly, 1996, p. 57; Wace & Schaff, 1892, p. 126), “the Great Church-the Domus Aurea”[23], and “the Octagonal Church” (Mango & Scott, 1997, p. 45; Budge, 1932, vol.1, p. 259; Cameron & Hall, 1999, p. 141)[24].

The sources provide valuable information about the Great Church, but none of them mention where the church was located. The remains of the church have not been found yet. However, it is possible to form an opinion about its location. The Yakto Mosaic, which is generally considered to represent a walking route to follow between Antioch and Daphne, gives the viewer a hint about the location of the church. In the border section where the island is represented, we see a polygonal domed building with a figure of a man facing the building and his hands are positioned in the gesture of prayer (Lassus, 1934b, p. 145) (Figure 2.8). To support this idea, according to the account of the fourth-century historian Theodoret, the church was located at the eastern side of the city square:

> The procession was accompanied by musicians; one hymn was sung by all in harmony, and thus he [Bishop Alexander] and his company went in procession from the western postern to the Great Church, filling the whole forum with people, and constituting a stream of thinking living beings like the Orontes in its course. (Wace & Schaff, 1892, p. 155) [25]

The other building activities that took place in Antioch during this period are associated with the *xenon* and the Basilica of Rufinus[26]. According to the account of John Malalas, Plutarch, the governor of the city, supervised the building activities:

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[23] Jerome, the saint and father of the Latin Church called it the “Dominicum Aureum” (Downey, 1961, p. 344). Among the sources available to us, the fourth-century Latin historian Ammianus Marcellinus is the first chronicler to refer the church as “Great”. He states: The unexpected destruction of this shrine [Temple of Apollo in Daphne] by so terrible an accident inflamed the emperor [Emperor Julian] with such anger that he ordered stricter investigations than usual to be made, and the greater church at Antioch to be closed. (Rolfe, 1972, vol.2, pp. 269-271; Jeffreys & Scott, 1990, p. 172; Doran, 1992, p. 100) When talking about the earthquake of May 20/29, 526, the author of the eight-century chronicle Dionysios of Tell Mahre describes the Great Church as: “Still the Great Church, which had been built by the Constantine the Victorious, (and) about which it was said that there was nothing comparable in the whole Roman Empire” (Witakowski, 1996, p. 45).

[24] However, the ninth-century chronicler Theophanes the Confessor describes the church in the shape of a sphere when talking about the earthquake of 341 (Mango & Scott, 1997, p. 60).

[25] According to Smith, the church was situated on the island in the “New City” as a part of the imperial palace of Antioch. It was dedicated to Christ-Concord and according to the fourth-century Greek author Eusebios; it was a unique building and the head of all the peoples of the Orient (1950, pp. 29-30).

[26] John Malalas probably confused this building activity with the one built during the reign of Emperor Theodosios I because none of the sources mention this building activity.

On his return he [Constantine] came to Antioch the Great and built there the Great Church, a very large undertaking, after demolishing the public bath known as that of Emperor Philip, for the bath was old and ruined by time and unfit for bathing. He also built a hospice [*xenon*] nearby. Likewise, he built the basilica known as that of Rufinus; this had been a Temple of Hermes, which had been demolished by Rufinus, the *prefect* of the sacred *praetorians* [civil administer]. He ordered Plutarch, the governor of Antioch, to supervise the building of the church and the basilica. During the building of the hospice, Plutarch found the bronze statue of Poseidon, which had stood as a talisman to prevent the city from suffering an earthquake. He removed it, melted it down and made it into a statue of the Emperor Constantine. He set it up outside his praetorium and inscribed beneath it "*Bono Constantino* - To Constantine the God". (Jeffreys & Scott, 1990, pp. 172-173)

Figure 2.8 : View of a polygonal domed building with a man facing the building, from the Yakto Mosaic (Cimok, 2000, p. 260).

Constantius (337-361): Together with his brother Julian, Constantius spent the winter of 338/339 in Antioch and prepared the army and the city against the Persians. During their stay in the city, there is no doubt that Antioch received special attention from the emperor. In his *Panegyric* in honour of Constantius, the future Emperor Julian praises his brother and his activities by saying:

…since you provided her with harbours[27] [in Seleucia] (Figure 2.9) that offer good anchorage for those who put in there. For till then it was considered a dangerous risk even to sail past Antioch; so full were all the waters of that coast, up to the very shores, of rocks and sunken reefs. I need not to stop to mention the porticoes, fountains, and other things of the kind that you caused to bestowed on Antioch by her governors. (Wright, 1949, vol.1, p. 105)

Figure 2.9 : General view of wall at south end of inner harbour (URL-10).

We should mention that Julian's account is the only account available to us which mentions the public building activities (porticoes and fountains) under Emperor Constantius.

The other building activity during this period is the completion of the Great Church. In his passage where he talks about the last days of the Emperor Constantine, John Malalas states that the emperor died before the completion of the church and describes

[27] Regarding the importance of the harbour, Libanios states: "In speaking of the outlet of the river into the sea I am impelled to mention the harbour. When he saw that this did not rank among those to which it rightfully belonged, the ruler was cut out in Seleucia, but for the benefit of our city, a harbour hewn from the rock at a cost of as much gold as the Pactolus did not treasure up for Croesus. Wherefore all ships put to sea from all parts of the world, carrying goods from everywhere, from Libya, from Europe, from Asia, from the islands and the coasts, and the best everywhere is brought here, since the quickness of selling draws hither the wits of merchants, and because of this we enjoy the fruits of the whole earth. Among harbours, this has furled the most of the sails that are spread over the seas" (Downey, 1959, p. 680). On the completion of the harbour, Theophanes the Confessor states; "In this year [345/346], Constantius built the harbour at Seleucia in Syria by cutting deep into a mountain, and rebuilt the city" (Mango & Scott, 1997, p. 63).

the church as "a very great work and one of the wonders". Furthermore, when he talks about the activities of the Emperor Constantius, Malalas states that Constantius completed[28] the construction of the church and placed an inscription on its wall: *"*For Christ Constantine wrought these beautiful dwellings in all ways like the vaults of heaven, brightly gleaming, with Constantius obeying the commands of the ruler; the comes Gorgonius carried out the function of cubicularius*"* (Jeffreys & Scott, 1990, pp. 176-177).[29]

According to the author of the seventh-century Byzantine universal chronicle, the Chronicon Paschale, Leontius, the Bishop of Antioch (344-358) built hospices in the city for the care of strangers (Whitby & Whitby, 1989, p. 26).

Constantine's step-brother *Gallus Caesar (351-354)* was appointed to rule in the East while Constantius remained in charge of the West. When Gallus visited Antioch, he decided to transfer the remains of the famous martyr Saint Babylas, former bishop of the city who was killed during the reign of Decius in 250. His body was transferred from the martyrium built near the Temple of Apollo in Daphne to the cemetery[30] in the city (Wace & Schaff, 1891, pp. 88-89, 342; Whitby, 2000, pp. 43-44).

Julian the Philosopher (361-363): Julian stayed in Antioch from July 362 to March 363, and during his visit he wrote his famous work; the *Misopogon* (or *Beard-Hater*). On the building activities during this period, our sources do not provide any concrete information except that a library was installed in the city. In his letter to Porphyrius, probably George's secretary, Emperor Julian mentions the establishment of the library and writes:

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[28] The ecclesiastical historians Sokrates (ca.380-439) and Sozomenos (400-450) also state the same argument. Sokrates states: "The church which the father of the Augusti [Constantius] had commenced, and which his son had finished in the tenth year after its foundations were laid" (Wace & Schaff, 1891, p. 38). In addition, Sozomenos writes: Here a church had already been completed, which excelled in size and beauty. [Emperor] Constantine, began to build it during his lifetime, and as the structure had been just finished by his son Constantius, it was deemed a favorable opportunity by the partisans of Eusebios, who of old were zealous for it, to convene a council. (Wace & Schaff, 1891, p. 285)

[29] Woods argues that John Malalas's account on the completion and dedication of the Great Church refers to a church built by Constantius's cousin Flavius Claudius Constantius (351-354) whom he appointed as his caesar in 351 (2005, pp. 54-62; Henck, 2001).

[30] Data from the excavations by Princeton University reveals different cemetery sites in the city and the existence of some of those sites are also confirmed by the written sources. A cemetery for foreigners in Daphne was located on the right side of the Daphne Gate as mentioned by Severos of Antioch (Mayer & Allen, 2012, p. 118) and Evagrios Scholastikos (Whitby, 2000, p. 240). Some were located outside of the Eastern Gate on the slopes of Mount Staurin and two were located on the southwestern side of the city, close to the roads leading to Seleucia Pieria and Alexandretta (see Appendix D.1). Recent geodetic surveys conducted in the area by Pamir and Brands resulted in the discovery of stone slabs for graves, burials and inscription fragments, and some monumental sarcophagi (Pamir, 2012, pp. 265-268).

> The library of George was very large and complete and contained philosophers of every school and many historians, especially, among these, numerous is books of all kinds by the Galilaeans. Do you therefore make a thorough search for the whole library without exception and take care to send it to Antioch? (Wright, 1949, vol.3, pp. 123-125)

Downey talks about the burning down of a library that happened during Jovian's reign. Downey, quoting from *Souda* and John of Antioch, states that the Temple of Trajan was turned into a library during the reign of Julian and during the disturbance that occurred upon Jovian's arrival in Antioch, the Temple of Trajan was burned down by Jovian along with all its books (1961, pp. 396, 398; Forbes, 1936, p. 121).

We learn from the fourth-century historian Ammianus Marcellinus that a sudden fire destroyed the Temple of Apollo in Daphne and Julian issued orders for the restoration of the temple (Rolfe, 1972, vol.2, pp. 269-271).

Our sources do not provide any information for the building activities in Antioch and its surrounding areas during the short reign of *Jovian (363-364)*.

Valens (364-378): Both Ammianus Marcellinus and John Malalas especially state how the emperor was interested in building activities during his sovereignty. John Malalas claims that Antioch's natural beauty basically charmed him when he writes that Valens was "Enchanted by its situation, its air and water" (Jeffreys & Scott, 1990, p. 184). In addition, Ammianus Marcellinus praises his building activities by saying:

> As to the public buildings which he restored or built from their very beginning in various cities and towns, in order not to be prolix I say nothing, but leaving this matter to the objects themselves to demonstrate it more obviously than I can. Such conduct is worthy, I think, of emulation by all good men. (Rolfe, 1972, vol.3, p. 485)

One of the most prominent building activities during this period is the construction of Forum of Valens (see Appendix D.1) and other structures around the forum. John Malalas provides a very detailed description of Forum of Valens:

> He built the following buildings in the city of Antiochenes. First the forum, where he undertook a great project; he demolished the basilica formerly known as the Kaisarion as far as the building known as the Plethron. The Kaisarion was near the *horologion* [timepiece, clock] and the Baths of Commodus, which

is now the *praetorium* of the consular governor of Syria. Valens reconstructed the Conch of the Kaisarion, and erected vaulting to cover the winter torrent known as Parmenius (Figure 2.10), which flows down from the mountain through the center of the city of Antioch. He put up another basilica opposite of Commodus, and decorated the four basilicas with great columns of Salona marble. The ceilings were coffered, and ornamented with paintings, a variety of marbles and mosaic work. He completed his forum by paving in marble the whole of the inner court above the vaults over the torrent. He embellished the four basilicas with a variety of ornamentation, and erected statues. In the middle, he placed a very large column, on which was a statue of the Emperor Valentinian, his brother. A marble statue was set up also in the Senaton of the Conch and another seated statue in costly stone of the most sacred Emperor Valentinian, in the middle of the basilica attached to the Conch. He built the two curved ends of the *kynegion*, constructing them with vaults and filling them with seats, since formerly it had been a *monomacheion*. He also built the public bath [Baths of Valens][31] near the hippodrome. He built many other wonderful buildings in the city (Jeffreys & Scott, 1990, p. 184).

Figure 2.10 : The Parmenius vault with a square opening on top (URL-11).

[31] When Ammianus Marcellinus talks about the quarrels and riots of the citizens of Antioch, he mentions the Baths of Valens: At Antioch, in quarrels and riots of the common people, it became usual that whoever thought that he was suffering wrong shouted without restraint: 'Let Valens be burned alive!' and the words of public criers were continually heard, directing the people to gather firewood, to set fire to the Baths of Valens, in the building of which the Emperor himself had taken such interest. (Rolfe, 1972, vol.3, p. 379)

Theodosios I (379-395): Theophanes the Confessor talks about the extension to the Tauriana Gate and the covering of it with a roof in 385/386. He also mentions the building of a small basilica on the island section near the Great Church. He continues by saying, "A small basilica was also built at the old Basilica, near the great one [Great Church]" (Mango and Scott, 1997, p.106). Proculus, *comes Orientis*, enlarged the Plethron, which was built during the reign of Commodus (Downey, 1961, pp. 688-694).

Arkadios (395-408): For the reign of Arkadios, our sources do not provide much information. During this period Antioch suffered from another earthquake in 396.

Our sources do not mention the Church of Saint Peter which is located on the northwest side of the city and was carved into the slopes of Mount Staurin. It is the only surviving structure from the period of the very earliest Christian era in Antioch. The church is also known as the Cave Church of Saint Peter, yet the sources do not provide any concrete information about its foundation date. Therefore, we will date the church before the beginning of the reign of Theodosios II. However, the surviving mosaic floors and the traces of frescoes on the right side of the altar are dated to the fifth century. It has a width of 9.5 meters, a height of 7 meters, and a depth of 13 meters. The tunnel on the left side of the altar opens to the mountainside and it is believed that it helped believers to escape from the church during attacks. During the Frankish Principality of Antioch, the church was lengthened by a few meters and connected with two arches to the facade. The garden of the church was used as a cemetery for centuries and graves were found around the altar and different parts of the church (Demir, 1996, p. 34) (Figure 2.11). Remains of curtain walls and tunnels were recorded during the recent archaeological surveys in the area and it is believed that they were related to the remains of the water channel system found in the area (Pamir, 2010, p. 377).

Theodosios II (408-450): All of our sources agree on the issue that the most important event of this period was Empress Eudokia's visit to Antioch on her way to Jerusalem. She visited the city twice. It is assumed that her first visit took place in 438/439 and her second around 444 (Wace & Schaff, 1891, p. 178; Whitby, 2000, pp. 47-49). She gave a speech and concluded it by adapting a line from Homer, when she said, 'Of your race and blood I am proud to be' (Whitby, 2000, pp. 47-48). During her stay in the city, the citizens honored her by erecting statues. On the statues, the author of the Byzantine universal chronicle, the Chronicon Paschale, says:

She [Empress Eudokia] was seated on the imperial throne which was of solid gold set with gems, and the people of the city chanted for her, and a golden effigy of her was raised up inside the council chamber [*bouleuterion*], and at the so-called Muses they set up to her a bronze monument, and these are standing up to the present day. (Whitby & Whitby, 1989, pp. 74-75)

Figure 2.11 : View of the facade from the Cave Church of Saint Peter (Photo credit Mevlüde Bakır).

The other important event for this period is the enlargement of the city walls due to the increase in the population. The information provided by our sources on the enlargement of the walls is contradictory and so one must carefully evaluate the information they provide. While Evagrios Scholastikos attributes the enlargement of the city walls to the reign of Theodosios II and also states that the remnants of the old wall were still visible during his time (Whitby, 2000, p. 48), John Malalas states that it happened during the reign of Theodosios I (Jeffreys & Scott, 1990, p. 188). In his article on the city walls, Downey (1941b) argues that, John Malalas confused the emperors and the *prefect*s Antiochos Chouzon. Antiochos Chouzon, who served during the reign of Theodosios I, was the grandfather of the *prefect* with the same name served during the reign of Theodosios II. Downey states: "John Malalas confused both two emperors and the two Antiochos Chouzon and thus both wrongly assigned the *prefectship* of Rufinus to the later reign and wrongly assigned the extension of the wall to the earlier reign" (p. 213). For the enlargement of the city walls John Malalas provides detailed description:

> The Emperor Theodosios promoted as *praetorian prefect* [civil administer] Antiochos nicknamed Chouzon the Elder, originally from Antioch the Great. As soon as he was promoted to *prefect,* he reported to the emperor that the great city of Antioch had spread out and increased in size and had many buildings extending up to a mile outside its walls. Then the emperor ordered that a wall should also surround the houses outside the city. A wall was built from the gate known as Philonauta (also known as the Gate of the Bridge) to the place known as Rhodion; the new wall enclosed the mountain as far as the old wall built by Tiberios Caesar. He extended the new wall as far as the stream known as Phyrminus (modern Kantara Deresi), which runs down from a ravine in the mountain; he brought the stone down from the old *monomacheion* (see Appendix D.1), which was set up on the Acropolis. He also pulled down the aqueduct leading to the Acropolis from what are known as the Waters of the Road to Laodikeia, which Julius Caesar had built this aqueduct. (Jeffreys & Scott, 1990, p. 188)

When Malalas talks about Theodosios's other building activities, he mentions the building of the Daphne Gate and records:

> Theodosios also gilded the two bronze doors of the Daphne Gate, after the pattern of the gate he had gilded in Constantinople, which up to the present is still called the Golden Gate; likewise; that of Antioch the Great is known to the present day as the Golden Gate and was gilded by the *consular* Nymphidianus. (Jeffreys & Scott, 1990, p. 197)

Emperor Theodosios also donated two hundred gold coins in order to restore the Baths of Valens, which had been burned in part (Whitby, 2000, p. 49).

Not only the emperor but also his officials Memnonius, Zoilus and Callistus took part in building activities. Evagrios Scholastikos provides information on their building activities and indicates:

> Memnonius beautifully and elaborately reconstructed from the foundations the building called even to our day the *Psephium*, leaving an open-air court in the center. Zoilus built the basilica on the south side of that of Rufinus, which has inherited his name to our own day, even though there are changes in the buildings due to diverse disasters. But, Callistus erected a magnificent and prominent structure, which both men of former times and we now call the Stoa

> of Callistus, in front of the seats established for Justice, opposite the forum where the most attractive house which is the residence of the generals stands. After these Anatolius was in turn sent as general of the eastern regiments and he built the stoa named that of Anatolius, decorating it with every kind of material. (Whitby, 2000, p. 45)

John Malalas describes the stoa [Basilica of Anatolius] as "a large, well-lit and very beautiful basilica", opposite the building known as the Athla, and adds that upon the completion of the building Anatolius inscribed on it in gold mosaic the words, "Erected by the Emperor Theodosios" (Jeffreys & Scott, 1990, p. 196).

For the ecclesiastical history of the city, another important event that occurred was the bringing of the remains of Saint Ignatius back to the city and burying them in a shrine near the Daphne Gate. On this occasion, Evagrios Scholastikos writes:

> He [Ignatius] had obtained as a tomb the bellies of wild beasts in the amphitheatre of Rome, and then -by means of the bulkier bones, which being left behind were carried off to the city of Antioch- one in the so-called cemetery [around Daphne Gate]. For the perfect God of commanded [Emperor] Theodosios to honor Theophorus with greater honors and to dedicate to the prize-winning martyr a temple formerly devoted to the demons, and named by the local people Tychaeum. And the former Tychaeum became a pure shrine and holy precinct for Ignatius [Church of Saint Ignatius], when his holy remains had been brought through the city on a carriage with a sacred escort and deposited in the precinct. (Whitby, 2000, p. 42)

Marcian (450-457): Our sources do not talk about any building activities during this period, however a section of the Yakto Mosaic shows a private building in Daphne built by Ardaburius, the son of Aspar the *magister militum* [military commander in the East] who was appointed as the *comes Orientis* [supervisor of the Oriens] (Whitby & Whitby, 1989, pp. 85-86). The building is identified as *Πρίβατον* [*pribaton*-private] of Ardaburius (Lassus, 1934b, pp. 131-132) (Figure 2.12).

Leo I (457-474): Antioch suffered one of its severe earthquakes on September 13-14, 458 (see the account of the earthquake in Chapter Three). Many of the buildings were either damaged or destroyed as a result and the city was exempted from 1,000 talents of gold in tax, and the citizens were exempted from tax on buildings destroyed in the earthquake. Although our sources mention that Emperor Leo took responsibility for

reconstructing the affected public buildings, it is not possible to identify which buildings were reconstructed.

Figure 2.12 : View of a private building in Daphne identified as *Πρίβατον,* from the Yakto Mosaic (Cimok, 2000, p. 273).

One of the major events of this period was the death of Saint Symeon the Elder in 459. He was considered one of the leading religious figures of the city (the others being Saint John Chrysostom and Saint Babylas). After his death, his body was brought to the city and buried in the Great Church[32]; sometime between 473 and 530 his body was moved to the martyrium dedicated to him (Jeffreys & Scott, 1990, p.203; Whitby & Whitby, 1989, p. 86; Whitby, 2000, pp. 34-37)[33].

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[32] The Syriac Life of Saint Simeon Stylites states that: The saint's body was travelling in state for five days. He left his enclosure on the Monday, and on the Friday, [the saint's body] entered the great city of Antioch in great pomp and such honor as cannot be described. …They chanted psalms and spiritual hymns before him until he entered and was placed in the holy and Great Church, which Constantine had built. This had not happened to any of the saints, either ancient or contemporary. For no one had previously been laid in the Great Church. (Doran, 1992, p. 193) From this statement we understand that the Great Church was still in use and considered to be the main church of the city. However, the life of Saint Symeon by Antonius provides a different version of the burial ceremony: The whole city, clad in white and carrying tapers and lamps, went out to meet the venerable corpse, and it was brought in to the church called Cassian. After thirty days, Ardabur, the military commander, gave a command and had it placed in the Great Church. There, following a revelation by God was built an oratory of the holy and revered Simeon, and there, in that oratory, with much glory and hymn singing, his holy body was laid. (Doran, 1992, pp. 99-100)

[33] According to Evagrios Scholastikos, the Emperor Leo I demanded that the Antiochenes give his body back, but the people of Antioch presented written requests to him and stated: "Because of the fact that our city does not have a wall, since it collapsed in an earthquake, we have brought the all-holy body [of

For the reign of *Leo II (474)*, which lasted for a year, our sources do not mention any building activities in the city or its vicinity.

Zeno (474-475) and again (476-491): After reigning two years between 474 and 475, Zeno fled from Constantinople in fear of a plot against him by his mother-in-law Lady Verina. During his two years of absence from Constantinople, Lady Verina appointed his son *Basiliskos (475-476)* as emperor who reigned for two years until Zeno returned back to Constantinople and became the emperor again (Jeffreys & Scott, 1990, pp. 209-210; Whitby, 2000, pp. 131-133). Among our sources for this period only Evagrios Scholastikos talks about the building activities in Antioch and in its suburb Daphne. According to him, Mammianus, a distinguished senator, took part in building activities. In Daphne, he built the Antiphorus and the citizens were erected statues in honor of him; and in Antioch -without mentioning the locations- he built two colonnades and set up a tetrapylon (Whitby, 2000, p. 164).

Anastasios I (491-518): John Malalas mentions that during the riot between the Greens and the Blues, the supporters of each faction caused damage to the buildings in the city and after stopping the riot the Emperor Anastasios started some rebuilding activities. He rebuilt the Basilica of Rufinus and also various other buildings -without mentioning the names- all around the Roman state (Jeffreys & Scott, 1990, p. 223). In his account when he talks about the riot, John Malalas mentions the damaged buildings and provides information on the topography of the city:

> In the same year [507] of his reign, a charioteer named Kalliopas came out to Antioch the Great. He was given the Green faction at Antioch. …A short time later the usual celebration of the Olympic festival was held in the customary way at Antiochene Daphne. The Antiochene populace went up to Daphne, and those who had been on the rampage set off with the charioteer Kalliopas and attacked the Jewish synagogue, which was in Daphne. …They set up the holy cross-there, and turned the place into a Martyrium of Saint Leontius. When these events were reported to the Emperor Anastasios, he appointed Prokopios of Antioch, as *comes Orienti*s. The latter took out with him, in accordance with a sacred decree, a man named Menas of Byzantium as *praefectus vigilum* [chief of police]… Menas wanted to arrest some of the rioters. They heard about this

Saint Symeon] so as to be a wall and protection for us" (Whitby, 2000, p. 37). The emperor decided to leave his body upon the request of the citizens. Evagrios also talks about the location of the church building [of Saint Symeon] on pp. 38-41.

> and sought refuge at Saint Church outside the city. He entered the church unexpectedly and found there one of the troublemakers, named Eleutherios, under the holy altar in the sanctuary… He cut of his head and then taking the head, he set off for the city of Antioch and when he reached the bridge over the Orontes River, he threw the head into the river. …But at the bath known as the Bath of Olbia, opposite what is known as the Basilica of Rufinus, they were met and joined battle with combined forces of Menas of Byzantium. …The Green faction got the better of the encounter, seized the Basilica of Rufinus and that known as the Basilica of Zenodotos, and set fire to them. (Jeffreys & Scott, 1990, pp. 222-223)

Justin I (518-527): Our sources do not provide any information on the building activities for this period. In his account John Malalas talks about a riot, which occurred in 520/521 when Anatolius was *comes Orientis*. A fire started and it was hard to discover the cause of it. Unfortunately, further in his account Malalas does not mention which buildings were restored. The city of Antioch suffered two severe earthquakes in its history during the reign of Emperor Justin, the first on October 4/7, 525 and the second on May 20/29, 526 (see the accounts of the earthquakes in Chapter Three).

On April 1, 527, after reigning eight and a half years, Justin proclaimed Justinian as a co-emperor. To celebrate this event, Justinian gave generously to the city of Antioch and started some building constructions. He built the Church of the Holy Virgin Mary, opposite the Basilica of Rufinus, and also the Church of Saints Cosmas and Damian. He also built a hospice, baths and cisterns. Empress Theodora also gave gifts to the city and built an extremely fine Church of Archangel Michael and a Basilica of Anatolius, for which the columns were sent from Constantinople (Jeffreys & Scott, 1990, pp. 242-243).

Justinian (527-565): This is the period where the city of Antioch suffered from several disasters including earthquakes, plagues and Persian attacks, and the city's fortune started to decline. The first of these disasters was the earthquake, which occurred on November 29, 528 (see the account of the earthquake in Chapter Three). Laodikeia and Seleucia Pieria also suffered from the same earthquake and the Emperor granted 200 *litrai* to these cities for the restoration and rebuilding of the damaged buildings. However, the names of these buildings are not mentioned (Jeffreys & Scott, 1990, p. 258; Whitby, 2000, p. 270).

After the riot between the two factions in 529, Emperor Justinian sent his robe adorned with imperial jewels to Antioch and it was displayed in the Church of Cassian. In the same year, the emperor bestowed 4,000 *nomismata* for the hospice in the city (Jeffreys & Scott, 1990, pp. 264-265). A mosaic floor with an inscription found during the excavations by Princeton University supports this statement. The inscription states that: "The mosaic floor of the *triclinium* [dining room] was made in the time of Megas and John and Anthousa, inn-keepers, in the month of Gorpiaios, in the fifth indiction" (Downey, 1941a, pp. 83-84). Also, during this period the remains of Saint Marinus were discovered in Gindaroupolis and were brought to Antioch and laid to rest outside the city at the Church of Saint Julian (Jeffreys & Scott, 1990, p. 265).

The city was captured and burned by the Persians in 540 and among our sources only John Malalas dates the event to the month of June (Jeffreys & Scott, 1990, p. 285). The Persian general Chosroes ordered his army to burn the whole city[34], but at the request of the Roman ambassadors, he did not touch the Great Church (Dewing, 1914, p. 343).

Evagrios Scholastikos states that Patriarch Ephraeim [Ephraemius] deliberately adorned the church with treasure and the holy dedications to be a ransom for it (Whitby, 2000, p. 223). Chosroes then visited Daphne and admired the grove and the fountains. After sacrificing to the nymphs, he departed by burning the Church of the Archangel Michael and some other buildings. One of his generals was riding on horseback and he came to a precipitous place near the so-called Tretum, where there is a Temple of the Archangel Michael, and the work of Evaris. A young man killed this general and when Chosroes heard of his death, he ordered his army to burn the sanctuary of the Archangel Michael. However, they thought that Chosroes meant the one in Daphne and they burned the wrong one (Dewing, 1914, pp. 353-355). When Chosroes left Antioch, Emperor Justinian sent him a letter and promised to keep the peace. In return, Chosroes released the hostages and wanted to sell the captives. Chosroes was in Edessa when he received the letter from the Emperor and the people

[34] In his work *Buildings*, Prokopios describes the city after it had been burnt by the Persians: For since everything was everywhere reduced to ashes and leveled to the ground, and since many mounds of ruins were all that was left standing of the burned city, it became impossible for the people of Antioch to recognize the site of each person's house, when first they carried out all the debris, and to clear out the remains of a burned house; and since there were no longer public stoas or colonnaded courts in existence anywhere, nor any market-place remaining, and since the side-streets, no longer marked the thoroughfares of the city, they did not any longer dare to build any house. (Dewing & Downey, 1940, p. 171)

of Edessa wanted to pay the ransom. However, the Roman general Bouzes, argued against paying the ransom and forbade paying it; and Chosroes took the captives to Persia and built a city for them. Now Chosroes built a city in Assyria in a place one day's journey distant from the city of Ctesiphon (an ancient city in Iran), and he named it "the Antioch of Chosroes" and settled there all the captives from Antioch (Dewing, 1914, pp. 373-383).

For the rebuilding activities during this period, our information comes from the works of Prokopios, mainly from his work *Buildings*. The description of the rebuilding activities in his work is the most detailed account we have for this period. In fact, his contemporary John Malalas does not provide as much as information. Prokopios not only gives topographical information of the city, he also provides information on the architectural history of Antioch (Dewing & Downey, 1940, pp. 165-173) (see Appendix B.4).

Justin II (565-578): Building activities were not recorded in the surviving sources for this period. In fact, our sources mainly talk about the capture of the city by the Persians in 573. The Emperor Justin II did not pay the annual tribute to the Persians and the Persian army, led by Ardamanes (or Adarmaanes) entered the city. Not only the Patriarch Gregory (570-593) but also the citizens fled from Antioch and the Persians entered the city without encountering any resistance. The Persians destroyed the suburbs and the city walls (Whitby, 2000, pp. 267-268; Mango & Scott, 1997, pp. 365-366). To this information, Theophylaktos Simokattes, who wrote in the early seventh century, adds that when the Persian general came into the vicinity of Antioch, he destroyed the magnificent buildings outside the city. Unfortunately, Simokattes does not identify any of the actual buildings (Whitby & Whitby, 1985, pp. 87-88).

Tiberios I Constantine (578-582): Due to continuous earthquakes in the sixth century there was a sharp decline in population and Antioch began to lose its economic and political importance. Among our sources, only Evagrios Scholastikos briefly talks about the events that took place in Antioch and mentions the name of a church:

> For, late at night, as he [the future Emperor, Maurice] was offering incense within the shrine of the sacred Church of the holy and immaculate Virgin and Mother God Mary, which is called by the people of Theoupolis [the city of Antioch] the Church of Justinian, the curtain around the holy table was engulfed in flames. (Whitby, 2000, p. 283)

Maurice (582-602): Our sources do not provide much information about the city, but when they talk about the effects of the earthquake of October 31, 587/588 (see the account of the earthquake in Chapter Three) they mention some building activities. In his *Ecclesiastical History*, the late-sixth-century historian John of Ephesus states that the Emperor granted some funds to the Patriarch Gregory (570-593) to rebuild the hippodrome in the city (Whitby, 2000, p. 300; Smith, 1860, p. 226).

Information on the building activities in Antioch and its vicinity does not survive for the reign of *Phokas (602-610)*.

Herakleios (610-641): The reign of Emperor Herakleios is a turning point not only for the history of the Byzantine Empire but also for the city of Antioch and its citizens. During his period, the emperor Herakleios was busy dealing with continuous Persian attacks (Foss, 2003). The Persians captured the city in 611 and according to Theophanes the Confessor, the Persian general Chosroes collected the treasure of all churches that were under Persian rule and forced the Christians of the city to convert to Nestorianism. When Siroes, the son of Chosroes, came to power in 628, peace was established and Antioch returned to the Byzantines (Mango & Scott, 1997, pp. 428-458; Whitby & Whitby, 1989, pp. 182-183). Our sources unfortunately do not provide any information regarding this short period of Persian sovereignty in the city. However, this was just the beginning of the end of the Byzantine sovereignty in Antioch, and the city faced one of the most terrifying incidents in its history.

2.3.4 Early Islamic period (637/638-969)

Herakleios came to Antioch in 634 and made the city his headquarters against the Arab invasions. However, when he heard about the destruction of his army and the overwhelming victory of the Arabs at the Battle of Yarmuk in 636, he left the city and went to Constantinople (Mango & Scott, 1997, p. 468; Friedmann, 1992, p. 181; Hitti, 1916, p. 210). According to the Arab historian al-Tabarī, who lived between 839 and 927, while Herakleios was leaving the city he turned back and said: "Peace be upon you, O Syria! This is the farewell of a man who takes leave of you without fulfilling his desire and will return" (Friedmann, 1992, p. 182)[35]. After continuous attacks, the city was conquered by the Arabs in 637/638 (Mango & Scott, 1997, p. 473; Hitti, 1916,

[35] On the other hand, by referring to the numerous pastures of the city, the ninth-century Muslim historian al-Balādhurī says; "Peace unto thee, O Syria, and what an excellent country this is for the enemy!" (Hitti, 1916, p. 210).

p. 211) and they remained there more than three hundred years until the Byzantines regained the city on October 28, 969 (see Appendix D.2).

The capture of the city by the Arabs had repercussions in the Arab world and its seizure was recorded not only by Byzantine historians, but also by Arab historians. However, the accounts of Arab historians usually focus on the administrative issues of the city and how Antioch figured as an important post for their military campaigns against the Byzantines. According to the ninth-century historian al-Balādhurī, a garrison was stationed in the city after the conquest in order to strengthen their power (Hitti, 1916, p. 227).

The history of Antioch under Arab rule can be divided into three periods: the Rāshidūn Caliphate period (632-661), the Umayyad Caliphate period (661-749), and the Abbāsid Caliphate period (749-969). Arab sovereignty in the city lasted for more than three hundred years and yet the Arab sources that are available provide very limited information about the urban landscape of the city for this period. However, there are a few sources that provide information about the geography of the city and its buildings.

Information on the buildings of the city during this period comes from the tenth-century Arab historian and traveler Mas'ūdī who visited Antioch in 943. In his account he gave a remarkable description of the city. He mentions two Byzantine churches. The first is the Church of Cassian[36] (known as the Qusiyān or Cassianus in the Islamic period) and the second is the Church of the Holy Virgin Mary. Both were still in use during his visit. Some newly built churches which were not recorded in our sources. These include the Church of Saint Paul (Monastery of the Fleas or Dayr al-Barāghith), the Church of Saint Ashmûnît, the Church of Saint Barbara, as well as a watchtower and a crypt (Le Strange, 1965, pp. 367-369) (see Appendix B.5).

As we will see in the following sections, not only the tenth-century but also the eleventh-century historians focused on the city walls, and the mills as well as the churches in the city. Because of this one it can be assumed that the city kept its Antiquity appearance even under Arab sovereignty. Princeton excavation records reveal that during this period the Arabs built their dwellings on the pavements of the Colonnaded Street. Excavations conducted in the section to the east of the main street

[36] The late-sixth-century historian John of Ephesus mentions the church in his narrative of events in the city in 580 (Smith, 1860, pp. 300-304). In addition, when discussing the schism within the Melkite Church in 845, the twelfth-century Syrian historian Michael the Syrian identifies the church as the main church of Antioch (Budge, 1932, vol.2, p. 205).

of the city exposed a mass of walls, floor levels, and a pottery kiln. All of these findings indicate that habitation in this area was dense (Stillwell, 1941, p. 17).

2.3.5 Middle Byzantine period (969-1084)

Although the Arabs remained in Antioch for nearly three centuries, it was always the aim of the Byzantine emperors to reconquer the city and to establish their sovereignty once again (see Appendix D.2). It was under Emperor Nikephoros II Phokas (963-969) that the Byzantines began these attempts. In July 964, Nikephoros started his military campaign against Cilicia and after destroying Anazarbus (Anazarva), Rhossos (modern Arsuz), Adana and many fortresses nearby, he spent the winter in Cappadocia. In the spring of the following year, he continued his campaign. After dividing his army into two parts, he advanced to Mopseustia (Mamistra- modern Yakapınar, Adana), and without any resistance he captured the city. On the other hand, his brother Leo, who was responsible for besieging the city of Tarsus, confronted some resistance from the Antiochian citizens, but, after some negotiations with city officials he was able to take the city. Then, after pillaging and burning down some more cities in Cilicia the Emperor returned to the capital (Wortley, 2010, pp. 257-258; Talbot & Sullivan, 2005, pp. 101-103)[37].

In 966, the Emperor Nikephoros started the second phase of his campaign against the area. This time he hoped that he would easily capture Antioch, but due to a shortage of supplies and heavy weather conditions he returned to the capital (Wortley, 2010, pp. 259-260; Talbot & Sullivan, 2005, p. 126). However, before he started his journey he gave a motivational speech to his army. In his speech, he not only praised Antioch and emphasized that the city was still considered as the third largest in the world. He also made a note of Antioch's urban features (Talbot & Sullivan, 2005, pp. 123-124) (see Appendix B.6).

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[37] The eleventh-century historian John Skylitzes states that on his way back to Constantinople, the emperor took the golden gates of Tarsus and Mopsuestia with him. He placed one of them on the Acropolis, and the other one was set up on the walls by the Golden Gate (Wortley, 2010, pp. 258-259). To the best of our knowledge it was not the first time that the emperors transferred adornments from the city of Antioch. We also know that during the reign of the Emperor Constantine, many statues were brought to Constantinople to be placed in the hippodrome as stated in the *Patria of Constantinople* (or *Scriptores Originum Constantinopolitanarum*), a tenth-century collection of texts devoted to the history and the monuments of Constantinople (Preger, 1901-07, rp.1975, p. 72). On the contrary, the tenth-century historian Leo the Deacon does not mention anything about the gates, but states that the captured crosses were deposited at Hagia Sophia and chariot races were organized (Talbot & Sullivan, 2005, p. 109).

In order to ease his next expedition to capture the city, a fortress called Bakras (Pagrae in Greek) was built on a strategic hilltop on the Black Mountains (Talbot & Sullivan, 2005, pp. 124,126; Wortley, 2010, p. 260; Sinclair, 1990, vol.4, pp. 266-271) (Figure 2.13). Among our sources only the eleventh-century Arab Melchite historian Yahyā-Ibn-Sáïd mentions the name of the castle (Kratchkovsky & Vasiliev, 1924, vol.1, p. 816). Regarding how the fortress was built, Leo the Deacon states that, after his speech the emperor put a rock on his shoulder, climbed the hill and ordered the whole army to do the same. The Bakras Castle is located in the north of Antioch and was built in three days (Talbot & Sullivan, 2005, p. 125).

The Emperor left a unit of five hundred cavalrymen and a unit of a thousand infantry (Talbot & Sullivan 2005, p. 125)[38]. Michael Bourtzes was assigned as the commander of the Black Mountains together with Peter, a former slave, as the camp commander in Cilicia. They were responsible for keeping an eye on the city until the emperor's next campaign the following winter. However, Michael Bourtzes always had the desire to capture the city and after befriending a local named Aulax he started his attempts and occupied the Tower of Kalla (Wortley, 2010, pp. 260-261). When he started his attacks, he was not expecting to receive strong resistance from the citizens, so he was barely able to capture the city on October 28, 969 with the help of Peter (Wortley, 2010, pp. 260-262; Talbot & Sullivan, 2005, pp. 133-134; Kratchkovsky & Vasiliev, 1924, vol.1, pp. 822-824; Ağırakça, 1987, p. 518; Abu'l Faraj, 1972, p. 172). During the siege, Antioch was pillaged and burned and when the emperor heard this news, he of course was pleased (Wortley, 2010, p. 262; Talbot & Sullivan, 2005, p. 134), but instead of honouring Michael Bourtzes and Peter, he punished them for not obeying his orders (Wortley, 2010, p. 262).

When the Emperor John I Tzimiskes (969-976) came to power, the first thing he did was to create the *doukaton* (δουκατον) of Antioch. As Cheynet states, the duchy of Antioch became the most important military base, in addition to northern Syria. The duchy comprised the vast Cilician plain and access to it through the Taurus (2006, p. 1). The high position of the duchy of Antioch is mentioned in the *Taktikon Escorialense*, the list of the dignitaries and officials within the empire. The duchy of Antioch is listed 25^{th,} ranking behind the *stratopedarches* [military commander -from

[38] John Skylitzes does not provide any information on the number of the troops left behind; however, the account of Yahyā-Ibn-Sáïd mentions only 1,000 infantrymen (Kratchkovsky &Vasiliev, 1924, vol.1, pp. 816-817).

the fifth to the ninth century changed to *strategos*, ODB, vol.3, pp. 1966-1967] of Anatolia (Todt, 2000, p. 488).

Figure 2.13 : General view of the Bakras Castle (Photo credit Mevlüde Bakır).

Yahyā-Ibn-Sáïd states that in 972 the Emperor John I Tzimiskes ordered Michael Bourtzes to send 12,000 workers to restore Antioch's walls, which had collapsed due to an earthquake that happened in the same year (Kratchkovsky & Vasiliev, 1932, vol.2, p. 351). Further in his account, Yahyā-Ibn-Sáïd also states that in 989, by the order of the Emperor Basil II (976-1025), the Citadel was built on Mount Silpios (Kratchkovsky & Vasiliev, 1932, vol.2, pp. 427-430; Sinclair, 1990, vol.4, pp. 244-248) (Figure 2.14).

The Church of Cassian was restored as the cathedral of the city. In 996, Emperor Basil II ordered Patriarch John III Polites (996-1021), who was the *chartophylax* (δχαρτοφυλαζ - archive administrator) of Hagia Sophia, to reconstruct the church after the model of Hagia Sophia in Constantinople (Kratchkovsky & Vasiliev, 1932, vol.2, pp. 445-446). Quoting from the mid-eleventh-century Arabic Life of the Patriarch of Christophoros, who died in 969, Kennedy states that two new churches were built in Antioch. One of them was dedicated to Saint John Chrysostom and the other one was the Church of Azkas'utis (Kennedy, 1992, p. 189).

Figure 2.14 : View of the Citadel on Mount Silpios (URL-12).

Since its foundation, Antioch has been famous for its springs and abundant water supply. The accounts of Arab historians provide valuable information about the city's walls, water supply and gates. Although both Byzantine and Arab sources provide information about Antioch for this period, in some cases the Arab sources are more detailed. The accounts of al-Istakhrī and Ibn Hawkal, tenth-century geographers, provide information regarding the urban settings of the city, including the city walls, water resources and geographical features:

> Antâkiyyah is the capital of the Awâsim Province[39]. After Damascus, Antâkiyyah is the pleasantest place in Syria. At this present time, it has stone walls, which go around the city and enclose the mountain [Mount Silpios], that overhangs it. Within this wall are fields and gardens, and mills and pasturelands, and trees, and all manner of pleasure-places, of which the people are very proud. They say that the circumference of the walls is a day's journey. There is running water in all the markets, the streets, and the houses; and also, in the Jâmi' Mosque [probably the main mosque in the city]. The town possesses villages and farms, with many beautiful and fertile districts. But, the enemy [the Greeks] has taken possession of them all. In point of fact some

[39] The ninth-century historian al-Balādhurī states that: "The cities Manbij, Dulûk, Ra'bân, Kûrus, Antioch and Tîzîn were separated and were called al-Awâsim; because the cities to which the Muslims resorted after making an invasion and leaving the frontier cities, and where they were safe and protected" (Hitti, 1916, pp. 202-203).

> decrease of prosperity had already taken place during the last days of the Muslims, but the ruin has increased since the place came into the hands of the Greeks, who took it in the year 359 [968]. (Le Strange, 1965, p. 369)

Furthermore, eleventh-century Christian physician Ibn Butlān's letter to his friend Hilāl as-Sābī, who was living in Baghdad, provides valuable information not only about the city, but also about its urban landscape. His letter, dated to 1051 and preserved in Yâqût, informs us about which buildings were extant during his visit. We learn that Antioch was a populous city and had inner and outer walls with five gates and three hundred sixty towers[40], as well as baths, gardens, water resources, and a hospital. According to him the Church of Cassian was the main church in the city. In his letter Ibn Butlān not only provides information about how the church was administered, but also a description of its interior area around the altar[41]. Regarding the Church of Cassian (known as the Church of Saint Peter in the Crusades period), the twelfth-century historian al-Azīmī states that in 1055/1056 the church was reconstructed by the patriarch (Sevim, 1988, p. 14).

Among the sources available to us it is not possible to find additional information on the urban landscape of the city during the second period of Byzantine sovereignty. After the reconquest, Byzantine rulers were busy with domestic affairs and defending their territories against foreign attacks.

2.3.6 The Seljuq period (1084-1098)

Unfortunately, the sources available to us do not provide any concrete information on the building activities of the city during the short Seljuq occupation. When information is provided our sources mainly discuss Seljuq military campaigns and their expansionary policy in the surrounding regions (see Appendix D.2).

The capture of Antioch by Sulaiman Kutulmish, founder of the Anatolian Seljuqs, no doubt was an unexpected attack for the residents. Sulaiman was in the region to explore Syria and its surroundings, and when he saw the city unguarded he started his assault. During this time, the ruler of the city Philaretus, a Byzantine general, was not present,

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[40] One common feature our sources mention is that the city had many towers; however, the number of towers differs. While Ibn Butlān states the number of towers as three hundred and sixty (Le Strange, 1966, p. 370; the anonymous author of the *Gesta Francorum* gives the number as four hundred and fifty (Hill, 1962, p. 77).

[41] Quoting from an anonymous account, Eger states that, built over the water channels there were two storehouses that were used as granaries for farm products (2013, p. 105) (see Appendix B.7).

and therefore the city did not have any military forces to repel the enemy. The Seljuq forces did not harm the citizens, but they blockaded the Citadel[42] for a while, which prevented the citizens from receiving their daily needs. After some time, the citizens made an agreement with Sulaiman and they surrendered to him. In return, Sulaiman guaranteed their safety and the citizens returned to their houses and the city was captured by treachery on December 12, 1084 (Özaydın, 1987a, p. 128; Dostourian, 1993, p. 147). Sulaiman also ordered that damaged parts of the city be repaired (Özaydın, 1987a, p. 128).

Additional information regarding the buildings comes from accounts of the earthquake that hit the city on September 26, 1091 (see Chapter Three). The quake caused great damage; many houses and ninety towers along the city walls were destroyed and the Church of the Virgin was damaged. Sultan Malik Shah sent orders to restore those affected sites (Özaydın, 1987a, p. 174). However, our sources do not indicate if the Seljuqs provided funding for repairs as the Byzantine emperors had done.

The Meydan Bath in the city on İstiklal Street, which is still in use, is said to have been built during the Seljuq occupation. The gate of the bath has an arched entrance ornamented with Seljuq patterns (De Giorgi & Eger, 2021, pp. 342-344; URL-13) (Figure 2.15).

2.3.7 The Frankish Principality of Antioch (1098-1268)

Contemporary and almost contemporary historians recorded the history of the First Crusades, and these sources provide valuable information to the reader about the establishment of the Frankish Principality of Antioch and how the city was captured (see Appendix D.3).

The Seljuq governor of Antioch Yaghi-Siyan ruled the city for nearly fourteen years, but during his administration his relationships with other Seljuq governors were very fragile. When Yaghi-Siyan learned of the Crusading army's advancement towards Antioch, he asked for allies, but the responses he received were not as he expected. Yaghi-Siyan started his preparations to protect the city and tried to collect his own forces. After passing through Cappadocia and Cilicia, the main Crusading army

[42] The late twelfth-early thirteenth-century Arab historian Ibn al-Athir names the Citadel as al-Kusiyân (Özaydın, 1987a, p. 128), and the historian Anna Komnene, names the Citadel as Cula (Dawes, 2000, p. 198).

reached the neighborhood of the city where the Iron Bridge was located, and they camped at a place close to the city walls (Dostourian, 1993, pp. 166-168; Özaydın, 1987a, pp. 228-229). When they arrived at the city walls, the Crusaders' leaders were amazed at the beauty of the city and they provided detailed descriptions of the city. These descriptions were made, for example, by the author of the *Gesta Francorum* and by William Archbishop of Tyre. They not only talked about the foundation of the city, but also the city walls, its geographic settings and its beauty (see Appendix B.1). To their description we can add the description of Albert of Aachen:

Figure 2.15 : Entrance of the Meydan Bath (URL-13).

> This city of Antioch, so they say, is fully two miles in length, one and a half in width. The aforesaid river Farfar [which is the Orontes River] flows past it and embraces walls and towers, whose defense and siege work extends right to the ridge of the mountain where a more important Citadel stands, established as mistress of the city and of all the towers. Around this fortress are said to be positioned the four insuperable towers for the purpose of guarding the middle Citadel in their midst. (Edgington, 2007, p. 201)

To strengthen their position against the continuous Seljuq's attacks, the leaders of the Crusaders agreed on building a fortified tower on the hill. After its construction the tower was named the Tower of Malregard. Regarding the building of this tower, the author of the *Gesta Francorum* writes:

> Thereafter, all our leaders met together and summoned a council. They said, 'Let us build a castle on top of Mount Malregard [to the south-west of the city],

> so that we can stay here safe and sound, without fear of the Turks.' The castle was built and fortified, and all our leaders took turns in guarding it. (Hill, 1962, p. 30)

Anna Komnene states that a transverse wall was built opposite the Acropolis in order to secure the city (Dawes, 2000, p. 198). (see Appendix D.3) (Figure 2.16).

Both sides continued their attacks and when the Crusaders were having great difficulties in their siege there occurred an earthquake on December 30, 1097 (see Chapter Three). The Crusaders believed that God was punishing them due to their failed attacks and he was displeased with their behavior.

The governor of Antioch Yaghi-Siyan was fighting hard and resisting the attacks successfully. On the other hand, the Crusaders were experiencing a serious food shortage and so to secure supply lines through the Saint Symeon Port (modern Samandağ), they decided to build a tower on the north bank. Tancred, one of the leaders of the Crusaders, took responsibility for this and after providing adequate supply and receiving a hundred marks of silver for its construction, the erection of the Tower of Tancred was completed (Hill, 1962, pp. 39-41; Babcock & Krey, 1943, vol.1, pp. 236-237). The Crusaders' leaders, especially Bohemund, took seriously every opportunity to capture the city, and hence Bohemund established a connection with one of the high officials of the city, named Firuz. Firuz was the warden of the three important towers of the city. Bohemund and Firuz made an agreement and in return Firuz was promised money and honour for helping them (Dawes, 2000, p. 197[43]; Hill, 1962, pp. 44-45; Babcock & Krey, 1943, vol.1, pp. 249-256). With the help of Firuz, the Crusaders captured the city on June 3, 1098 after a ten-month siege. When Yaghi-Siyan heard of their entrance to the city, he left Antioch with some of his soldiers (Hill, 1962, pp. 47-51; Babcock & Krey, 1943, vol.1, pp. 257-260; Dawes, 2000, pp. 197-206; Özaydın, 1987a, p. 229; Dostourion, 1993, pp. 170-171).

When the Crusaders captured the city, it was pillaged. Slaughter and fires occurred everywhere. Many people were killed, and the Crusaders did not distinguish between the Muslims and the Christians as the author of the *Gesta Francorum*, who was an eyewitness to the incident, states:

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[43] Anna Komnene does not provide a name, but says "an Armenian" (Dawes, 2000, p. 197); however, this person is named as Rûzbe by the Arab historian Ibn al-Athir (Özaydın, 1987a, p. 229).

Figure 2.16 : Part of a wall which may be the wall erected by Bohemund I during the siege of the city (URL-14).

All the people in the city were screaming at once. At dawn, our men who were outside in the tents heard an overpowering din break out in the city, so they hurried out and saw Bohemond's banner aloft on the hill. They all came running as fast as they could and entered the city gates, killing all the Turks and Saracens whom they found there, except for those who fled up to the Citadel. Some other Turks got out through the gates and saved their lives by flight. …All this happened on the third of June, which was a Thursday. All the streets of the city on every side were full of corpses, so that no one could endure to be there because of the stench, nor could anyone walk along the narrow paths of the city except over the corpses of the dead. (Hill, 1962, pp. 47-48)[44]

[44] Albert of Aachen, who was the historian of the First Crusade but not an eyewitness, also gives the description of the capture as if he did experience it: The Christians, whose strength and forces were great and growing stronger and stronger, were putting to the sword the Turks who were scattered and roaming through homes, through streets and quarters of the town. They spared none of the gentile kind

When the author of the *Gesta Francorum* described the beauty of the city, he stated that there were three-hundred and sixty monasteries and over a hundred and fifty-three bishops (Hill, 1962, pp. 76-77). This number contradicts with the one given by Cencius in 1192, who was the treasurer of the Roman church. When he was drawing up the *Liber Censuum*, which is a financial record of the real estates of the papacy, one hundred fifty-three cathedral churches were recorded for the Patriarchate of Antioch (Hamilton, 2006, p. 171). When our sources talk about the capture of the city, they provide various church names that were still in use upon the capture of the city. These include: the Church of Saint Peter (formerly known as Church of Cassian), the Basilica of Saint George, and the Church of Saint Mary (Church of Holy Virgin Mary).

The account of William Archbishop of Tyre states that the Church of Saint Peter was still standing when the Latins captured Antioch. The church is mentioned when it was reported that the body of one of the generals was brought there. The Latins believed that the very chair which Peter had occupied was still preserved in it and the narthex of the church became a burial place and his body was buried there (Babcock & Krey, 1943, vol.1, p. 263; Hill, 1962, p. 76; Dostourion, 1993, p.1 71). William Archbishop of Tyre also records the restoration of the churches after the capture of the city, including the Church of Saint Peter and states it was the main church of the city[45]. William also mentions the Basilica of Saint George when he provides a description of the city gates (Babcock & Krey, 1943, vol.1, p. 207). In addition, our sources also state that Patriarch Daimbert was granted the Basilica of Saint George together with its great estates and rich revenues (Babcock & Krey, 1943, vol.1, p. 452). When the author of the *Gesta Francorum* talks about the Crusaders' attacks on the city, he states that Bohemund was very anxious and feared for the safety of all churches including Saint Mary and Saint Peter (Hill, 1962, p. 61; Asbridge & Edgington, 1999, p. 86).

In addition to the churches in the city center, there were some newly founded Latin churches in the surrounding area, such as on the Black Mountains or in the Amanus

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on grounds of age or sex until the earth was covered with blood and the corpses of the slaughtered, many of them also got killed and lifeless bodies of Christians, Gauls as well as Greeks, Syrians and Armenians mixed together. No wonder, since there had still been darkness over the earth, with the light scarcely discernible, and they were entirely unaware whom they should spare or whom they should strike, for very many Turks and Saracens, fearing for their lives, decided the pilgrims with speech and tokens of the Christian faith, and so they lost their lives in the common massacre. There were ten thousand killed whose bodies lay all over the quarters and streets of the town and had been killed by the Gauls' weapons. (Edgington, 2007, pp. 283-285)

[45] On several occasions the church is also mentioned in the account of Walter the Chancellor (Asbridge & Edgington, 1999, pp. 81, 86, 143, 147, and 156).

region. As stated by Weitenberg, the monasteries in those areas functioned as a bridge in the ecclesiastical contacts between Armenians, Syrians and the Crusaders. Armenian sources record some of the monasteries of the Latins located on the Black Mountains: S. Sargis of Sew Learn, S. Gēorg of Sew Learn, S. Pōlos of Sew Learn and Monastery Pēt'ias (2006, pp. 79, 82, 83).

During the Arab occupation of the city mosques were built and the accounts of the historians and travelers mention them. When he talks about the capture of the city, the author of the *Gesta Francorum* also places one of the mosques in the city. According to him the mosque was located beyond the bridge, before the Gate of the Bridge (Hill, 1962, p. 42) (see Appendix D.2).

William Archbishop of Tyre notes the abundant water supply and states that water was brought from Daphne:

> In its passage through the center of the city, this stream [Parmenius River] is a source of many benefits to the citizens. There are several other springs in the city, the principal one being the Eastern or Gate of Saint Paul. The foundation of Daphne, three or four miles away, has also been artificially conducted thither by means of aqueduct. By a skillful device this furnishes water at stated times to many different places. (Babcock & Krey, 1943, vol.2, p. 203)

In addition to the Latin sources, some of the Arab sources also provide information about Antioch. Among these sources, the Arab geographer al-Idrīsī, who wrote his *Geography* in 1154, provided some valuable information on the city's environment, its walls and the water supply. According to him, the city walls were approximately twenty kilometers in length:

> Antâkiyyah is a city magnificently situated, with agreeable environs. With the exception of Damascus, there is none that can equal it, either within or without. It has water in plenty running through bazaars and roadways, and into the castles and through the streets. There is a wall going around both the town and the gardens; it is twelve miles (approximately twenty kilometers) in length. This wall is marvelous and impregnable. It is built of stones, and encloses both the city and the mountain that overhangs it [Mount Silpios]. Within the city wall are mills, and orchards, and gardens, with vegetables and other useful growth. The bazaars of the city are thronged, and have splendid wares exposed here, and all

> necessary goods and needful chattels. The good things of the place are innumerable, and its blessings manifold. (Le Strange, 1965, p. 375)

Furthermore, our sources mention some additional information, which we have not encountered before. The author of the *Gesta Francorum* mentions the Castle of Aregh when he discusses the Crusading army's advancement upon the city (Hill, 1962, p. 29).

In addition to the castles mentioned above, the Cursat Castle (modern Koz Kalesi, Kusayr in Arabic) was established in Altınözü, which is approximately ten kilometers south of Antioch. We first hear the name of the castle in 1155 when the Greek Patriarch Aimery of Limoges (1135-1193) acquired it (Sinclair, 1990, vol.4, pp. 261-266; Kennedy, 1994, p. 84; Henry, 2019) (Figure 2.17).

Figure 2.17 : View of the tower at Koz Castle (Photo credit Mevlüde Bakır).

3. ACCOUNTS OF EARTHQUAKES IN THE SOURCES AND COMMENTARY

The accounts of the earthquakes in Antioch and its vicinity between the fourth and the thirteenth centuries are presented in chronological order in this chapter. The primary sources are given first followed by the secondary literature. The primary sources include not only contemporary eyewitness accounts but also accounts written at a later date. The secondary literature includes Guidoboni et al., 1994, Guidoboni et al., 2005, and Ambraseys, 2009. The differing dates and epicenters between sources are mentioned in the footnotes.

341 (Sokrates, p. 40; Theophanes the Confessor, p. 60; George Kedrenos, vol.1, p. 522; Michael the Syrian, vol.1, p. 270; *cf*. Guidoboni et al., 1994, pp. 248-249; Ambraseys, 2009, pp. 142-143).

This was one of the most severe earthquakes that affected the city, but we have no detailed evidence on the scale of its destruction. Sokrates, who died after 349, reports that:

> At this time, it happened that public affairs were also disturbed. The nation called Franks, made incursions into the Roman territories in Gaul, and at the same time there occurred violent earthquakes in the East, and especially at Antioch, which continued to suffer concussions during a whole year. (Wace & Schaff, 1891, p. 40)

All the other sources differ from Sokrates's account by adding that the earthquake lasted for three days. The twelfth-century historian Michael the Syrian, who derives his information from Sokrates, states that the Arian church in the city collapsed during the earthquake after its dedication (Budge, 1932, vol.1, p. 270).

July 21, 365 (Libanios, *Oration 18.292*; Ammianus Marcellinus, vol.2, pp. 649-651; Sokrates, p. 97; Theophanes the Confessor, pp. 87-88; George the Monk, vol.2, p. 560; George Kedrenos, vol.1, pp. 550-551; *cf*. Guidoboni et al., 1994, pp. 267-274; Ambraseys, 2009, pp. 151-156).

This was such a destructive earthquake that its effects are described not only in several of the contemporary eyewitness accounts, but also in later sources. Libanios and

Ammianus Marcellinus were contemporary to the disaster. Since the sources talk about its effects in Alexandria, the epicenter of the earthquake was probably in the Mediterranean Sea. Furthermore, all the sources agree that this quake had effects across the whole world. Libanios mentions that many cities were affected by the catastrophe:

> [It] destroyed ever so many cities, in Palestine, and many in Libya. The greatest cities of Sicily lie in ruins, as does every city in Greece except one: Nicaea the lovely is laid low, and our loveliest of cities is shaken and can have no confidence for the future. (Norman, 1969, p. 477)

Ammianus Marcellinus's account gives us the most detailed information on this catastrophe. The quake must have been truly destructive since he calls it, "A horrible phenomenon, such as one related to us neither in fable nor in truthful history" (Rolfe, 1972, vol.2, p. 649). None of the sources indicate the intensity of the earthquake to the extent that Ammianus Marcellinus does. Ammianus Marcellinus records the event as follows:

> On the twenty-first of July, in the first consulship of Valentinian with his brother, …for a little after daybreak, preceded by heavy and repeated thunder and lightning, the whole of the firm and solid earth was shaken and trembled, the sea with its rolling waves was driven back and withdrew from the land, so that in the abyss of the deep thus revealed men saw many kinds of sea-creatures stuck fast in the slime; and vast mountains and deep valleys, which Nature, the creator, had hidden in the unplumbed depths, then as one might well believe, first saw the beams of the sun. Hence, many ships were stranded as if on dry land, and since many men roamed about without fear in the little that remained of the waters, to gather fish and similar things with their hands, the roaring sea, resenting, as it were, this forced retreat, rose in its turn; and over the boiling shoals it dashed mightily upon islands and broad stretches of the mainland, and leveled innumerable buildings in the cities and wherever else they were found; so that amid the mad discord of the elements the altered face of the earth revealed marvelous sights. For the great mass of waters, returning when it was thousands of men by drowning; and by the swift recoil of the eddying tides a number of ships, after the swelling of the wet element subsided, were seen to have foundered, and the lifeless bodies of shipwrecked persons lay floating on their backs or on their faces. Other great ships, driven by the mad blasts, landed

> on the tops of buildings (as it happened in Alexandria), and some were driven almost two miles inland. (Rolfe, 1972, vol.2, pp. 649-651)

396 (Marcellinus Comes, p. 6; Michael Glykas, pp. 478-479; *cf*. Guidoboni et al., 1994, pp. 280-281; Ambraseys, 2009, p. 158[46]).

Both the sixth-century Latin chronicler Marcellinus Comes and the twelfth-century historian Michael Glykas provide little information for the earthquake of 396, and no evidence has been preserved about the specific damage done. Marcellinus Comes reports, "There was an earthquake for a number of days and the sky appeared to glow" (Croke, 1995, vol.2, p. 6). However, writing centuries later than Marcellinus Comes, Michael Glykas gives the extent of the earthquake and says that the quake affected the whole world: "It is said that the earth cracked for seven days and a big earthquake occurred all around the world" (Bekker, 1856, p. 478; Bakır, 2002, p. 15).

Saint John Chrysostom, who later became Patriarch of Constantinople (398-404), gave two sermons to the people of Antioch. These sermons contain no indication of date (Downey, 1961, p. 438), but were given perhaps in 388 and in 395/396. In those sermons, Saint John Chrysostom strives to hearten the citizens who had suffered in the earthquakes and other disasters that occurred at Antioch. In the first sermon Chrysostom explains that the quakes are a sign of God's anger, and in the second one he congratulates his listeners on the wholesome changes they made in their behaviour after the shock they suffered from the disaster (Kelly, 1996, p. 88). Chrysostom unfortunately does not state what the damage may have been, but, in one sermon he mentions that the earth shocks lasted three days and in another he says that the earthquake happened when he was delivering a sermon outside the city (Downey, 1961, p. 438).

September 13-14, 458 (Severos of Antioch in Guidoboni et al., 1994, pp. 296-297; John Malalas, p. 202; Evagrios Scholastikos, pp. 94-96; John Nikiu, p. 109; Theophanes the Confessor, p. 170; George Kedrenos, vol.1, p. 608; *cf*. Guidoboni et al., 1994, pp. 296-300; Ambraseys, 2009, pp. 168-171).

The devastating earthquake of September 13-14, 458 is one of the most serious catastrophes in the history of the city. This quake is recorded by many historians and

[46] While Guidoboni et al. state the epicenter of this tremor to be in the general area of Constantinople, Ambraseys dates the quake to the year 388 and indicates Antioch as the center.

chroniclers and its effects were described in several of these sources. The sources date this earthquake by various chronological indications[47] and the most detailed information is found in both John Malalas and Evagrios Scholastikos. Malalas says, "In the reign of Leo, Antioch the Great suffered its fourth calamity[48] from the wrath of God, at dawn, on Sunday September 13th, in the year 506 according to the era of Antioch, during the consulship of Patricius" (Jeffreys & Scott, 1990, p. 202). Evagrios Scholastikos also provides more detailed information in describing the effects of the disaster on the buildings of the city:

> In the second year of the reign of Leo, an extraordinary quivering and trembling of the earth occurred at the city of Antiochus; beforehand certain things had been done by its populace, who were whipped up to complete madness and surpassed the nature of any beast, as if to provide a prelude to such troubles. Now, it was at its most severe in the 506th year of the grant of the city's status, at about the fourth hour of the night, when the month of Gorpiaeus, which the Romans call September, was bringing in the fourteenth day, as the Lord's Day drew on, in the eleventh year of the indiction cycle. …Now this quake overthrew almost all the buildings in the New City, which was very heavily populated and had no empty or totally neglected spaces, but rather had been exceptionally adorned by the liberality of emperors who competed with each other. Of the palace the first and second buildings were overthrown, but the others survived together with the adjacent bath which, whereas previously unused, because of the disaster in fact bathed the city; this was necessary because of what befall the other baths. It also overthrew the colonnades in front of the palace and the nearby tetrapylon, and in the Hippodrome the towers at the doors and some of the nearby colonnades. In the Old City collapse did not affect the colonnades or buildings at all, but small parts of the baths of Trajan, Severus and Hadrian were shaken and collapsed. And, it threw down parts of the so-called neighborhood of Ostrakine[49], as well as the colonnades, and it cast

[47] For a discussion about the correct date of the earthquake of September 13-14, 458 (Downey, 1940-1941; Honigmann, 1944-45).

[48] It is known that John Malalas has a habit of not only counting the Antiochian quakes, but also Constantinopolitan and other regional earthquakes. He records the second, third, fourth, fifth, and sixth having been the earthquakes which occurred in 37, 115, September 13-14, 458, May 20/26, 526, and November 29, 528.

[49] Evagrios Scholastikos is the only source to mention this neighborhood. He mentions the same neighborhood when he talks about the effects of the earthquake of October 31, 587/588 (Whitby, 2000, p. 299).

> down the nymphaeum, as it was called. The details about each of these are carefully recorded by John the rhetor. He then says that a thousand talents of gold were remitted to the city from the taxes by the emperor, while to the citizens the dues on what had been obliterated in the misfortune; he also attended to the public buildings[50]. (Whitby, 2000, pp. 94-96)

The ninth-century account of Theophanes the Confessor and the twelfth-century account of George Kedrenos date this earthquake to the year 458, without giving any specific day. We can assume that the correct date of the earthquake seems to be September 13-14, 458. Although a near-contemporary source Severos of Antioch does not provide any specific date for the disaster, he does provide a very emotional description of the earthquake:

> For you remember all of you old men how was the terrible and miserable sight which was placed before everybody's eyes, when one could see old men as well as youths and children before their time dying suddenly together; women were buried alive, as their children were still moving at the breast, desiring to suck milk, and did not perceive death suspended above their heads; men who were out when their house was thrown down to the ground, thought they had escaped from danger, but, like runners who do not look in front of themselves, they reached another collapse and unwillingly walked to the death they were fleeing from. Others had remained under a roof, which was about to collapse, and were not able to flee because of their old age or some other infirmity, or they received death like a divine decision.... As others remained standing and uninjured, the walls collapsed here and there... Then its inhabitants deserted the city, for everybody ran towards the mountaintops and towards the distant places of the country especially the uninhabited ones. For there was no place, wall or roof, where you could be sure of being secure, because everything had been tossed and terribly shaken... When the earthquake ceased, every one of those who had

[50] Although John Malalas was more contemporary than Evagrios Scholastikos, he does not provide any information about the damage caused by the earthquake, but only mentions the imperial response and says: "The Emperor gave generously to the Antiochians and their city for building purposes" (Jeffreys & Scott, 1990, p. 202). Although the sources do not mention the damage to the walls, the Syriac biography of Symeon Stylites, written by one of his contemporary disciples, records that the city walls were thrown down by the shocks: At this all Antioch and its inhabitants arose and with tears and groans wrote and petitioned him, 'Because our city has no wall as it fell in anger, we brought him to be for us a fortified wall that we might be protected by his prayer'. (Doran, 1992, p. 194)

> fled regained his confidence, setting his feet firmly on the ground to go to the city. But everybody was struck with fear and full of terror like people who have crossed spacious seas and have left the boat, still trembling and fearing… (Guidoboni et al., 1994, pp. 296-297)

November 6, 472 (Marcellinus Comes, p. 25; Prokopios, *History of the Wars*, vol.3, p. 325; Theophanes the Confessor, p. 186; *cf*. Guidoboni et al., 1994, p. 301; Ambraseys, 2009, pp. 173-174[51]).

After discussing the eruption of Mount Vesuvius, the sixth-century Latin chronicler Marcellinus Comes mentions an earthquake that occurred in Asia Minor. Both Prokopios and Theophanes the Confesser record the eruption of the Mount Vesuvius, but among our sources Marcellinus Comes is the only one to give the exact date of this quake when mentioning the disaster (Bakır, 2002, pp. 25-26):

> Vesuvius, the volcanic mountain of Cainpania in Italy, roared with internal fires as it spat out boiling debris and nocturnal darkness over shadowed the day, and it showered the whole surface of Europe with fine particles of dust. The Byzantines celebrate the memory of this fearful ash on November 6th each year… In Asia, several cities and towns leveled in an earthquake. (Croke, 1995, p. 25)

September 7, 513 (James of Edessa in Ambraseys, 2009, p. 180[52]).

None of the contemporary or sources before the seventh century mention this earth tremor, but information about it comes from the chronicle of James of Edessa. His hymn briefly states that on September 7th in the year of 513, there was a strong earthquake and the earth cracked (Ambraseys, 2009, p. 180).

October 4/7 (?), 525 (*Synaxarium Ecclesiae Constantinopolitanae*, p. 117; *Typikon of the Great Church*, vol.1, pp. 62-65; George Kedrenos, vol.1, p. 640; Michael Glykas, pp. 493-494 (*cf*. p. 500); *cf*. Guidoboni et al., 1994, p. 314; Ambraseys, 2009, pp. 182-183[53]).

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[51] Both sources indicate the year of the quake as 472.
[52] Guidoboni et al. do not include this earth tremor in their chronology.
[53] The epicenter of this quake has been given as Antioch and Seleucia Pieria by Guidoboni et al. However, Ambraseys limits the area of damage only to Constantinople.

Although recorded in many sources, this quake is one of the more obscure to have hit Antioch and its epicenter is not clear. One might expect that, since the contemporary source John Malalas was living in Constantinople when the earthquake happened, if Constantinople had suffered an earthquake he would have reported it. Both the *Patria of Constantinople* (tenth-century compilation of the daily commemorations of Constantinople) and the *Typikon of the Great Church* (liturgical ordinal of the rite of the Church of Saint Sophia in Constantinople) date an earthquake to October 7th. The twelfth-century historian George Kedrenos dates the disaster to October 4th; however, Michael Glykas, again a twelfth-century historian, remains silent on the date of the quake. The *Patria of Constantinople* gives just this phrase: "Memory of the terrible threat of the great earthquake was brought against us with philanthropy" (Delehaye, 1902, p. 117). The *Typikon of the Great Church* states: "The feast day of the Saints Sergius and Bacchus. During the same day we commemorate the great earthquake" (Mateos, 1962-1963, vol.1, pp. 62-63). We can assume that, either our sources were not paying attention to detail, or they failed to record the exact date of the catastrophe. The precise date of the quake will remain unknown until a new source comes to light (Bakır, 2002, pp. 29-30).

There was another earthquake in 525 and our sources provide nearly the same information for this quake with only slight variations. According to Michael Glykas, Pompeiopolis (modern Kastamonu) was among the damaged areas. He writes, "In Pompeiopolis, the ground split into two parts, and half of the city was absorbed inside the earth together with its inhabitants. The city continued to shake for the whole year." Further in his account, he also notes the emperor's response to the earthquake. He states that Emperor Justin I even spent Christmas Day without his crown (Bekker, 1856, pp. 494,500). He probably received his information on the Pompeiopolis earthquake from John Malalas and Theophanes the Confessor, which both of them record as occurring in Pompeiopolis in 535/536 (Jeffreys & Scott, 1990, p.2 53; Mango & Scott, 1997, p. 314). Among our accounts, only George Kedrenos gives the most detailed information on the destructiveness of this disaster:

> A star appeared in the sky above the Copper Gate of the palace [in Constantinople], and continued to shine there for two hundred and twenty days and nights. And a terrible earthquake happened, as a result of which there was an omen of ineffable disaster in various parts of both Constantinople and Antioch. On the 4th of October, God's ominous signs visited the city with

> conflagration and earthquakes. This conflagration occurred in the middle of the city and lasted for two hundred days. And many houses were burnt and many people died and nobody could find out from where the fire was started. So great was the anger towards the city, and nearly the entire city collapsed and became a tomb for the inhabitants. Moreover, as some were trapped under the ruins and were still alive, a fire came out from the earth and burnt them all. And another fire came down from the air like sparks just like lightening and burned people who were there, and the earth continued to shake for one year. (Bekker, 1838-1839, vol.1, p. 640)

Theophanes the Confessor claims that an earthquake occurred in Antioch in October 525 not in Constantinople (Bakır, 2002, p. 30). Regarding the quake he states:

> In this year in October of the fourth indiction, the prelude to God's anger visited the city of Antioch. For a great conflagration arrived unseen in the middle of the city, which foretold the coming threat from God. The fire was kindled at the Martyrium of Saint Stephen and extended as far as the *praetorium* of the *magister militum*. This was the beginning of the anguish. (Mango & Scott, 1997, p. 263)

The author of the eight-century chronicle Dionysios of Tell Mahre also talks about the fire and states that it lasted for six months:

> Thus, in every locality in the city the fire kept breaking out all of a sudden for six months. A multitude of souls perished in it as well as many of its buildings. The people did not succeed in learning when the fire came, as it started to burn from the highest -fifth and sixth-storeys and, thus kindled, it devastated all the people in its vicinity. (Witakowski, 1996, p. 22)

May 20/29, 526 (Zachariah of Mitylene, pp. 190, 203, 205; John Malalas, pp. 238-242; Prokopios, *Anecdota*, pp. 225-227; Prokopios, *History of the Wars*, vol.1, p. 383; Evagrios Scholastikos, pp. 203-204; Marcellinus Comes, p. 42; Chronicon Paschale, p. 195; John Nikiu pp. 135-137; *Chronicle 1 in Chronica Byzantina Breviora*, p. 41; Dionysios of Tell Mahre, pp. 44-48; Theophanes the Confessor, pp. 263-264; George the Monk, vol.2, p. 628; George Kedrenos, vol.1, pp. 640-641; Michael Glykas, pp. 496-497; Michael the Syrian, vol.1, pp. 182-183; *cf*. Guidoboni et al., 1994, pp. 314-321; Ambraseys, 2009, pp. 184-189).

The earthquake of May 20/29, 526 was one of the most destructive and significant earthquakes to hit Antioch and its vicinity, and its effects were described in several sources. The eyewitness account of John Malalas provides the most detailed report of the disaster, which we are unable to find in other sources (see Appendix B.8). Prokopios extends the area of damage to Seleucia, Cilicia, Amasia, and Corinth and states:

> And earthquakes destroyed Antioch, the first city of the East, and Seleucia which is close to it, as well as the most notable city in Cilicia, Anazarbus. And the number of people who perished along with these cities who would be able to compute? (Dewing, 1935, p. 225)

Like John Malalas, the chronicler John of Nikiu also gives the number of dead people as 250,000 (Charles, 1916, p. 136). However, Prokopios gives the number of dead as 300,000 and says; "It is said that at that time three hundred thousand of the population of Antioch perished" (Dewing, 1914, p.383). Both Theophanes the Confessor and George Kedrenos do not provide any information for the number of dead, but mention the death of the bishop of Antioch. Theophanes the Confessor states; "Euphrasios, the bishop of Antioch, was engulfed by the earthquake and perished" (Mango & Scott, 1997, p. 264; Bekker, 1838-1839, vol.1, p. 640). On the other hand, when talking about the number of people perished during the earthquake, Dionysios of Tell Mahre's words give us an idea about the magnitude of the earthquake:

> It happened to be a feast [Festival of the Ascension of Christ] and therefore many people had gathered in this great city, magnificent in its buildings and objects. It was famous for its hospitality, but suddenly became a tomb for the visitors as well as for its inhabitants. However, we are unable to state the number of those who perished as we have recorded only a few things out of many about this terrible disaster which suddenly came upon the great city of Antioch. (Witakowski, 1996, p. 46)

Our sources pay special attention to the death of bishop Euphrasius and provide some information on how his body was found after the earthquake. Among our sources, the author of the eight-century chronicle Dionysios of Tell Mahre provides the most detailed account:

> When people [of Antioch] who were [still] alive, having been rescued from the disaster, [those] from other places and [from] the neighboring cities had gathered in the city of Antioch and were disinterring and bringing up the corpses of those buried in the catastrophe, the body of Euphrasius was found in a cauldron of pitch used by wineskin makers, who [worked] beneath his episcopal residence. When the residence collapsed and fell, he happened to fall into the cauldron. The whole of his body sank down in it, and he was cooked in the pitch. His head was [hanging, as if he had] fainted, outside the rim of the cauldron. Thus, he was recognized from his face, while his bones were found [stripped of the flesh] in the pitch. (Witakowski, 1996, pp. 46-47; also, Jeffreys & Scott, 1990, p. 243; Croke, 1995, p. 42; Whitby, 2000, p. 204; Hamilton & Brooks, 1899, pp. 190,205)

November 29, 528 (John Malalas, pp. 256-258; Evagrios Scholastikos, p. 205; *Chronicle 1 in Chronica Byzantina Breviora*, p. 41; Chronicon Paschale, p. 195; Theophanes the Confessor, p. 270; Dionysios of Tell Mahre, pp. 67-69; Michael the Syrian, vol.2, pp. 193-194; George Kedrenos, vol.1, p. 646; Michael Glykas, pp. 496-497; *cf*. Guidoboni et al., 1994, pp. 323-325; Ambraseys, 2009, pp. 189-192).

This is maybe the most destructive earthquake that the city of Antioch had to deal with and as a result, the urban setting of the city changed. This quake affected the city in nearly every aspect. Although contemporary to the earthquake of November 29, 528, John Malalas does not provide the exact day and month of the earthquake. However, the ninth-century chronicler Theophanes the Confessor records of the precise date and hour of this catastrophe. He writes, “In the same year, on Wednesday November 29th, in the third hour, indiction seven, Great Antioch suffered from divine anger, two years after its first disaster” (Mango & Scott, 1997, p. 270). The effects and the destruction of the disaster are described as follows in the contemporary account of John Malalas:

> The earthquake lasted for an hour and was accompanied by a terrible roaring sound, so the buildings that had been reconstructed after the former shocks collapsed, as did the walls and some of the churches. When the other cities heard what had happened they all held processions of prayer in mourning. Parts of the area around the city suffered also. Up to 5,000 lives were lost in this earthquake. The surviving citizens fled to the other cities, but a number of them lived in the mountains. When the people at Byzantium heard what had

happened, they held processions of prayer for a considerable number of days. (Jeffreys & Scott, 1990, pp. 256-257)

In addition to Malalas's description, both Theophanes the Confessor (Mango & Scott, 1997, p. 270) and George Kedrenos (Bekker, 1838-1839, vol.1, p. 646) put the number of casualties 4,870 souls. The author of the Chronicon Paschale gives the number of the dead 4,000 (Whitby & Whitby, 1989, p. 195). This is the same figure given by the author of *Chronicle 1 in Chronica Byzantina Breviora*, or *Short Chronicles*, (Schreiner, 1975-1979, p. 41). In addition to this information on the casualties, Theophanes the Confessor adds:

The great earthquake lasted for one hour and there was a terrifying roar from heaven. All the buildings fell to the ground, even the walls as well, and those old buildings that had not fallen in the first earthquake now collapsed. All the magnificence with which the city had been invested through acts of generosity by the emperor and through the buildings erected by citizens at their own expenses, was all destroyed. All of the people went on barefoot, weeping, throwing themselves headlong into the snow and crying out, 'Lord, have mercy!' It was revealed in a vision to one pious man that he should tell all the survivors to write on the lintels of their doors, 'Christ is with us, stand'. When this was done, God's anger ceased. Again, the emperor and the Augusta provided much money towards restoration and rebuilding in the city of Antioch. He [Emperor Justinian] changed its name to Theoupolis [City of God]. (Mango & Scott, 1997, p. 270; also, Jeffreys& Scott, 1990, p. 258)

To help the city and its inhabitants recover from the effects of the disaster, Antioch as well as Laodikeia and Seleucia, which also suffered from earthquakes, were exempted from paying tax for three years by the order of Emperor Justinian (Jeffreys& Scott, 1990, p. 258).

Sometime between 531 and 534 (John Malalas, pp. 268, 282, 284; *cf*. Guidoboni et al., 1994, p. 326; Ambraseys, 2009, p. 196[54]).

Information for this earthquake comes only from John Malalas. When discussing the events for the year 531, Malalas mentions a series of earthquakes: "In that year there were widespread earthquakes and much time was spent in prayer in each city."

[54] Guidoboni et al. date this earthquake to the year 532, while Ambraseys indicates the date as 534.

Following this account, he records another earthquake, which caused no damage: "Not long afterwards a tremendous earthquake occurred in Antioch the Great, but it caused no damage." (Jeffreys and Scott, 1997, p.284).

February 548 (Prokopios, *History of the Wars*, vol.4, p. 401; John Malalas, p. 289; Theophanes the Confessor, p. 329; George Kedrenos, vol.1, p. 658; *cf*. Guidoboni et al., 1994, pp. 330-331; Ambraseys, 2009, p. 198[55]).

We do have limited information on the earthquake of February 548. The probable eyewitnesses of the quake, Prokopios and John Malalas, date it to the year 548 without mentioning the month. In addition to their accounts, the ninth-century chronicler Theophanes the Confessor records the month during which the earthquake occurred. He writes, "In this year, there was a succession of earthquakes, heavy rain, as, for instance, the great earthquake in February, where everyone despaired and became very frightened and went on litanies and begged God to be saved from the impending dangers" (Mango & Scott, 1997, p. 329). The twelfth-century chronicler George Kedrenos also dates this quake to the twenty-first year [which is 548] of the reign of the Emperor Justinian (Bekker, 1838-1839, vol.1, p. 658; Bakır, 2002, pp. 34-35).

July 9, 551 (John Malalas, p. 291; Agathias, *Histories*, pp. 47-48; Evagrios Scholastikos, pp. 239-240; Dionysios of Tell Mahre, pp. 115-119; Theophanes the Confessor, p. 332; George the Monk, vol.1, pp. 641-642; Michael the Syrian, vol.2, p. 245; George Kedrenos, vol.1, p. 659; *cf*. Guidoboni et al., 1994, pp. 332-336; Ambraseys, 2009, pp. 199-203).

This was a general earthquake, which affected many cities throughout the world. The contemporary source on the earthquake, John Malalas, does not provide any specific date for the earthquake, although the ninth-century chronicler Theophanes the Confessor specifically dates it to July 9, 551. The author of an eight-century chronicle, Dionysios of Tell Mahre, dates the earthquake to 552/553 and records it again in 558/559 (Witakowski, 1996, pp. 115, 119). However, writing in the twelfth century, George Kedrenos dates this earthquake to the twenty-fourth year of Emperor Justinian's reign, which is 551 (Bekker, 1838-1839, vol.1, p. 659). However, the

[55] Guidoboni et al. limit the area of damage to Constantinople, Ambraseys on the other hand extends the area of damage to the Byzantine lands in general.

twelfth-century historian Michael the Syrian dates it to 557 (Budge, 1932, vol.2, p. 245). On the quake, John Malalas reports:

In the fourteenth indiction a severe and tremendous earthquake occurred throughout the land of Palestine, in Arabia and in the land of Mesopotamia, Antiochia, Phoenice Maritama and Phoenice Libanensis. In this terror the following cities suffered; Tyre, Sidon, and Beirut, Tripolis, Byblos, Botrys and parts of other cities. Large numbers of people were trapped in them. In the city of Botrys part of the mountain called Lithoprosopon, which is close to the sea, was broken off and fell into the sea. It made a harbour, so that very large ships were able to anchor in the harbour formed by the ruptured mountain. This city had not had a harbour in the past. The emperor sent money to all the provinces and restored parts of these cities. At the time of the earthquake the sea retreated out to the deep for a mile and many ships were destroyed. At God's command the sea was restored again to its original bed. (Jeffreys & Scott, 1997, p. 291)

558 (George Kedrenos, vol.1, p .676; *cf*. Ambraseys, 2009, p. 211[56]).

Information on this earthquake comes from the twelfth-century historian George Kedrenos. He dates the earthquake to the thirty-first year of the reign of the Emperor Justinian, which is 558. After discussing the bubonic plague, which took place in the same year, Kedrenos mentions an earthquake in Antioch:

> In Antioch a terrible earthquake happened. After sometime a shooting star took place from evening to morning, so that everybody was greatly amazed and said the stars were falling. In the world there was a lot of popular unrest, many murders, and wars. People never got a rest from the illnesses and deaths. In Antioch after an earthquake had taken place, a terrible noise from the sky took place and many died of fear. (Bekker, 1838-1839, vol.1, p. 676)

December 561 (Theophanes the Confessor, p. 345; George Kedrenos, vol.1, p. 679; *cf*. Guidoboni et al., 1994, p. 346; Ambraseys, 2009, pp. 211-212[57]).

Our information for the quake of December 561comes from Theophanes the Confessor and George Kedrenos, but the ninth-century chronicler Theophanes the Confessor provides the most detail. George Kedrenos only mentions that during the thirty-fourth

[56] Guidoboni et al. do not record this earth tremor.
[57] While Guidoboni et al. assign this quake to the year 570, Ambraseys dates it to June 558.

year of Justinian's reign there happened an earthquake and the damaged areas extended to Cilicia, Anazarbos, and Antioch (Bekker, 1838-1839, vol.1, p. 679). Theophanes the Confessor mentions fire and plague as well as an earthquake:

> In December there was a large fire in Julian's harbour [in Constantinople], and many houses were burned as well as churches from the edge of the harbour as far as the quarter of Probus. There was also a big plague at Anazarbos and elsewhere in Cilicia and in Great Antioch, as well as earthquakes. (Mango & Scott, 1997, p. 345)

June 572 (Michael the Syrian, vol.2, p. 309; *cf*. Ambraseys, 2009, p. 213[58]).

Very brief information for this earthquake comes from the twelfth-century historian Michael the Syrian: "During the eighth year of Justin's [second] reign, in June, the whole world suffered from an earthquake. Although, there were tremors everywhere it was discovered that there was not any damage" (Budge, 1932, vol.2, p. 309).

580/581 (Evagrios Scholastikos, p. 277; *cf*. Guidoboni et al., 1994, pp. 346-347; Ambraseys, 2009, pp. 213-214[59]).

Information on this earthquake comes from the contemporary historian Evagrios Scholastikos. However, the date of this quake is not certain. In recording the event, Evagrios says that it happened during the third year of the Emperor Tiberios [Tiberios I Constantine], which must have been either in 580 or in 581. In his account, after mentioning an earthquake in Antioch, he then goes on to say that there were other earthquakes in Constantinople. Unfortunately, his account does not record any specific damage either in Antioch or in Constantinople (Bakır, 2002, p. 43). Yet he writes that:

> When Tiberios Caesar was steering the empire for the third year, at precisely midday itself a violent agitation of the earth occurred in the city of the Theopolitans and neighboring Daphne. All Daphne indeed fell victim to the shaking, while in Theoupolis both public and private buildings were split apart right to the ground, but did not, however, bow their knee to the foundations. There also occurred several other things worthy of a long account, both in Theoupolis itself and in the imperial city [Constantinople], which threw both

[58] Guidoboni et al. do not mention this earthquake.
[59] While Guidoboni et al. date this quake to the year 580/581, Ambraseys on the other hand gives the date as 577.

into confusion and whipped them up into the greatest uproars. (Whitby, 2000, p. 277)

October 31, 587/588 (Zachariah of Mitylene, p. 311; Evagrios Scholastikos, pp. 298-300; John of Ephesus, p. 226; John Nikiu, p. 163; Michael the Syrian, vol.2 p. 359; Abu'l Faraj, pp. 84-85; *cf*. Guidoboni et al., 1994, pp. 348-349; Ambraseys, 2009, pp. 215-216).

Detailed information about this earthquake comes from what was likely the eyewitness account of Evagrios Scholastikos. Evagrios reports:

> When four months had passed since his [Gregory, the bishop of Theoupolis] arrival, in the 637th year of the era of Theoupolis, in the 61st year after the previous earthquake [the earthquake of November 29, 528], when I was celebrating marriage with a young maiden on the last day of the month Hyperberetaeus [October], when the city was conducting a festival and holding a public celebration of the procession and bridal ceremonies, at about the third hour of the evening, a convulsion and quake struck and leveled the entire city. Most buildings fell down when their very foundations were churned up; as a result, everything around the most holy church [the Great Church] was brought to the ground, with only the dome being preserved. This had been fashioned by Ephrem [Patriarch Ephraemius] out of timbers from Daphne, after it suffered in the earthquakes under Justin: as a result of the subsequent quakes this had tilted towards its northern part so that timbers were inserted to exert counter pressure, but these indeed fell down in this violent quake when the dome returned to its position and, as if under some law, reoccupied its proper place. There also fell down much of the area called Ostrakine, and the *Psephium*, which we mentioned previously and the whole area called Bursia, and the vicinity of the all-holy shrine of the Mother of God [Church of Holy Virgin Mary], with only the central colonnade being miraculously preserved. All the towers on the level ground suffered, although the rest of the structure remained unharmed except for the battlements, for some stones from these twisted backwards but did not fall. Other churches also suffered and of the public bath the one that is divided according to the seasons. And an unquantifiable multitude was caught; as certain people conjectured, inferring from the bread supply, this affliction consumed about 60,000. Now the bishop [Patriarch

> Gregory] was saved contrary to expectation, even though the whole building where he was sitting fell down and no one whatsoever survived of those who were seated around him. Lifting him up and carrying him, they let him down by a rope after a second earthquake had made a hole, and they brought him out of harm's reach. There was also another salvation for the city, since the merciful God tempered. His threat with clemency and chastened our sin with the branch of compassion and pity: for no conflagration occurred, even though there were so many fires all over the city in hearths, public and private lanterns, kitchens, ovens, then again in baths and innumerable other places. Very many of the notables were caught, among whom Asterius [the former *comes Orientis*] indeed became a victim of the earthquake. (Whitby, 2000, pp. 298-300)

On the other hand, the twelfth-century Syrian historian Michael the Syrian dates this seismic event to the winter of 587, and states that; "After their battle with the Persians, the Romans returned to the city of Antioch and stayed there during the winter months. During their stay in the city, there occurred a violent earthquake in the city and destroyed great part of the city" (Budge, 1932, vol.2, p. 359). As was customary, the Emperor Maurice granted some money for the restoration of the city, but Evagrios Scholastikos does not provide the amount. He only records, "The Emperor assuaged the city's suffering with money" (Whitby, 2000, p. 300). Regarding rebuilding activities following this quake, John of Ephesus claims that the Emperor granted some funds to the Patriarch Gregory (570-593) to rebuild the hippodrome in the city (Smith, 1860, p. 226). On the other hand, according to the sixth-century historian Zachariah of Mitylene, the Patriarch Ephraemius rebuilt the Great Church:

> Ephraeim, who was chief priest in Antioch, rebuilt from its foundations the round-shaped church in Antioch and the four *triclinia* [dining room] adjoining it. And, when he performed the consecration of it, he assembled one hundred and thirty-two bishops from his jurisdiction in the year one, and on the occasion of the dedication of the church he received a contribution from each one of them, such as he pleased, on a lavish scale. (Hamilton & Brooks, 1899, p. 311)

April 2, 601/602 (Michael the Syrian, vol.2, p. 373; *cf*. Guidoboni et al., 1994, p. 351; Ambraseys, 2009, pp. 217-218[60]).

[60] Guidoboni et al. do not provide the exact date for this tremor.

The twelfth-century historian Michael the Syrian mentions a terrible earthquake that occurred on April 2nd but does not indicate the location of the epicenter. He describes the quake as violent and states that many cities and other places collapsed and many people were buried under debris. The earthquake also caused the ground to split (Budge, 1932, vol.2, p. 373).

February 28-March 10, 713 (*Notitia Annorum 712-716* in Guidoboni et al., 1994, p. 359; Theophanes the Confessor, p. 533; Michael the Syrian, vol.2, p. 481; Ibn al-Athir, vol.4, p. 523; *cf*. Guidoboni et al., 1994, pp. 359-360; Ambraseys, 2009, pp. 224-225).

Detailed information for the quake of 713 comes from the *Notitia Annorum 712-716*:

> And in the year 1024… in that year [1024 of the Greeks] [which is 713] on 28 Shebat, in the middle of the night between Monday and Tuesday, there was a tremor and a severe earthquake, with the result that village houses and churches and many great cities collapsed on top of their inhabitants, and killed them in many terrible ways. Some houses, villages and cities were swallowed up. In other places, people were suffocated or crushed; and many others were buried in their houses, and others survived. …The news spread largely through reports brought to us by eyewitnesses who were in that region- that is to say the region now called the western region, by which I mean the city of Antioch and the district of Sidqa and Ksytu, and the whole coast and the islands. (Guidoboni et al., 1994, p. 359)

The late twelfth-early thirteenth-century Arab historian Ibn al-Athir mentions that the tremors lasted for forty days: "There were earthquakes in Syria lasted for nearly forty days, and many places in various provinces were destroyed. Among all, the strongest shocks took place at Antioch" (Eryarsoy, 1986, p. 523). Michael the Syrian adds that Aleppo and Qenneshrin were also damaged: "In the year of 1024 [which is 713], on February 28th, there occurred a very violent earthquake and it caused many places to collapse in the region of Antioch, Aleppo and Qenneshrin, as well as many churches and in particular temples" (Budge, 1932, vol.2, p. 481).

December 24, 717 (Theophanes the Confessor, p. 550; Michael the Syrian, vol.2, p. 490; George Kedrenos, vol.1, p.7 91; *cf*. Guidoboni et al., 1994, pp. 360-361; Ambraseys, 2009, pp. 225-226).

Of the three sources, Theophanes the Confessor provides the most specific information about this disaster. He states:

> In the same year [the first year of Emperor Leo III], after a violent earthquake had occurred in Syria, Umar [the Caliphate] banned the use of wine in cities and set about forcing the Christians to become converted: those that converted he exempted from tax, while those that refused to do so he killed and so produced many martyrs. (Mango & Scott, 1997, p. 550)

742[61] (Theophanes the Confessor, p. 577; Michael the Syrian, vol.2, p. 507; George Kedrenos, vol.2, p. 5).

Our sources provide the same information for this earthquake, but they do not give the exact date or hour of the day in which it occurred. They all agree that this wide-spread earthquake caused heavy damage in Saba (modern Yemen). According to Theophanes the Confessor, for instance, "There was much drought and earthquakes occurred in several places so that mountains were joined to one another in the desert of Saba and villages were swallowed up by the earth" (Mango & Scott, 1997, p. 577; Bakır, 2002, pp. 46-47).

January 18, 746/747 (*Chronicle 1 in Chronica Byzantina Breviora*, p. 44; Theophanes the Confessor, p. 585; George Kedrenos, vol.2, pp. 7-8; *cf*. Guidoboni et al., 1994, pp. 366-370; Ambraseys, 2009, pp. 230-238[62]).

This is one of the earthquakes on which the sources provide conflicting information in terms of date. Both Theophanes the Confessor and George Kedrenos date it to the year 746. However, the author of the *Chronica Byzantina Breviora*, which covers the period from the fourth century to the sixteenth/seventieth centuries, dates it to the year 747. The author of the *Chronica Byzantina Breviora* states that; "During the reign of Emperor Copronymus [Constantine V] an earthquake occurred in Palestine, the land around the river Jordan and in the whole of Syria. Countless numbers of people died and monasteries and churches fell down" (Schreiner, 1975-1979, p. 44).

March 9, 755/756 (Theophanes the Confessor, p.5 94; *cf*. Guidoboni et al., 1994, pp. 370-371; Ambraseys, 2009, pp. 230-238[63]).

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[61] Neither Guidoboni et al. nor Ambraseys mention this earthquake.
[62] Guidoboni et al. date this seismic activity to the year 749.
[63] Guidoboni et al. date it to the year 757, while Ambraseys includes it under the earthquake of January 18, 746/747.

Our knowledge of this event comes only from Theophanes the Confessor, but he does not provide much information regarding it. He only states that on March 9th, Palestine and Syria experienced a strong earthquake (Mango & Scott, 1997, p. 594).

Sometime between January 5-December 25, 835 (al-Suyūtī in Guidoboni et al., 1994, p.3 77; *cf*. Guidoboni et al., 1994, p. 377; Ambraseys, 2009, pp. 240-241).

None of the contemporary or later sources mention this earthquake, but the fifteenth-century Arab historian al-Suyūtī very briefly reports a quake which lasted for forty days: "The earth shook for forty days at Antioch, and the city was destroyed" (Guidoboni et al., 1994, p. 377).

November 24, 847 (al-Dhahabī and al-Suyūtī in Guidoboni et al., 1994, pp. 378-379; *cf*. Guidoboni et al., 1994, pp. 378-379; Ambraseys, 2009, p. 242).

We do not have any eyewitness account for this seismic event. The earliest account comes from the work of the thirteenth-century Arab historian and theologian al-Dhahabī. He says a violent quake hit Damascus and Antioch, causing serious damage and many deaths. Unfortunately, al-Dhahabī does not give the date of the tremor but the account of al-Suyūtī dates the quake to November 24, 847. al-Dhahabī records:

> In that year there was a dreadful earthquake in Damascus. It lasted for three hours, causing the walls to collapse. People ran to the mosques to invoke God's mercy, and many of them died in the ruins. The earthquake reached Antioch, and it was claimed that 50,000 people died in the ruins. (Guidoboni et al., 1994, p. 378)

September 852-August 853[64] (*Chronicle 45 in Chronica Byzantina Breviora*, p. 332).

Information for this earthquake comes only from the author of the *Chronica Byzantina Breviora*, though the author does not provide much information and does not state its epicenter: "In 6361 [sometime between September 852-August 853], in indiction one, a big earthquake occurred" (Schreiner, 1975-1979, p. 332; Bakır, 2002, p. 54).

[64] Neither Guidoboni et al. nor Ambraseys mention this quake.

December 856[65] (al-Tabarī, vol.34, p. 146; Ibn al-Athir, vol.7, p. 74).

Information on this earthquake comes from Arab historians al-Tabarī and Ibn al-Athir. They provide essentially the same information with minor differences. Concerning the quake that hit Qumis and environs sometime in December 3-31, 856, these historians claim that earthquakes and shocking noises were also felt in the same year in Fars, Khurasan and Syria and the 45,096 people lost their lives (Kraemer, p. 146; Ağırakça, 1986, p. 74).

December 30, 859-January 29, 860 (al-Tabarī, vol.34 p. 157; Ibn al-Athir, vol.7, p. 78; Abu'l Faraj, p. 144; *cf*. Guidoboni et al., 1994, pp. 384-385; Ambraseys, 2009, pp. 243-244).

This quake was one of the most severe to hit Antioch and its vicinity in the ninth century. Fifteen hundred dwellings and nearly a hundred towers collapsed. Many other towns along the valley of the Orontes River were also affected. All the accounts provide the same information with some slight differences. al-Tabarī, for instance, states:

> It is reported that in Shawwāl [December 30, 859-January 27, 860] an earthquake and tremor killed many people in Antioch. Fifteen hundred homes and about ninety towers along its walls collapsed as a result. Dreadful indescribable noises were heard emanating from the openings of the residences. The inhabitants of Antioch fled to the desert. Mount al-Aqra [Mount Casius] shook loose and sank into the sea. The sea was stormy on that day, and black, murky, putrid vapors rose from it. A river in Antioch disappeared the distance of farsakh [six kilometers], and it was not known where the waters vanished. …In this year, an earthquake effected Bālis, al-Raqqah, Harrān, Ra's 'Ayn, Hims, Damascus, Edessa, Tarsus, Mopsuestia, Adana, and the costs of Syria. Laodikeia was convulsed. Not a residence remained there, only a few of its inhabitants escaped. Jabalah (a port located thirty kilometers south of Laodikeia) and its inhabitants perished. (Kraemer, 1989, p. 157)

In contrast to al-Tabarī's account, the thirteenth-century Syriac historian Abu'l Faraj limits the affected areas to Antioch, Laodikeia and Jabalah (Budge, 1976, vol.1, p. 144).

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[65] Neither of the sources note this earth tremor.

May 16, 881 (Ibn al-Athir, vol.7, p. 303; *cf*. Guidoboni et al., 1994, p. 388; Ambraseys, 2009, pp. 246-247[66]).

Information for this earthquake comes only from the late twelfth-early thirteenth-century Arab historian Ibn al-Athir, though he does not elaborate. "In this year, Syria, Egypt, Al-Jazīrah [includes the regions Antioch, Adana, and Maraş], and Andalus suffered from a very strong earthquake. Tremors continued after this strong quake and many houses were destroyed" (Ağırakça, 1986, p. 303).

972 (Yahyā-Ibn-Sáïd vol.2, p.351; *cf*. Guidoboni et al., 1994, pp. 399-400; Ambraseys, 2009, p. 255[67]).

This is the first earthquake that occurred after the Byzantines recaptured the city in 969. There is no doubt that this event impacted rebuilding activities begun after the city's re-conquest from the Arabs. Information about this earthquake comes from the Arabic historian Yahyā-Ibn-Sáïd. He reports that; "There occurred an earthquake in Antioch, and a great part of the walls fell down. 12,000 bricklayers and workmen were sent to the city with Michael Burtzes by the order of the Emperor John I Tzimiskes. The collapsed city walls were reconstructed back to their original shape" (Yahyā-Ibn-Sáïd vol.2, p. 351).

March 12, 1036-March 11, 1037 (Matthew of Edessa, p. 56; *cf*. Guidoboni et al., 2005, pp. 33-34; Ambraseys, 2009, p. 265).

The twelfth-century Armenian chronicler Matthew of Edessa records that an earthquake followed by a solar eclipse occurred in the year of 478 of the Armenian era, which was sometime between March 12, 1036-March 11, 1037. He does not discuss any damage caused by this quake, but does mention strong waves:

> At the date of our calendar marked by the year 485 of the Armenian era [1037-1038], the sun darkened with a frightful and horrible appearance. For as it became dark at the crucifixion of Christ, in the same manner the sun's light was hidden and darkness clothed it. The luminaries of the heavens turned gloomy and black, and the whole sky was stretched out like a vault in darkness. The sun became blackened at midday and all the stars appeared in toto as they would in the middle of the night. The darkness and gloom grew intense, all

[66] Both Guidoboni et al. and Ambraseys provide the exact date of this disaster.
[67] Ambraseys includes this earthquake under the year 973 and states the epicenter as in al-Wāsim (al-Awāsim -the area between Cilicia, northern Syria and upper Mesopotamia).

creatures cried together, and all the mountains and hills resounded. The mountains and all the rocks, shaken [to their foundations], trembled; the vast large Mediterranean Sea, moving back and forth, billowed, and all mankind mourned and wept. It happened that, when mankind saw all this, it was horror-struck with fear as if dead. At that time the son wept for his father and the father wept over his son. Boys terrified with fear fell into the laps of their parents. Mothers, afflicted with a severe consumption as if by fire, wept before their sons. In such a manner all creatures were horror-struck and were beset by fear, and they could not find an escape. Frightened by the horrible omen, they were altogether stupefied and horror-struck. (Dostourian, 1993, p. 56)

August 5, 1050 (Yākūt al-Rūmī in Le Strange, p. 374; *cf*. Guidoboni et al., 2005, pp. 43-44; Ambraseys, 2009, p. 268).

Our information for this earthquake comes from the thirteenth-century Arab traveler and geographer Yākūt al-Rūmī, and he provides very detailed information:

> Further, outside the city, on the night of Monday, the fifth of the month of Âb [August], of the year before mentioned [1050], there was seen in the heavens the likeness of a window, through which light shone out broad and glittering, and then became extinguished. The people waited till morning, expecting some event therefrom. And after a time, news came that in the early part of the day that Monday, at the city of Ghunjara (modern Çankırı), which lies in the Greek country, and is nine days' journey from Antâkiyyah, terrible earthquakes had taken place, following one another continuously. The greater number of the houses [of this city] had been thrown down, and a piece of ground outside the town had been swallowed up; while a large church and a fine fortress which had stood here had both disappeared, so that no trace remained of either. From the crevice in the earth extremely hot water had been thrown up, flowing forth from many springs. It had submerged seventy farmsteads. The people fleeing therefrom had escaped for safety to the hilltops and high places around. The water covered the surface of the ground during seven days, spreading round about the city for the distance of two days' journey. After that time, it disappeared, and the place where it had been became a swamp. A number of those who were witnesses of these events testified thereto, and the people of Antâkiyyah reported to me [referring Ibn Butlān] all that I have here set down. They related, further, that when the inhabitants had carried up their goods to

> the hilltops, the ground rocked so by the strength of the earthquake that the chattels came rolling down again to the level earth below. (Le Strange, 1965, p. 374)

1053/1054 (Matthew of Edessa, pp. 84-86; al-Azīmī, p. 12, Ibn al-Athir, vol.9, p. 447; *cf*. Ambraseys, 2009, pp. 269-270[68]).

The twelfth-century historian al-Azīmī mentions that earthquakes increased after heavy rains that lasted for three days. On the other hand, the late twelfth-early thirteenth-century Arab historian Ibn al-Athir records that earthquakes occurred in this year but does not mention the city of Antioch among the effected cities. Detailed information about this quake comes from the twelfth-century Armenian chronicler Matthew of Edessa:

> In the year 502 of the Armenian era [1053-1054] a fearful and horrible omen appeared and a very calamitous event took place in the city of Antioch. This phenomenon, which seemed awe-inspiring and marvelous to those observing it, appeared inside the sun. The phenomenon became an awful sign and a cause of perturbation for all the Christians faithful, to whom God by violent threats now manifested his fearful judgement… When the Roman patriarch and all his people returned to the church from the spot where the burning had taken place, they were filled with great exultation. As if they had been victorious over a wicked enemy. When they entered the Church of Saint Peter, the whole place resounded with a crashing noise, and a violent tremor shook the entire city of Antioch. On another day fire fell upon the Church of Saint Peter from heaven, and like a lamp the entire church flared up from its foundations. The stone burned like a woodpile, and the riding flames reached up to the sky. The ground of the sanctuary was torn open, and the sacramental table sunk into the hole made there; the bright gem which the Emperor Constantine had placed in Saint Peter's along with two hundred thousand pieces of gold which had always remained upon the holy altar to serve as a light during the night, was swallowed up by the earth and never found again. (Dostourian, 1993, pp. 84-86)

[68] While Ambraseys dates this tremor to the year 1063, Guidoboni et al. do not mention it.

Sometime between July 30-August 27, 1063 (Ibn al-Jawzī in Guidoboni et al., 2005, p. 44; Ibn al-Athir, vol.10, p .44; *cf*. Guidoboni et al., 2005, p. 44; Ambraseys, 2009, pp. 269-270).

Our primary information for this quake comes from the twelfth-century Arab historian Ibn al-Jawzī : "In the month of Sha'ban [July 30-August 27], there were earthquakes at Antioch, Laodikeia, in part of Byzantine territory, at Tripoli, at Sur, and at various places in the Syrian territories" (Guidoboni et al., 2005, p.44). On the other hand, the late twelfth-early thirteenth-century Arab historian Ibn al-Athir mentions the same seismic event, but his brief report says, "There was a tremendous earthquake in the Syrian territories" (Özaydın, 1987a, p. 44).

1072[69] (Demir, 1996, p. 61).

It is unusual that this quake is not mentioned in contemporary or near-contemporary sources. According to the modern scholar Prof. A. Demir, who quotes Vardan, an earthquake did occur in 1072; it resulted in the burning of the Church of Saint Peter and the death of many people including the Greek Patriarch.

1074/1075[70] (al-Azīmī, p. 21).

Our only extant source for this earthquake is the twelfth-century historian al-Azīmī, who merely says that Antioch suffered from a quake at this time. He does not provide a specific date nor any details about the areas affected or the damage this tremor caused (Sevim, 1988, p. 21).

1080/1081[71] (al-Azīmī, p. 23).

Again, the only surviving source for this earthquake is the twelfth-century historian al-Azīmī, who merely records, "The cities that lay by the coast were affected by an earthquake" (Sevim, 1988, p. 23).

1086/1087 (Ibn al-Athir, vol.10, p. 143; *cf*. Guidoboni et al., 2005, pp. 60-61; Ambraseys, 2009, pp. 276-277).

The only record for this event comes from the Arab historian Ibn al-Athir, although he does not provide much information. He writes, "In this year, Adana, Maraş, Antioch,

[69] Neither Guidoboni et al. nor Ambraseys note this quake.
[70] Neither source mentions this tremor.
[71] Neither of the sources note this earthquake.

Iraq and Syria suffered from an earthquake. People left their homes and stayed in the desert until the tremors ended" (Özaydın, 1987a, p. 143).

September 26, 1091 (Michael the Syrian, vol.3, p. 180; Matthew of Edessa, p. 157; Ibn al-Kalānisī in Ambraseys 2009, p. 279; al-Azīmī, p. 27; Ibn al-Athir, vol.10, p. 174; *cf*. Guidoboni et al., 2005, pp. 64-66; Ambraseys, 2009, pp. 278-279).

The quake of 1091 appears to have been extremely severe. The tremors were also felt in Syria, where many people temporarily abandoned their homes. Among our sources, the twelfth-century historian Michael the Syrian does not mention the specific day or month of the disaster. He merely writes, "In that year there was an earthquake and eighty-six towers in the walls of Antioch collapsed" (Budge, 1932, vol.2, p. 526). The twelfth-century chronicler Matthew of Edessa provides a bit more detail. He says:

> In the same year, during the month of September, an earthquake occurred throughout the whole land, and all living creatures under heaven trembled and shook. Much destruction occurred in the city of Antioch, and many towers collapsed to their foundations. Moreover, the greater part of the walls of Antioch collapsed, and many men and women perished in the ruins of their homes. (Dostourian, 1993, p. 157)

The account of Matthew of Edessa clearly indicates that the damage must have been extensive throughout the city itself and not just to the walls. Another twelfth-century historian, Ibn al-Kalānisī , mentions this same quake and dates it to September 26, 1091:

> During the night of Tuesday 9 Sha'ban [September 26, 1091], there was a strong and terrible earthquake in the Syria, the like of which had never occurred before in human memory. People fled their homes, fearing lest it happened again. It is recorded that numerous houses had been destroyed at Antioch, that the church of Our Lady [the Church of the Virgin] there had collapsed, that a number of people had died. As a result of the disaster, and that about seventy towers on the girdle wall had collapsed. They remained in this state until the Sultan Malik Shah had given orders for them to be rebuilt. (Ambraseys, 2009, p. 279)

The late twelfth-early thirteenth-century Arab historian Ibn al-Athir gives similar information with some slight differences:

> On 9 Sha'ban [September 26, 1091], in this year, there were numerous earthquakes in the Syrian territories and in many other regions, but mostly in the Syrian territories. The inhabitants of the city abandoned their houses. Many houses collapsed in Antioch and many people perished in the ruins. Ninety towers[72] along the city walls were destroyed. The Sultan Malik Shah ordered them to be rebuilt. (Özaydın, 1987a, p. 174)

Unlike the other sources, al-Azīmī mentions the quake and that churches collapsed, but he does not identify any churches by name. He also adds that a Frankish talisman was found below the city walls, inside a carved stone water basin (Sevim, 1988, p. 27).

April-May 1094 (Ibn al-Athir, vol.10, p. 202; *cf*. Guidoboni et al., 2005, pp. 66-67; Ambraseys, 2009, p. 279).

Our information for this earthquake comes from Ibn al-Athir who claims that a string of quakes occurred sometime between April-May 1094. He writes; "During that month, Syria was shaken by a series of earthquakes and these tremors lasted for a long time, but did not cause great damage on the houses" (Özaydın, 1987a, p. 202).

December 30, 1097 (Letters of Raymond of Aguilers, Fulk of Chartres, and Ralph of Caen in Guidoboni et al., 2005, pp. 67-68; *cf*. Guidoboni et al., 2005, pp. 67-68; Ambraseys, 2009, pp. 279-280).

Information on the quake of December 30, 1097 can be found in the words of three Latin historians at the time of the First Crusade: Raymond of Aguilers, Fulk of Chartres and Ralph of Caen. Fulk of Chartres' account is particularly valuable because he and the future king of Jerusalem, Baldwin, were both in the Upper Euphrates Valley (modern Fırat Havzası) at the time, so Fulk was an eyewitness to the phenomenon:

> At that time, we saw the sky grow red in an amazing fashion, whereupon we felt a great earthquake, which frightened us all. At the same time, many people also saw a sign in the shape of a cross, white in color, which moved straight towards the East. (Guidoboni et al., 2005, p. 68)

[72] As the above-mentioned sources stated, our sources for this earthquake differ on the number of towers that collapsed. The thirteenth-century priest of a Coptic Church, Abū al-Makārim states that a quake hit and damaged the city: "During the empire of Ghuzz [the Oghuz Turks] a great earthquake took place in Antioch, in which the thirty-two towers fell down… Some of them sank down and the River Orontes entered the city and split it in its center" (Hacken, 2006, p. 197).

The earthquake struck when the Crusaders were having great difficulties in their siege of Antioch in the winter of 1097-1098. Raymond of Aguilers records that:

> Meanwhile there was a great earthquake on the third day before Calends of January [December 30, 1097]; and we saw an amazing sign in the heavens. For shortly after nightfall, the sky in the north became so red that it almost seemed that the dawn of a new day had come. (Guidoboni et al., 2005, p. 67)

Ralph of Caen gives similar information:

> The siege began during the winter season, when every kind of winter hardship had to be endured: rainstorms, which could be sudden and prolonged; frequent movements of heaven and earth, so that any balances between the elements was destroyed, and it seemed that things would rise up into the sky or plunge into the entrails of the earth. And then there was the raging of winds and storms. Their fury swept away tents and camps, and only with difficulty could a large building or tower remain standing. (Guidoboni et al., 2005, p. 68)

September 1108 (Michael the Syrian, vol.3, p. 197; *cf*. Guidoboni et al., 2005, p. 71; Ambraseys, 2009, p. 281).

The twelfth-century historian Michael the Syrian reports this earthquake without noting the epicenter. He states, "In the same year, in the month of September there happened a very violent earthquake and caused many important places/buildings to collapse" (Budge, 1932, vol.3, p. 197).

November 13, 1114 (Fulk of Chartres in Guidoboni et al., 2005, p. 75; Walter the Chancellor, p. 82; William Archbishop of Tyre, vol.1, p. 500; Ibn al-Kalānisī , p. 149; Matthew of Edessa, pp. 216-217; al-Azīmī, p. 39; Ibn al-Athir, vol.10, p. 404; *cf*. Guidoboni et al., 2005, pp. 74-80; Ambraseys, 2009, pp. 283-291[73]).

The earthquake of November 13, 1114 was a very destructive one. Information on it appears in Latin, Syrian and Arabic sources. The Latin sources record seismic effects in the territories occupied by the Crusaders; the Syriac sources record the effects in the territory of Edessa only; and the Arabic sources record earthquake damage in the emirate of Aleppo. The earthquake caused very serious damage. Collapses affected a great part of the built-up areas and in addition to Antioch, four more cities were also

[73] Ambraseys gives November 29th as the date.

affected: the ancient Syrian fortress of Balis, east of Aleppo, Mamistra (Mopseustia-modern Yakapınar, Adana), and Harran. There seems to be confusion about the actual date of the earthquake; some sources state that it occurred on November 29th, not on November 13th. However, since we have an eyewitness to the event, we should accept his dating. Fulk of Chartres was the eyewitness and he is our primary source for this catastrophe. He says:

> 1114 …Immediately afterwards, that is to say on the Ides of November [November 13], an earthquake at Mamistra razed part of the town to the ground. The earthquake was even more violent in the region of Antioch, to the extent that walls and houses were totally or partially destroyed in many towns, and some of the inhabitants were also crushed in the ruins. It is said that the earthquake shock was so severe at the town of Mariscum [in Latin sources, modern Maraş], which stands; I think about sixty miles to the north of Antioch, that houses and town walls were completely destroyed, and all the inhabitants were killed. What a tragedy! (Guidoboni et al., 2005, p. 75)

William Archbishop of Tyre, twelfth-century Latin historian, provides a very detailed account of the earthquake, but fails to indicate the exact date of its occurrence:

> In the year of the Incarnation of the Lord 1114, a great earthquake shook the whole land of Syria and utterly destroyed many cities and fortresses. It was most destructive in Cilicia, Isauria and Coelesyria. In Cilicia, it overwhelmed Mamistra, with many other fortified places. It also destroyed the city of Marash with the outlying districts so that only vestiges of some remained. Towers and fortifications were shattered, and the falling of large buildings brought destruction to a great many people. The largest cities became mere heaps of stones, burial mounds for those who had been killed, sepulcher for the people crushed in their fall. The populace fled in consternation from their dwellings in the cities, dreading the downfall of the houses. They hoped to find rest under the open sky, but their slumbers were broken by fear, for in dreams they lived through the fate, which in their waking hours they had dreaded. This overwhelming catastrophe was not confined to one district alone. It extended far and wide, even to the remotest regions of the Orient. (Babcock & Krey, 1943, vol.1, p. 500)

The account of the Armenian chronicler Matthew of Edessa is useful because it is not only very detailed, he also provides contemporary views on the cause of the quake. He is clear that people believed earthquakes were sent by God to guide sinners and serve as divine punishment (Dostourian, 1993, pp. 216-217) (see Appendix B.9).

The twelfth-century author Walter the Chancellor wrote during period of the Crusades. He does not, however, mention this quake in his discussion of the events of 1114. Yet he does touch on the November 29, 1115 earthquake and then refers back to a quake in 1114 as follows: "…And not long afterwards testimony from the town of Mamistra, previously ruined with its citizens and the greater part of the town on the feast of Saint Brice [November 13, 1114], increased their fear" (Asbridge & Edgington, 1999, p. 82).

November 29, 1115 (Walter the Chancellor pp. 80-84; Fulk of Chartres in Guidoboni et al., 2005, p. 82; Michael the Syrian, vol.3, p. 200; Abu'l Faraj, p. 247; *cf*. Guidoboni et al., 2005, pp. 80-83; Ambraseys, 2009, pp. 283-291[74]).

Our main source for the earthquake of November 29, 1115 is Walter the Chancellor, who personally experienced it. He provides focused description of this event:

> In the 1115th year from the incarnation of our Lord Jesus Christ, on the eve of the feast of Saint Andrew the Apostle [November 29, 1115] and in the silence at the dead of night, when human frailty was accustomed more suitably and more sweetly to sleep, there was an immense and terrible earthquake in Antioch and its region. (Asbridge and Edgington, 1999, pp.80-81 - for the continuation of the account see Appendix B.10)

April 3, 1118[75] (al-Azīmī, p. 41; Ibn al-Athir, vol.10, p. 423).

Among our sources the Arab historian Ibn al-Athir provides more information when he reports the following on this earthquake: "On the Eve [of the sacred holiday], there was an earthquake in Al-Jazīrah, Iraq, and in many different countries. Many houses on the east side of Bagdad had been destroyed" (Özaydın, 1987b, p. 423).

[74] Ambraseys includes the details of this quake under the earthquake of November 29, 1114.
[75] Neither source notes this earth tremor.

1123/1124[76] (al-Azīmī p. 47).

Information for this earthquake comes from al-Azīmī. Although he does not provide detail on the scale of the destruction, he mentions the water shortage that occurred after the earthquake: "There was an earthquake that caused a water shortage in the city and correspondingly the city gardens dried out" (Sevim, 1988, p. 47). From his account, we can infer the water supply system was damaged by the quake and caused the shortage.

February 3-September 1133 (Michael the Syrian, vol.3, p. 235; *cf*. Guidoboni et al., 2005, p.1 39; Ambraseys, 2009, p. 293).

Information on this earthquake comes from the twelfth-century Syrian historian Michael the Syrian. He does not locate this event. He briefly says that an earthquake happened on February 3, 1133. A few sentences later he talks about another earthquake that took place in the same year in the month of September, again without stating its location. He merely records that the quake happened during the day and was followed by a terrible noise in the evening; also, a terrible sign appeared and a fire started (Budge, 1932, vol.3, p. 235).

July-August 1135[77] (Ibn al-Athir, vol.11, p. 40).

The Arab historian Ibn al-Athir mentions this earthquake only briefly. He states, "There was an earthquake in Iran, Iraq, Mosul, and in other cities and it caused many people to die" (Özaydın, 1987b, p. 40).

October-November 1137 (al-Azīmī, p. 63; Ibn al-Athir, vol.11, p .66; *cf*. Guidoboni et al., 2005, p. 140; Ambraseys, 2009, p. 294).

Our source for the quake of 1137 is again Ibn al-Athir. His information is very brief: "There was a big earthquake and Syria, Al-Jazīrah, Diyarbakır, Mosul, Iraq, and many other places were effected. It destroyed many places and people who got trapped under the debris perished" (Özaydın, 1987b, p. 66). Similarly, the twelfth-century historian al-Azīmī dates two earthquakes to the years 1138/1139, but does not provide any detail. He states that a second earthquake happened four months after the first one, which caused a great roar (Sevim, 1988, p. 63).

[76] Neither Guidoboni et al. nor Ambraseys mention this quake.
[77] Neither of the sources include this seismic event.

July-August 1140/1141[78] (al-Azīmī, p. 64).

Among our sources only al-Azīmī records this event. He briefly says that there were two small earthquakes in July and August (Sevim, 1988, p. 64).

Between April 3, 1156 and 1159 (Ibn al-Kalānisī, pp. 326, 328-329, 338-339; Ibn al-Athir, vol.11, p. 185; Abu'l Faraj, pp. 284-285; Matthew of Edessa, p. 267; Michael the Syrian, vol.3, pp. 315-316; *cf.* Guidoboni et al., 2005, pp. 153-165; Ambraseys, 2009, pp. 298-315[79]).

There were continuous and lengthy seismic sequences between April 1156 and May 1159 in Syria and in Antioch. Our sources report that earthquakes occurred at different places on different dates. It is interesting that one of our main sources for the period of the Frankish Principality of Antioch, the author William Archbishop of Tyre, does not mention this quake although he was probably a contemporary witness. Among our sources, however the twelfth-century Arab chronicler Ibn al-Kalānisī provides precise information about this continuous catastrophe that he experienced:

> On the eve of Wednesday, 19th Safar, [April 3] there was a great earthquake shock just about dawn…followed by another on the eve of the Thursday following…and another after the congregational prayer of the Friday following. A series of reports was received from the north relating the terrible effects of these earthquake shocks, both the earlier and the latter ones, in the cities Shaizar, Hamāh, Kafr Tāb, Afāmiya, and the neighbourhood as far as places in the provinces of Aleppo. (Gibb, 1932, pp. 328-329)

The Armenian chronicler Matthew of Edessa records that an earthquake occurred in 1156/1157. He reports:

> In the year 605 [1156-1157] on the 26th of November an earthquake was felt throughout the whole land; many Muslim towns on the confines of Arabia, near Aleppo, collapsed to their very foundations. However, the Lord has saved the Christians from any harm right up to the present. The tremors continued without interruption until the beginning of the following year, and it was impossible to reckon their number during the fourteen months [of the earthquake period]. (Dostourian, 1993, p. 267)

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[78] Neither Guidoboni et al. nor Ambraseys mention this quake.
[79] Both sources record various earthquakes between 1156 and 1159.

The thirteenth-century Syriac historian Abu'l Faraj notes the physical damage caused by this series of quakes in different cities. He writes:

> And in this year, which is the year five hundred and fifty-two of the Arabs [1157], severe earthquakes took place in Syria and they destroyed many towns…In Laodikeia the great church only remained, and all those who were in it were delivered. And the ground inside it was rent asunder, and a chasm, which was full of clay appeared, and in the middle of the clay a molten image was standing upright. And, similarly the greater part of Antioch and Tripoli was destroyed .(Budge, 1976, vol.1, pp. 284-285)

The Arab historian Ibn al-Athir talks about the damaged areas and how Nur ad-Din, the Seljuq general, acted after the earthquake:

> In the month of Rajab [August-September 1157], there were numerous and strong earthquakes in Syria, which caused great damage, ruined many cities. Hamah, Shayzar, Kafar Tab, Ma'arra, Afamiyya, Hims, Arka, Laodikeia, Tripoli, and Antioch were destroyed. At some places the damage was not intense, but most parts of Syria were ruined. The walls of the city and castles were overturned. Nur ad-Din took the lead and pleased everyone with his efforts. Since the walls of the city were destroyed he feared the Crusaders' attacks; therefore, he assembled his army, made sallies to the Crusaders' territory. At the same time, he also took care of repairing the walls of other cities until the works were completed. Regarding the number of dead, we believe telling the story of a schoolteacher from Hama will give an idea. The earthquake happened when this teacher left the school to take care of personal business. The school building was destroyed and all the students were buried under the debris. He also added that, 'No one came to school to ask for their children'. (Özaydın, 1987b, p. 185)

August 1163 (Letters of Bertrand of Blanquefort, King Amalric I of Jerusalem, and Bohemund III in Guidoboni et al., 2005, pp. 172-173; *cf*. Guidoboni et al., 2005, pp.172-173[80]).

[80] Guidoboni et al. is our only secondary source to mention this quake.

Even though contemporary and near contemporary sources do not mention this earthquake; reference to this quake is found in four letters written to King Louis VII of France between September/October 1163-August 1164. The letters were written by Bertrand of Blanquefort, Grand Master of the Templars, in September/October 1163; by King Amalric I of Jerusalem (two letters) in September/October 1163 and on April 8, 1164; and by Bohemund III, son of Prince Raymond of Antioch, between August 1163 and August 1164.

The letter of Bertrand of Blanquefort written in September/October 1163 provides the information below. Bertrand's description also helps us to understand how the Latin's interpreted the cause of the earthquakes. Bertrand also attributes the cause to the will of God:

> By divine will and as a consequence of the burden of our sins, after fortifications were thrown down in the earthquake, and many castles were destroyed, and huge numbers of us were crushed under the debris of walls, lo, the onslaught of the enemy's attack on us became much stronger than usual, increasing many times in ferocity. (Guidoboni et al., 2005, p. 172)

Likewise, the letter of King Amalric I of Jerusalem written on April 1164 provides parallel yet additional information:

> …the whole of Eastern Christendom has been deeply worn down and more than usually oppressed, and its sufferings are increasing without pause, both by the misfortune, of which we know you are already informed, suffered by the illustrious Prince Rainald of Antioch, who was captured on his return from an expedition and saw almost all those who were with him killed or captured, as well as by the earthquake which, last August, shook to their foundations almost all the castles and towers and towns in the principality of Antioch, razing them to the ground. We therefore beg your Serenity and Excellency [King Louis VII of France] to show your concern for that kind which our Lord in person deigned to visit, make famous, and consecrated… (Guidoboni et al., 2005, pp. 172-173)

June 29, 1170 (William Archbishop of Tyre, vol.2, pp. 370-371; Michael the Syrian, vol.3, pp. 337-339; Ibn al-Athir, vol.11, p. 286; Abu'l Faraj, pp. 295-296; *cf*. Guidoboni et al., 2005, pp. 189-210; Ambraseys, 2009, pp. 316-325).

The earthquake of June 29, 1170 was another of the more serious seismic events to have hit Antioch in the Middle Ages. The most important source for this earthquake is the contemporary Latin author William Archbishop of Tyre. His comments are quite detailed. He provides information on the effects of the quake, and confirms the Latins' view on its cause. He believed that earthquakes were a sign of the wrath of God:

> In June of the following summer, that is in the seventh year of King Amaury's [Amalric - King of Jerusalem], a great and terrible earthquake, far more violent than any other within the memory of men now living, occurred in the Orient…Everywhere were signs of sorrow, everywhere obsequies for the dead. The largest cities of our provinces and those of Syria and Phoenicia as well, cities famous throughout the ages for their noble antiquity were prostrated. In Coelesyria, Antioch, the metropolis of several provinces and once the head of many kingdoms, was utterly overwhelmed and its entire population destroyed. The massive walls and the immensely strong towers along their circuit fell in ruins. Churches and buildings of every kind were thrown down with such violence that even now, although much labor and expense have been devoted to their restoration, they are only partially repaired. … Peace, brought about by the desire of all, ensued, albeit for a short interval, and a truce was arranged through fear of the divine wrath. Each, while momentarily expecting the outpouring of righteous anger from heaven in punishment for his sins, refrained from acts of hostility and curbed his own evil impulses. Nor was this revelation of the anger of God a momentary thing, as often happens. For three or four months, indeed even longer, that awful tremor was felt both by night and by day, three or four times repeated, or more. (Babcock & Krey, 1943, vol.2, pp. 370-371)

The twelfth-century historian Michael the Syrian refers to the destruction of this quake as well:

> As we were at the Monastery of Mar Hananya (in modern Mardin), and prostrated in front of the altar, the earth started shaking and threw us from one side to the other. After a while we were assured that not only in the monastery but also in the whole region the earthquake did not cause any damage. However, damage was great in other cities and in other lands. In this earthquake, the city of Berotha, which is the city of Aleppo, totally collapsed. …In Antioch, the seaward wall collapsed and the great church of the Greeks was in ruins. The sanctuary of the great Church of Saint Peter was overthrown, as well as houses

> and churches in different places; and around fifty people died. … In Antioch three churches were saved: Church of the Mother of God, Church of Saint George and Church of Saint Bar Sawma. (Budge, 1932, vol.3, pp. 337-339)

This earthquake is referred to as the "Aleppo Earthquake" in the Arabic sources. The Arab historian Ibn al-Athir's description indicates the damage it brought:

> This year on 12 Shawwal [June 29, 1170], the earth shook several times in a terrifying way, like we have never experienced before. The tremors were felt in the whole region of Syria, Mesopotamia, Mawsil, Iraq, and in other regions. The most devastating effects were felt in Syria. It also caused great damage in Damascus, Baalbek, Hims, Hamat, Shayzar, Barin, and Aleppo and in other places; the citadels and walls of those cities were destroyed. The earthquake was also felt in the territory of the Franks and caused a great damage. Both the Franks and Nur al-Din worked hard to rebuild their cities, each out of fear of the other. (Özaydın, 1987b, p. 286)

February-March 1194[81] (Ibn al-Athir, vol.12, p. 99).

The Arab historian Ibn al-Athir records an earthquake between February-March 1194 which effected Al-Jazīrah, Iraq, and many other places. He does not provide any details however (Ağırakça, 1987, p. 99).

May 20, 1202 (Geoffrey of Donon in Guidoboni et al., 2005, pp. 222-223; Ibn al-Athir, vol.12, pp. 147-148,168; Abu'l Faraj, pp. 350-351; *cf.* Guidoboni et al., 2005, pp. 219-231; Ambraseys, 2009, pp. 327-337).

This is also one of the most severe earthquakes (Mayer, 1972; Ambraseys and Melville, 1988) that Antioch suffered during its history. The impact was so great that cities on the coast were damaged by sea waves. The earthquake occurred sometime between the Third and the Fourth Crusades. For this event our most detailed information comes from a letter of Geoffrey of Donjon, Grand Master of the Order of Knights Hospitallers. The letter was written to King Sancho VII of Navarre in June 1202:

> While all things lay in silence and the night proceeded on its course on the twentieth day of May at the hour when sleep caresses-tired eyes, shortly before

[81] Neither Guidoboni et al. nor Ambraseys make note of this earth tremor.

> dawn, the wrath of God rose up against us and there was a great earthquake. Of the towns and castles in the East, whether belonging to pagans or Christians, some were annihilated, some destroyed and some risked being reduced to ruins because of the damage inflicted by the strong earthquake… What can we write about the death of the people of this town, for death has taken them without number in the ruin of their homes? ...Our castles of Cratum and Marget have suffered much damage but nevertheless still have little to fear from enemy attacks, if they are spared greater shaking by the will of God. Antioch and the lands of Armenia, although struck by the earthquake, have not suffered too serious damage amidst all these dreadful events. (Guidoboni et al., 2005, pp. 222-223)

The Arab historian Ibn al-Athir records two earthquakes in Egypt and Syria and dates them to the years 597 and 600 [1201-1202]; but the earthquake he dates to 597 is the same one recorded by Geoffrey of Donjon. Although Ibn al-Athir does not specifically mention Antioch in his text, we can assume that the tremors were also felt in Antioch due to its close proximity to Syria:

> In this year, there were tremors in Mawsil (modern Mosul), Al-Jazīrah, Syria, Egypt, and in other places; and the damage was huge in Syria. Many houses were destroyed in Damascus, Hims, and Hamat. The earth swallowed up a village in Busra. There was also great damage along the Syrian coast. The earthquake also affected the citadels of Tripoli, Sur, Acre, and Nabulus as well as the Byzantine territory in Anatolia; however, the damage in Iraq was very slight, none of the houses were destroyed. (Ağırakça, 1987, pp. 147-148)

On the other hand, in Ibn al-Athir's second account, where he talks about the events for the years 1203-1204, he states that a great earthquake struck Egypt, Syria, Mesopotamia, in the Byzantine territory, Sicily and in Cyprus and tremors were even felt in Mawsil and Iraq. The city walls in Sur were destroyed and the earthquake also damaged many cities in Syria (Ağırakça, 1987, p. 168).

March 4, 1225 (Ibn al-Athir, vol.12, p. 409; *cf*. Ambraseys, 2009, p. 340[82]).

[82] Guidoboni et al. do not mention this quake.

Information for this earthquake also comes from Ibn al-Athir. He states that the epicenter of the earthquake was Mosul and tremors were felt in Iraq and in Al-Jazīrah (Ağırakça, 1987, p.409).

April 17, 1269 (Abu'l Faraj, p. 448; *cf*. Guidoboni et al., 2005, pp. 275-276; Ambraseys, 2009, pp. 348-349).

This is the last earthquake recorded by the sources available to us in Antioch and its vicinity for the thirteenth century. The thirteenth-century Syriac historian Abu'l Faraj provides a specific date for the quake. Although the earthquake happened in Cilicia, it is most probable that the tremors were felt in Antioch as well. He records:

> And in the year fifteen hundred and eighty of the Greeks [1269], on the 17th day of the month April, at the first hour of the night of the fourth day of the week, a severe earthquake took place in Cilicia, and it destroyed the rock fortresses of Serwand, Amaos, and that of the rock of Harû'tâ, and the great monastery of the Armenians -the Monastery of Balût the king. And about eight thousand souls perished in this catastrophe. (Budge, 1976, p. 448)

4. ARCHAEOLOGICALLY STUDIED STRUCTURES IN EXCAVATION AND RESEARCH REPORTS AND WHAT THEY REVEAL ABOUT ANTIOCH'S BUILDINGS

In this chapter we will examine what the archaeological evidence reveals about the effects of the earthquakes on Antioch's buildings and if there is any evidence for repairs made due to earthquake damage. The available historical sources, when they mention a particular building, often do not provide information about that building's structural elements or materials. However, the archaeological evidence as recorded in excavation and research reports allow us to gather information about the structure(s) of the buildings that existed in the city. For this chapter, when buildings are examined, the examination will be first done by looking at the building types and plans, materials used for construction. Then we will investigate the reason(s) for the damage they incurred over the years and note repairs to the buildings and if their functions were altered or given new purposes. When buildings are noted below, whether for ecclesiastical or common use, references will also be given to their first and last appearance(s) in the primary sources.

This chapter will evaluate the buildings of the city in four different categories: archaeologically studied structures that are not known in the primary sources; archaeologically studied structures that are known in the primary sources; structures that are known in the primary sources but not in the archaeological studies; and structures that remain today (see Appendix D.1, Appendix D.2, Appendix D.3, and Appendix D.5).

4.1 Archaeologically Studied Structures That are Known in the Primary Sources

4.1.1 The hippodrome

The ruins of a hippodrome (numbered as 81 on Appendix D.1) were found in a swampy field to the northeast of the city close to the Orontes River (modern Küçükdalyan neighborhood). Regrettably, nothing much remained of the hippodrome except the cores of the sixteen concrete stairways that survived in situ making them among the few physical remains of the ancient city (Figure 4.1). The excavation reports record

that this site had been used as cemetery starting in the early seventh century and continuing into the 1930s. Two columns of local red granite were found at the south end of the arena (Campbell, 1934b, p. 34).

The podium was constructed of cast concrete and in some parts trimmed blocks of limestone were used. The concrete was a mixture of lime, river sand and fieldstones Campbell, 1934b, p. 35). The foundation of the ambulacrum was found parallel to the foundation of the podium. A wall of solid masonry of large blocks of limestone supported the foundation of the podium. Few blocks of the structure of the podium remained and were in poor condition due to weathering. The cavea, situated behind the podium, was divided into two rows of seats separated by a horizontal passage. The vaults supporting the tiers of the cavea were built with blocks of local limestone (Campbell, 1934b, pp. 35-36). The height of the stairs is approximately seven meters and contains twenty-five steps. In light of the data recorded by Princeton University and from recent excavations, we can deduce that the hippodrome extended in a north to south direction with an interior length of 492,5 meters and with an exterior length of 513 meters; the narrowest width on the west-east axis is 73,2 meters (Pamir, 2017, p. 77).

On the northern edge of the hippodrome the foundation of the *Porta Triumphalis* was also discovered. It contained three long bays. A coin from the reign of Emperor Constantine and pottery sherds from the fourth century were found under the roadbeds. Limestone chips surfaced with lime were used for the construction of these roads. The *Porta Triumphalis* had three arches over a triple entrance to the arena (Campbell, 1934b, pp. 38-40). The main gate of the hippodrome, the *Porta Pompae,* and the paved area around it were also identified. In addition, the foundation of a vaulted passage was uncovered (Campbell, 1938, p. 206).

Neither the historical sources, which are available to us, nor the excavation evidence date the foundation of the hippodrome. Coins were found under the strata below the level of the top of the foundations. These coins date from the fourth century B.C. to the second century B.C. Also, a coin from the period of Antiochus VI Dionysus (145-142/41 B.C.) was recovered (Campbell, 1934b, p. 40). In 2011, the Hatay Archaeology Museum began rescue excavations on the site and these excavations are currently ongoing. During the 2016 excavations on the site coins in the form of *aes formatum* (formed or shaped bronze coin) were found. These date to the end of the fourth century B.C. to the third century (Pamir, 2017, p. 78). The earliest pottery findings from the

site date to the early Hellenistic period (Pamir, 2019, p. 359). Until the new evidence comes out, the present coin and masonry findings date the foundation of the hippodrome to the first century B.C., sometime during the reign of Quintus Marcius Rex as stated by the Princeton University excavation reports (Campbell, 1934b, p. 40). In addition to the uncertainty about the foundation date of the hippodrome, historical sources provide limited information about the building itself. During the reign of Augustus, the hippodrome was cleared of old rubble which had accumulated after the earthquake of 83-69 B.C. (Jeffrey & Scott, 1990, p. 119). Furthermore, the earthquake of September 13-14, 458 caused the towers in the hippodrome area to collapse (Whitby, 2000, p. 95). After the earthquake of October 31, 587/588, funds were granted by Emperor Tiberios to Patriarch Gregory for rebuilding (Whitby, 2000, p. 300; Smith, 1860, p. 226). This is the last mention of the hippodrome in the sources. It is clear from the historical and archaeological evidence, though, that the hippodrome area suffered from earthquake damage throughout its existence and this section of the island was abandoned starting from the second half of the fifth century.

One of the important findings of the ongoing excavation in the hippodrome area is the Podium Temple (Figure 4.2), the name of which was only recorded during the Princeton University excavations. Primary sources mention several temples founded all around the city, but none of these note a temple located on the island. Archaeological evidence from the temple dates from the third century up to the eleventh century. However, pottery sherds and a piece of a red slip lamp found on the platform surrounding the exterior wall of the cella date to the first century B.C. While coins from the site vary in date from the third to the fourth centuries, pottery sherds date from the fifth to seventh centuries. Excavations on the site are currently ongoing and some new evidence about the foundation date of the temple might be clarified in the future. The metal armlet discovered on a skeleton found in the debris indicates that the area was destroyed sometime in the sixth century. The building was not in use until the Crusaders' conquest of the city. The temple is oriented in a north to south direction and sits parallel to and approximately 1.60 meters from the hippodrome. The Podium measures 109.70 meters from north to south, and 75.06 meters from west to east. The remains from this temple include a podium and cella wall with foundations of *opus caementicium*, constructed with pebble stones and cement mortar (Pamir, 2016, pp. 303-307).

Recent archaeological studies on the site have provided information on the effects of the earthquakes and the necessary precautions which were taken to reduce the effects of the quakes on the structures. This will be discussed in Chapter Five.

Figure 4.2 : Foundations and trenches of the Podium Temple (Pamir, 2016, p. 304).

4.1.2 The theatre at Daphne

During the Princeton University excavations conducted in Daphne a theatre (see Appendix D.5) building was uncovered. Excavators believed that the surrounding area of the theatre was occupied at an earlier period before the foundation of the theatre. Archaeological evidence reveals that large blocks of two different types of limestone were used to build the first structure: fine-grained hard white limestone and soft tawny limestone which was used for building the stage, scaenae frons and the walls of the parodoi (Figure 4.3). During this period the scaenae frons was decorated with different types of marble such as Assuan granite. The walls of the parodoi were erected in simple lines, without any niches. The thickness of the walls of the parodoi were two meters at their thinnest. Their passage floors were covered with blocks of soft stone. The cavea was built to a height of twenty meters above the level of the orchestra and a big open gutter established the boundary of the semi-circle of the orchestra. During this first period, a solid stone barrier was used to separate the orchestra from the cavea (Wilber, 1938b, pp. 60-61)

The transition into the second period of the building can be considered as an intermediate period because fundamental structural changes were discovered all

around the theatre complex. During this period, thin blocks of limestone were added to the orchestra gutter (Figure 4.4). The walls of the parodoi were reconstructed with marble revetment pieces, the floors were repaired with pebble and broken marble chips. Reconstruction in the second period started first at the orchestra floor and the whole floor, including the parodoi passageways, was repaved with sandstone slabs of uniform size. The cavea was separated from the orchestra by adding a new stairway, and rubble and concrete masonry were used to repair the seating area (Wilber, 1938b, p. 62).

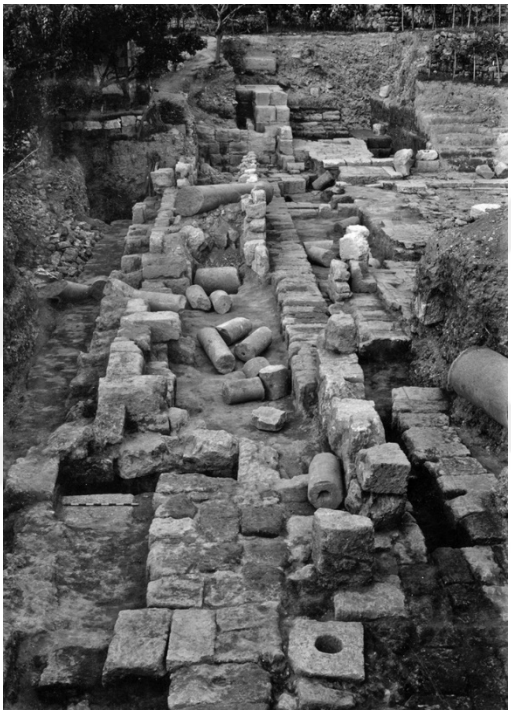

Figure 4.3 : General view of the scenae frons and stage area with walls of all building periods in situ, the theatre at Daphne (URL-15).

During the excavations, a small part of the cavea area was explored in an attempt to examine the construction of the seating. Five steps carved into the rock were found, but it was difficult for the excavators to determine the dimensions of the theatre seats. Small sections of cemented masonry were found as well. It appears that when the blocks from the first period were removed, a new base construction in crude *opus incertum* was placed on top of all the rock blocks. The excavators assumed that the capacity of the theatre was around six thousand people (Wilber, 1938b, pp. 62-65). Unfortunately, data from the excavations does not indicate if the theatre sustained earthquake destruction.

Figure 4.4 : West side of the orchestra gutter at the theatre at Daphne (URL-16).

4.1.3 The Church of Saint Babylas

During the excavations of 1935, a cross-shaped church with arms of equal size was uncovered. The church (numbered as 49 on Appendix D.1) was built in Kaoussié (modern Kapısuyu), outside of the Ancient Antioch on the right bank of the Orontes River. The setting of the church impressed the excavators by its distance from the city since it seems to have been built in isolation from the center of Antioch (Lassus, 1938, p. 5). However, Mayer and Allen quoted from G. Brands' 2010 Dumbarton Oaks lecture in which Brands argued that the church was actually situated in a developed, suburban area rather than an isolated one (Mayer & Allen, 2012, p. 9). Although the church has been attributed to Saint Babylas, some sources refer to this building as the Church in Kaoussié due to its location (Figure 4.5).

Inscriptions were found on the pavements of the north and south arms, in the center of the pavement of the west arm, and on the north wall of the pistikon at the entrance of the baptistery. The inscription on the north wall of the church dates the completion of the pavement work there to 387, the earliest date given in the inscriptions. Therefore, it seems likely that the building was constructed in the last quarter of the fourth century (Lassus, 1938, pp. 38-43). At the end of the west arm a portico was situated. The eastern arm of the church also had a portico on both sides. Excavators recorded that, due to poor construction of these porticoes and not being in compliance with each

other, it is likely that these sections were added sometime after the foundation of the church Lassus, 1938, pp. 22-23) (Figure 4.6). The four arms supported the central chamber of the church and the remains of the foundation indicate that arches bracketed the four arms and they formed the shape of a tetrapylon. The U-shaped bema is located along the east-west direction and the semicircular part was placed towards the west arm (Lassus, 1938, pp. 9-10). The east arm of the church had different features from the other arms: rooms and porticoes surrounded it and it had different mosaic figures. Furthermore, there were more tombs in this arm compared to the other arms. Excavation records state that the rooms and porticoes in this section were added at different times and the intense plumbing section in this arm helps us to note the periods of these plumbing settings (Lassus, 1938, pp. 18-19). The church had a timber roof with the roof above the chamber area having a pyramidal form. The pavements of each arm of the building, the baptistery area, and one room on each side of the east arm were covered with mosaics. In general, geometric figures were used, but as stated above, the east arm had a mosaic at the threshold of the chamber that included a border with remains of three crosses (Lassus, 1938, pp. 13-21).

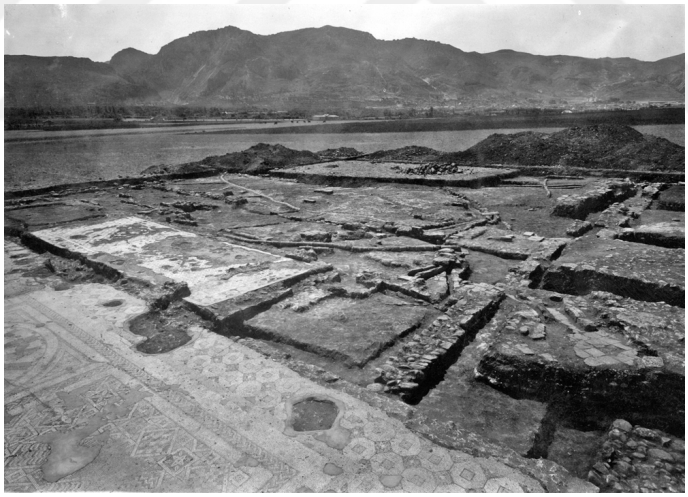

Figure 4.5 : General view across additions in the southeast angle of the Church of Saint Babylas (URL-17).

There were several tombs constructed of brick and cement located in each arm of the church; however, the one located on the northwest corner of the chamber area was different from the others as it had two levels. This tomb is believed to have belonged to the saint (Lassus, 1938, p. 11). The excavation records unfortunately do not provide any information on earthquake related destruction.

Figure 4.6 : View of the platform and apse in the chamber area of the Church of Saint Babylas (URL-18).

4.2 Structures That are Known in the Primary Sources but not in the Archaeological Studies

4.2.1 Public and ecclesiastical buildings

This section addresses the public and ecclesiastical buildings and other structures mentioned in the primary sources (see Table A.1), but not in the reports of the Princeton University Excavations or recent archaeological studies and explorations in the city and its vicinity.

4.2.2 Antioch's city gates

Due to geographical position of Mount Silpios, it was impossible to keep the city safe from the mud and alluvion coming down from the mountain after heavy rains. Furthermore, the mountain did not protect Antioch from foreign invasions. Thus, since its foundation walls were built to surround the city. Antioch's walls lasted for centuries and were famous for their length. Because the walls were so extensive a number of gates were inserted to provide access to the city. Bridges, too, were erected over the Orontes River (Figure 4.7). On various occasions, Libanios, John Malalas and Prokopios mention that the old city was connected to the new one by bridges. In his *Antiochikos*, where he talks about the city's buildings, Libanios gives the number of the bridges in the city and says that "What is divided in this way is, however, united by five strong bridges" (Downey, 1959, p. 675). Two of these bridges are also pictured on the Yakto Mosaic.

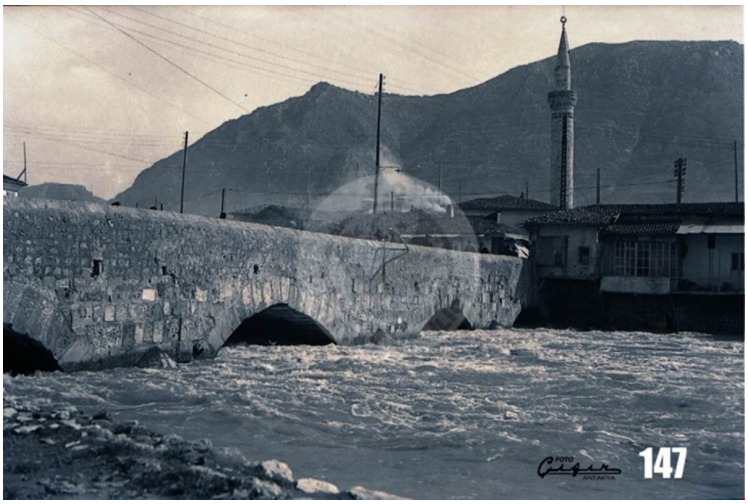

Figure 4.7 : View of an old bridge from ancient period (URL-19).

In the Yakto Mosaic, an arch of a gate with two columns rising from their bases are depicted. It has been argued among scholars that the section where the gate is depicted, represents the entrance to the city from the Aleppo road (Levi, 1947, vol.1, p. 331; Cimok, 2000, p. 255). Sources available to us identify numerous gates, but only two of these can be identified today: the Iron Gate in Antioch and the Market Gate in Seleucia Pieria.

The Iron Gate, known as the Bāb al-Hadid to the Arabs, is located at the point where Mount Silpios divides into two parts. During the winter months the torrent from the Parmenius River used to run down the slopes of the mountain and empty into the Orontes River. The Iron Gate was built during the reign of Emperor Justinian (527-565) to control this torrent and secure the city from any possible flooding (Dewing and Downey, 1940, p. 169) (Figure 4.8a/b).

The Market Gate (Figure 4.9) is located in the lower part of Seleucia Pieria and connects the agora to the eastern part of the city. With its two semicircular towers the gate rests on a square podium and consists of a flanking archway above the curtain wall. There are entrances into the towers leading to narrow stairs. Large, well-squared blocks of limestone were used for its construction. It appears that because it was solidly built there was enough of this structure remaining to be studied in the 1930s. The towers and the gate were added to the city wall sometime after its construction and the space in front of the gate between the towers was probably walled up. The walling-up of the gate indicates it is likely that the gate itself had been modified to serve as a small, independent fortress (Stillwell, 1941, p. 31). The remains of the gate are still visible today. During recent archaeological research conducted in the area debris was

removed from the gate area and the towers on both sides of the gate were documented. The construction date of the gate has been dated to the Hellenistic period. Unfortunately, neither the Princeton University excavation records nor the evidence from recent archaeological research indicate if the gate sustained any earthquake damage (Pamir, 2014b, pp. 334, 344).

Figure 4.9 : View of the Market Gate (URL-21).

Antioch's city walls had numerous gates and the first one mentioned in our sources is the Romanesian Gate. The sixth-century chronicler John Malalas states that a marble statue was set up at the gate in honour of the priest Amphion during the foundation of the city (Jeffreys & Scott, 1990, p. 107). In her study on the imperial palace in the city, Saliou (2009) provides an argument about the location of the Romanesian Gate. She places the gate in the area where the Orontes River's right bank connects to a bridge on the ancient island close to the *Campus Martius* (pp. 244-246).

The Eastern Gate was constructed during the reign of Emperor Tiberios (14-37) and it is one of the gates that survived until the eleventh century when the Crusaders invaded Antioch. According to the sixth-century chronicler John Malalas, when the gate was first built a statue of a wolf suckling Romulus and Remus was set up on top it (Jeffreys & Scott, 1990, p. 125). This gate was called Bab al-Fāris (Gate of the Horseman) by the Arabs; and the Gate of Saint Paul by the Franks. The gate was also referred to as the Aleppo Gate since the road leading to Aleppo from Antioch originated here (Figure 4.10a/b). Several travelers throughout the centuries, especially since the Middle Ages, visited the city and their accounts, reports and drawings provide valuable information

about the history and the monuments of Antioch, which do not exist today. In terms of visual records, the eighteenth-century French landscape painter L. F. Cassas's drawings contain valuable data about the gates of the city (Demir, 1996, p. 138).

In his account, the sixth-century chronicler John Malalas mentions the Cherubim Gate twice. When discussing the building activities of the Emperor Vespasian (69-79), Malalas states that outside the city gate known as the Cherubim, the emperor fixed there the bronze Cherubim which were found by his son Titus in the Temple of Solomon. Further in his account, he also records that when Emperor Aelius Antoninus Pius (138-161) visited Antioch, he took care to pave the great colonnades and the streets of the entire city by using millstones and Theban stone. The Emperor met these expenses himself and recorded these improvements on a stone tablet, which was placed on this gate (Jeffreys & Scott, pp. 138, 149).

The Daphne Gate (or the Golden Gate) appears several times in the sources. It is first mentioned in the record of Emperor Trajan's (98-117) entrance into Antioch sometime before the earthquake of 115. Again, when John Malalas refers to the building activities of Emperor Theodosios II, he states that two bronze doors of the Daphne Gate were gilded (Jeffreys & Scott, 1990, pp. 144,1 97). The sixth-century historian Prokopios also mentions the gate when he records the capture of the city by the Persians in 540. He writes that Roman soldiers departed Antioch to fight the Persians through the gate, which leads to Daphne (Dewing, 1914, p. 333). In addition, in terms of the building activities of the Emperor Theodosios II (408-450), the sixth-century historian Evagrios Scholastikos writes that due to the enlargement of the city, the walls were extended as far as the gate leading to the suburb of Daphne (Whitby, 2000, p. 48). The Daphne Gate was known as Bāb Muslim to the Arabs and the Gate of Saint George to the Franks. One of the important historians of the early Islamic period, al-Balādhurī, states that a Muslim man was killed there and that is why the gate was known as Bāb Muslim to the Arabs (Hitti, 1916, p. 228).

The ninth-century historian Theophanes the Confessor notes that an extension was made to the Tauriana Gate (Gate of the Bull) in 385/386. It was widened to the full width of the bridge and was covered with a roof (Mango & Scott, 1997, p. 106).

Five gates mentioned in our sources survived until the Crusaders invaded Antioch in the eleventh century: The Daphne Gate, The Gate of Saint Paul, The Gate of the Dog, The Gate of the Duke, and The Gate of the Bridge. These gates are also mentioned in the letter written in 1051 by the Arab physician Ibn Butlān to his friend in Baghdad.

While describing the beauty and the buildings of the city, Ibn Butlān wrote, "… in the wall surrounding [the city] and in the part not on the mountain, are five gates…" (Le Strange, 1969, p. 371). In addition to this information, the twelfth-century historian William Archbishop of Tyre described the gates as follows:

> In that section of Antioch, which lay in the plain, there were five gates. In the upper part on the west was situated that one which is now called the Gate of Saint Paul, from the fact that on the slope of the height above there was a monastery dedicated to the apostle of that name. Directly opposite this and separated from it by the whole length of the city was the second or West Gate. This is now called the Gate of Saint George[83], because it lies near the basilica of that martyr. On the north side are three gates, all of which open towards the river. The upper one of the three is the Gate of the Dog [known as Bab el-Kalb to the Arabas], and directly in front of this is a bridge leading across the marsh, which is continuous with the wall. The second of these is now called the Gate of the Duke [known as Bāb al-Jinān to the Arabs and Gate of the Gardens to the Franks]. These two gates are about a mile from the river. The third gate is the Gate of the Bridge[84], so called because here is located the bridge by which the river is crossed. For between the Gate of the Duke, referred to above, which is in the middle, and the last gate on that side the river actually washes the walls and does not recede from the city (Babcock & Krey, 1990, vol.1, p. 207; also see Hill, 1962, p. 38).

In addition to the gates mentioned above, other gates receive single mention by authors who wrote about the history and buildings of Antioch. When discussing the events of 363/364, for instance, Theophanes the Confessor records that a disabled child was born to a country gardener outside the Gate of Tripylon (Mango & Scott, 1997, p. 84).

John Malalas writes that a man named Thomas was one of the robbers who plundered the citizens after the earthquake of May 20/29, 526 and he lived three miles outside of the city at the place known as Saint Julian's Gate (Jeffreys & Scott, 1990, p. 240).

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[83] William Archbishop of Tyre adds; "A tower commonly known as the Tower of the Two Sisters, in the western part of the city by the gate which today is called the Gate of Saint George" (Babcock & Krey, 1990, vol.1, p. 242).

[84] The author of the *Gesta Francorum* also mentions the location of the Gate of the Bridge (or the Philonauta Gate), and places it on the side of the city near the Saint Symeon's port (Hill, 1962, p. 42). The gate was known as Bab al-Bahr to the Arabs and the Suwaydiyah Gate in medieval times.

Recent archaeological studies helped to identify a few more gates in Seleucia Pieria: The Church Gate, The Harbour Gate, and The Air Gate (Hava Kapısı -located in the area close to the Kapısuyu-Hıdırbey road). All of these were discovered in the southeastern part of the upper city in the ancient site. Furthermore, it is assumed by the excavators that another gate probably existed at the place where the stairway connecting the lower and the upper parts of the city meets the upper city. Studies also helped to indicate the locations of some side gates in addition to the above-mentioned main gates (Pamir, 2014b, p.3 44).

4.3 Archaeologically Studied Structures That are Not Known in the Primary Sources

The Princeton University Excavations of 1932-1939 and recent archaeological studies and explorations in Antioch and its vicinity uncovered remains that shed important light on the topography of Ancient Antioch. Some of the recently discovered structures in Antioch, Daphne, and Seleucia Pieria will be discussed in detail below.

Structures that were studied during recent archaeological excavations in Antioch include valuable findings. The first rescue excavation was conducted in the district of İplik Pazarı (İplik Pazarı Mahallesi), one of the oldest quarters of Antioch, by the Hatay Archaeology Museum. A residential building with four mosaic panels was discovered; one panel in particular stands out. It is known as “The Sundial and Convivium Scene”, on which the depiction of a skeleton is seen for the first time among the mosaic patterns in Antioch. The coins found on the site date to sometime between 276 and 337, therefore it is possible to assume that the building was in use during the third and fourth centuries (Sezgin & Demir, 2013).

The second rescue excavation was conducted in the Haraparası district (Haraparası Mahallesi), southwest of the Cave Church of Saint Peter and to the western part of the Antioch-Reyhanlı road. Although studies on the data from the excavations are still ongoing, preliminary reports have revealed important information about the site. The summary of the preliminary excavation records show that the site was in active use from the Hellenistic to the eighteenth century. Below the present level lies the second level of the excavation area and it consists of remains of houses, streets and a sewage system ranging in date from the fifteenth to the eighteen centuries. Beneath this layer was a necropolis with thirty-one graves dating from the tenth to the fourteen centuries. The level below this third level dates from the sixth to the eleventh centuries and consists of a row of shops and a storage space that contains broken pithoi of twenty-

five meters by eight meters. This section has a mosaic floor that contains a two-colored fish scale pattern. The fifth level of the site revealed a structure with a heavily damaged wall and an atrium with marble and mosaic floors on the northern, southern and the eastern wings. On the western side of this structure there is a mosaic floor with geometric patterns consisting of nine panels. The thick layer of ash from burnt wood contains several nails which seems to indicate that the structure originally had a wooden roof. The excavators believe that after a fire the structure was heavily damaged either by flood or an earthquake. This area is dated to the second quarter of the sixth century. On the eastern side of this structure there were remains of a slanted row of columns that fell towards the west probably due to a significant event, maybe an earthquake. A heavily damaged Latin inscription in glass tesserae was found underneath the gate on the eastern side of the building. This structure has been identified as some kind of parliament building and the mosaic patterns found in the area date it to the fourth century. On the southern side of the river bed two concurrent streets, two houses and a row of places were uncovered. The houses are located in a north to south direction and the one close to the street is heavily damaged. The second house has five rooms and in the main room of the house a mosaic pavement was found that included the personification of Megalopsychia, a woman's portrait in a medallion, and assorted male and female birds, is dated to the fifth century. Furthermore, on the northern side of the river bed a bath complex dating to the fifth century with hot rooms, an impluvium, a praefurnium, a hypocaust, a cold room was excavated. On the seventh level of the excavation area, under the hypothetical parliament building, the *triclinium* of a private house dating to the second century with a mythological scene floor in the center was excavated. Test soundings towards the western part of the residential area, thirteen meters below the modern level have revealed a Hellenistic wall sitting on pebble stones. The stream bed of the Parmenius River lies in an east to west direction approximately five meters distance from here and there were remains of enceinte walls that ran in a north to south direction. (Pamir, 2013, pp. 101-106; Pamir, 2014d, pp. 104-112).

Three excavations conducted in Daphne in recent times by the Hatay Archaeology Museum revealed invaluable data about the structures of this famous suburb of Antioch. The first one uncovered a large mosaic panel depicting four famous scenes of Menander's comedy: Perikeiromene, Philadelphoi, Synaristosai and Theophoroumene. This is one of four mosaic panels referencing Menander found in Daphne. The mosaic panels are dated to sometime between the second and third

centuries, and were found in the district of Upper Harbiye (Yukarı Harbiye Mahallesi) which is two-hundred meters northeast of the Roman theatre in Daphne (Çelik, 2008; Gutzwiller & Çelik, 2012). The second structure with *opus sectile* floor found in the Harbiye district (Harbiye Mahallesi) consists of some architectural remains and seven mosaic floor pieces which all date to sometime between fifth and sixth centuries. Among this one mosaic piece stands out with its figures of sea creatures as well as the triton Galeus (Pekel, 2018). This figure of Galeus had previously been found at Bath E during the Princeton University excavations in Antioch. Last but not least, the third and probably the most important findings in Daphne in the Armutlu district (Armutlu Mahallesi) are the remains of a building and of a church. Remains of a sewage system and rooms found on the site helped the excavators to identify the first structure as a residential building dating to sometime between fourth and sixth centuries. Coins from the reigns of Constantine I (306-337) and Justinian (527-565), a silver seal, spatula and polycandelon [round, flat shaped lamps] are some of the archaeological evidence found on the site. The second structure found close to the residential building belongs to a church. The excavation evidence has shown that not only the architectural plan but also the mosaic setting is similar to the Church in Seleucia Pieria in the lower city (see Chapter 4.3.3). The church building is dated to the sixth century in the light of the architectural structure of the edifice, its mosaic patterns and the small findings on the site such as an oil lamp and pendant; coins found on the site indicate that the site was not in use after the sixth century (Aydın & Çilingir, 2017).

During the Princeton University excavations of 1932-1939 in Seleucia Pieria, the following were some of the most important discoveries: an agora and a row of shops with a colonnaded passage; between the shops and passage was found a limestone wall and a large red Assian granite exedra with a stone bench; a series of portals dating to the fourth century (Figure 4.11); ruins of a building which probably belonged to a bath; remains of docks; remains of residential buildings; a theatre; a rock-cut stairway with sixty-two steps connecting the lower and upper parts of the city (Figure 4.12); the Titus Tunnel and the bridge on it; a Doric Temple and barracks at the very top along the city walls (Stillwell, 1941, pp. 1-5). In addition to the archaeological evidence provided by previous excavations, recent studies in Seleucia Pieria also brought to light some important discoveries. A dried-up channel, with a length of 457 meters and a width of sixty meters, extending from north to the east of the inner harbour was also found. A structure next to the inner harbour and the agora identified as a *granarium* [granary] was documented for the first time as was the warehouse [*horrea*] in the inner harbour

area; both were used to store grain before shipment (Pamir, 2014a, pp. 186,189). A geophysical survey conducted in the agora area documented some remains as well. The first finding revealed an area measuring five by seven meters with a hole in the center as well as some parallel walls extending from north to west direction of this structure. The second survey in the area uncovered a large building consisting of several spaces of depths ranging from 0.3 meter and 2.4 meters (Brands & Meyer, 2005, p. 151). A monumental monolithic column of grey marble veined with black was found near the portal area. In the northeastern area of the portal remains of a rectangular-shaped structure were found; it is assumed, due to the layer of calcification, that these are remains of a fountain (Pamir, 2014b, p. 336).

Figure 4.11 : General view of the portals by the harbour (URL-22).

4.3.1 Church in Machouka

During the excavation campaign of 1936, local people accidentally made discoveries in Antioch and in its suburb Daphne. One of those findings is a three-aisled basilical church (Stillwell, 1938, p. 4). The findings of this discovery are not included in the published excavation reports, but kept in the archives of Princeton University. However, when Stillwell, one of the excavation participants, provides an outline of the campaigns of the 1936 season, he informs the reader about this finding (Stillwell, 1938, p. 4).

Figure 4.12 : General view of the stairway connecting lower and upper parts of the city (URL-23).

It is probable that the area where the remains were found was called Machouka (modern Masuklu) and that is why the church is identified as the Church in Machouka. The church appears to have been located on the north side of the road to Aleppo, less than a kilometer outside of the wall of Tiberios. According to the unpublished excavation notes little remained of the church, except the foundations and parts of the floors (Mayer & Allen, 2012, p. 56) (Figure 4.13). Colonnades on the lateral sides apparently divided the nave and then proceeded to the southwest where there was a narthex. One of the column bases in the narthex exterior wall was found during the excavations (Levi, 1947, vol.1, p. 368; Mayer &Allen, 2012, p. 56).

Brickwork in the south aisle indicates that the building material of the church was mainly brick. In addition, three tombs found in the narthex appear to have been constructed with brick flagstones paved over them. This type of construction is similar those found in the Church of Saint Babylas (see Chapter 4.1.3). Since we do not have access to the excavation reports for the Church in Machouka our knowledge about the structural concepts of this church is limited to the information provided by Mayer & Allen (2012, pp. 56-57). However, in his book Levi mainly talks about the mosaic panels found in the excavations (Levi, 1947, vol.1, pp. 368-369).

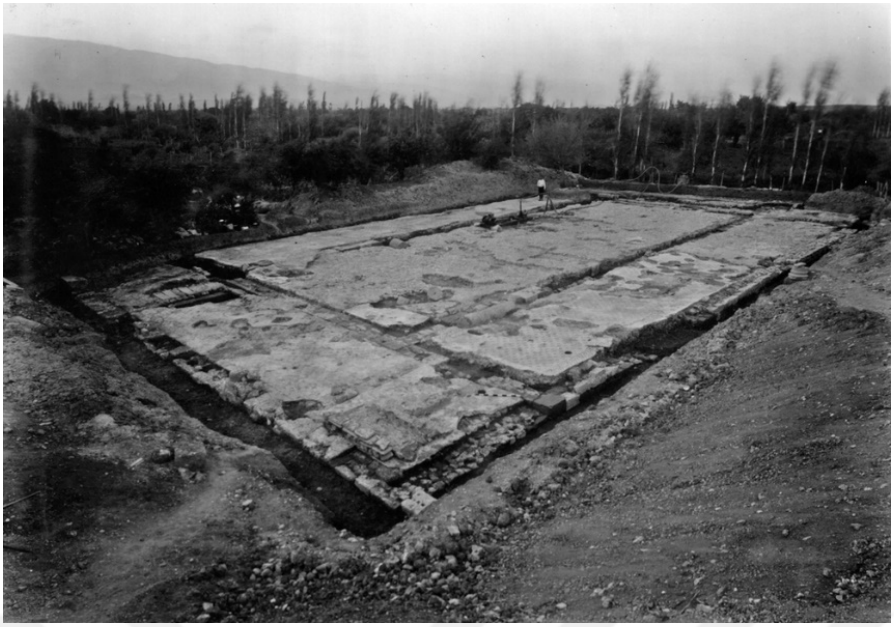

Figure 4.13 : View of the excavated site of the Church in Machouka (URL-24).

On the foundation date of this church, we are in the dark since there is no indication of coin or pottery finds. However, the brickwork found in the south aisle of the church gives a clue. The brickwork here was commonly used in building construction during the fifth and sixth centuries. Another clue is found in the inscription (Figure 4.14) discovered in the eastern end of the north aisle. The inscription is framed within *tabula ansata* [tablet with handles], which was commonly used on panels between the fourth and sixth centuries (ODB, vol.3, p. 2004). In the light of this evidence, it is possible to assume that the church was erected sometime between the fifth and sixth centuries (Mayer &Allen, 2012, pp. 57-58).

Since the data from the excavations does not provide any information regarding the rebuilding activities at the church, we are not able to determine if the church suffered from an earthquake during its existence.

4.3.2 Church in Seleucia Pieria in the upper city

This is another church (see Appendix D.5) that was not included Princeton's published excavation reports from the 1930s. Therefore, our knowledge of it is limited to the information provided by D. Levi. Levi states that during the last day of the final excavation campaign of 1930, W.A. Campbell, one of the field directors, was informed mosaics had been discovered. These appeared to be part of an early Christian church in Seleucia Pieria. The mosaics were reburied after Campbell made notes on them.

Campbell recorded that the structure in which the mosaics were found was probably a small, three-aisled church located on top of the cliff above the city, but between the cliff and a channel which had been cut during the reigns of Emperors Vespasian and his son Titus. The church was partly built up in masonry and with a portion of the north aisle cut into the rock having a door facing the northern end of the building. The mosaics recorded by Campbell probably belonged to north aisle of the church and included remains of three panels: a panel towards the west wall; a narrow panel to the east with an inscription facing west; a central and larger square panel with a wheel with multicolored rays; and a rectangular panel with the pattern of beribboned birds in squares. The nave of the church contained the remains of a large choir. The south aisle of the church did not have any mosaics (Levi, 1947, vol.1, pp. 482-483).

Figure 4.14 : Inscription framed within *tabula ansata* from the Church in Machouka (URL-25).

The inscription found on the panel to the east records that the mosaic pavement was made in indiction twelve, in the year 672, in the month of Artemisios [April] and the church was dedicated to an apostle. However, the inscription does not indicate which specific apostle. According to the Antiochene calendar, indiction twelve corresponds to 624; yet the Antiochene calendar during this year started on September 1st and therefore it is possible to assume that the inscription in this section dates to sometime in 625 (Mayer & Allen, 2012, pp. 65-66; Downey, 1940-1941, pp. 39-48; Levi, 1947, vol.1, p. 483).

There are speculations among scholars about whom the church was dedicated to. Kleinbauer argues that the church was dedicated to Saint Paul and he bases his

argument to Saint Paul's connection to Antioch and not having a church in the city dedicated to him (1973, p. 93). However, Mayer and Allen argue that the church was dedicated to Thomas the Apostle and they base their argument to the homily of Severos of Antioch which was delivered on July 3, 513 during the annual commemoration of Thomas when he visited the city on this specific day. In his letter to the bishop of Seleucia Pieria, Severus refers to a chapel-house dedicated to Thomas that stood next to a monastery. A statement in the Life of John Bar Aphthonia also mentions a monastery and a chapel. This Life, however, puts the Church of Saint Thomas in a different location. It claims that the Church of Saint Thomas was situated near the city's gate, which would put the church in the lower part of the city, not in the upper section. We have different statements regarding whom a church was dedicated to, it is not possible to have clear identification until new archaeological evidence comes out (Kleinbauer, 1973, p. 93; Mayer & Allen, 2012, pp. 66, 110-111).

Unfortunately, the excavation reports do not indicate if the building had sustained earthquake damage. Further excavations are needed to determine if it did and, if so, to what degree.

4.3.3 Church in Seleucia Pieria in the lower city

During the excavations of 1938, a church (see Appendix D.5) was discovered in the lower part of Seleucia Pieria at the foot of a rock-cut stairway that leads to the upper section of the city. It was located in walking distance to the main street which itself led to the harbour and was close to the Market Gate (Campbell, 1941, p. 35) (Figure 4.15). It appears from the reports that this was a memorial church with a centralized plan; it had an inner quatrefoil formed by colonnaded, semicircular exedrae between the angles of a square (Campbell, 1941, p. 36).

The excavation reports further reveal that this church appears to have had three periods of construction and experienced two destructive events before its final, total collapse. The original plan consisted of a central quatrefoil surrounded by an ambulatory. There was a projecting chancel on the eastern side. The walls of these quatrefoils were bonded together and built using the same technique and materials. There were entrances to the ambulatory on four corners. The floors of the central quatrefoil and chancel were paved in marble and the rest of the ambulatory had mosaic pavements dating to the fifth century. Outside the northeast and southeast corners of the church and outside the western doors, were paved in limestone blocks (Campbell, 1941, p.

37). The earthquake of 526 probably heavily damaged the second phase of the building; additions appear to have been made during rebuilding. Following this destructive earthquake, further damage was caused during the quake of 528 and so the rebuilding process continued. During this period, the exterior walls were rebuilt and a small chapel was added to the south wall. The north and south sides of the rebuilt chancel walls and additional rooms were constructed at this time. The baptistery and dependent chambers were added to the north side, and northern and southern additions were erected on top of the limestone pavement from the first period of construction. Within the quatrefoil, panels of *opus sectile* pavement replaced the marble flooring. During the last building period of the church, the south wall of the east choir and a part of the southeast section of the main apse were rebuilt (Campbell, 1941, pp. 36-38).

Figure 4.15 : Southern section of the lower city, the ruins of the Market Gate on the left and the Church in Seleucia Pieria on the right (URL-26).

The exterior walls of the church from the first period as well as the second and third periods were completely destroyed. The structure of the church in its second period seems to have been made out of roughly quadrated limestone used as facing for a fill of small rubble set in a mortar of fine, dark sand and lime. A section of the original wall for the first or second period of construction was standing when the excavation reports were written. It shows the same type of masonry as mentioned above and at the southeast corner, one large stone of stringcourse with a heavy torus molding remained in situ (Campbell, 1941, pp. 38-39) (Figure 4.16).

Figure 4.16 : General view of the central quatrefoil, the Church in Seleucia Pieria (URL-27).

The floor of the ambulatory had mosaic pavements belonging to the first building period (Figure 4.17). The mosaic findings in this part of the building appear to have been damaged because they had been placed on a daily passageway. The mosaics in this section had various decorative elements; according to the reports it was even possible to identify technical differences between the artists who laid the mosaic (Campbell, 1941, pp. 41-42).

A new type of rubble and mortar construction was used in the north wall of the chancel during the second building period. The eastern section of the building reveals the remains of brickwork. The north wall had a doorway leading to the vestibule and of the rooms situated in this section; the baptistery appears to have been significant. The floor of the baptistery was constructed in marble *opus sectile* that was placed on top of the stone pavement of the previous building period. Additions made to the south side of the chancel indicate two reconstructions within a short period of time and the construction technique indicates that the same builders conducted the work (Campbell, 1941, pp. 48-49).

The employment of reused materials and even mud for the construction in the third period of the building indicates that there must have been a decline in the church's use by its congregation. It is possible that the church was not commonly used when the Arabs controlled the city. It is possible too that use of higher quality building materials was deemed unnecessary or too expensive. The excavators believe that the church was

covered with a wooden roof because the exedra columns do not appear to have been strong enough to support a masonry roof (Campbell, 1941, pp. 52-53). Based on the data from the excavation reports and the plans of the site, axonometric plan of the church was created (Kleinbauer, 2000, pp. 217-218) (Figure 4.18).

Figure 4.17 : General view of the mosaic of north ambulatory in situ, the Church in Seleucia Pieria (URL-28).

4.3.4 The church at Daphne

During the excavations of 1932, a building (see Appendix D.5) located on the road to Laodikeia was uncovered. It appears to have been erected on a sharp slope. Due to its location, the western section of the structure was supported on high, artificial foundations. The archaeological records indicate that the building had two occupation periods; the first from the fourth to the sixth centuries; and the second one to the tenth or eleventh centuries (Downey, 1934, p. 107) (Figure 4.19).

It is hard to fully determine the structural features of the building for the first period; however, it appears to have had thin walls. This is based upon the imprints of the columns, which lead the excavation team to conclude that flat architraves were used for the construction, and the roof was made of wood. The floors were composed of small pieces of marble tiles and were laid without a pattern. The archaeological evidence does not note any architectural fragments from the first period, but the capitals used during the second period of the building might actually have belonged to the first period. Small pieces of stucco in different colors that were found in the debris

under the floor level and in different parts of the building probably belonged to the stucco. The masonry of this early structure as well as the way the stones were cut indicates local workmanship of a rather poor quality. A coin from the reign of Emperor Maurice Tiberios dates the destruction of the building to the year 583. Not only the coin but also the floor and walls of the structure show evidence of fire damage (Downey, 1934, pp. 107-108). It is difficult to pinpoint the cause of the fire. To our knowledge neither an earthquake nor a Persian invasion took place during this time that might have caused this conflagration. All we can say is that a fire did occur due to natural causes.

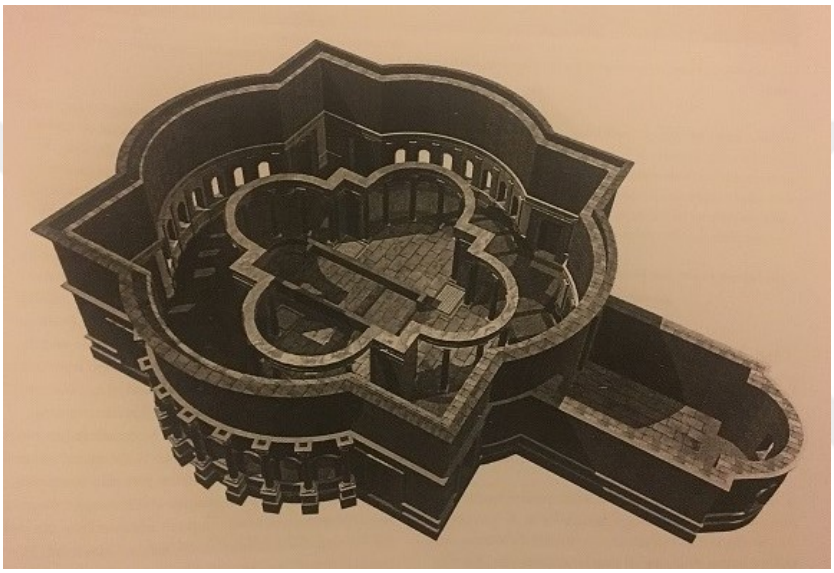

Figure 4.18 : Axonometric plan of the church building in Seleucia Pieria based on the excavation plans (Kleinbauer, 2000, p. 217).

Figure 4.19 : General view of the excavations at the church at Daphne (URL-29).

On the other hand, the evidence about the church in its second period is clearer. In the interior of this three-aisled basilica church, there were two rows of granite columns. Like in the first period of the building, the church had thin walls with a wooden roof and the workmanship again appears to have been poor. The cement used for the construction of the floor was also poor in quality. The apse of the church was semicircular, lined with cut stone and covered with mortar. The narthex had various bays, some of which had collapsed. It is likely that when the church was erected they were rebuilt (Downey, 1934, pp. 108-109). The reports do not mention any reason for the collapse, but since the workmanship is generally poor for both periods, the collapse might be due to this alone or a combination of poor workmanship and earthquake.

Two parallel walls were found in front of the chapel. The excavation report notes that the masonry used in chapel is the latest in date found on the site. The rooms in the northern part of the chapel were probably connected with the church; these rooms were either used as monastic living quarters or storerooms. The masonry used in this section of the church indicates this section was a late addition. Also, the masonry in this section differs from that used in other parts of the church. Here it was constructed evenly with large pieces of smoothed and pointed stones. Excavation team members noted that this type of construction is similar to work from the Crusades period. However, due to lack of physical evidence of Crusader architecture in Antioch itself, it is difficult to make a comparison. It has been argued that either local workmen were influenced by construction techniques used in the period of the Crusades or they had been directly instructed to use Crusader architectural techniques (Downey, 1934, pp. 110-111).

Historical sources mention a few churches that existed in Daphne, but none refer directly to this church. Therefore, it is not possible to give an exact date of the foundation of this building. Evidence from the excavation points to a construction date between either 969 and 1084 or sometime between 1098 and 1268. Regrettably, data from the excavations does not indicate if the church sustained earthquake damage (Downey, 1934, pp. 111-113).

4.3.5 The tower area

The Princeton team that worked between 1932 and 1939 began their first excavation in the area of the tower. They discovered remains of a small square tower. On its north side they found work of *opus incertum* faced with baked brick. On the east side the tower was built against a long wall. The debris found in this area contains potsherds are Cufic and from the late Byzantine periods. Further excavations in this area revealed

a house with many rooms. Among the most important findings found in the rooms are: a small cistern, walls covered with a mixture of lime and sand, and a floor paved with large tiles. Fragments from bowls of Byzantine of red ware were found mixed with fragments from the Hellenistic period. The room on the south of the tower had floor tiles laid on a bed of gravel and pebbles. The floors of the majority of the rooms had horizontal water conduits of terra cotta. Coins found in the debris west of the tower date from the Roman through the period of the Crusades. A piece of wall uncovered to the west of the area-contained buttresses. Further excavations in this area led the excavators to the location of a Byzantine stadium (Fisher, 1934a, pp. 1-3) (Figure 4.20).

Figure 4.20 : The Tower Area and part of the Byzantine stadium wall on the left (URL-30).

4.3.6 A Byzantine stadium

In connection to the excavations in the tower area, a long wall, constructed of brick and limestone was discovered (see Figure 4.20). This finding was identified as belonging to a stadium (Figure 4.21) and probably was also used in connection with Bath C, which was located in the same neighborhood. Three courses of small sized, squared limestone blocks were used with three courses of bricks to build this wall section. The exterior face of the wall was supported with an arcade of brick arches. The semicircular end of the wall was also constructed with brick and stone and a large doorway entrance was discovered at this end as well. Materials such as well-trimmed blocks of local limestone from an earlier building were used. In addition, this section had a water distribution system, which seemed to be later in date than the original

stadium. Re-used stones appear to have been used for building the water distribution system. Two entrances, one on the long side and one on the north side, were found An inscription found on the site records the name of the Emperor Vespasian (69-79) and the 13th Legion. This proves that the stadium existed during the reign of Vespasian. If the stadium had seats, they were probably built of light materials. It is believed that this area was used as an exercising ground. The construction type as well as the pottery sherds found in the debris suggests a date in the late fifth or early sixth centuries. Excavation records also note that this area was abandoned after the earthquake of 526 due to massive destruction in this part of the city and Emperor Justinian's rebuilding activities (Campbell, 1934a, pp. 32-33; Elderkin, 1934, p. 53).

4.4 Structures That Remain Today

Following the Princeton University excavations of 1932-1939, archaeological findings were covered again by the excavators and so, unfortunately, we do not have many physical remains from Ancient Antioch, except for a few monumental structures.

4.4.1 The Charonion

The sculpture known as the Charonion, located on the western slopes of Mount Staurin, is the only existing monument we have today dating from the reign of Emperor Antiochus IV Epiphanes (175-163 B.C), who was usually identified as the second founder of the city. John Malalas writes of the Charonion as follows:

Figure 4.21 : Detail from the Yakto Mosaic depicting the stadium (Cimok, 2000, p. 273).

> During his reign, when there was a plague and many people in the city perished. Leios, a wonder worker, ordered that a rock from the mountain above the city be carved with an enormous mask, crowned and looking towards the city and the valley. He wrote an inscription on it and stopped the deaths from the plague. To the present day the Antiochenes call this mask Charonion (Jeffreys & Scott, 1990, p. 108) (see Figure 2.3).

Excavation findings by Princeton University indicate that the Charonion was never completed. Excavators noted that there is disharmony between the shoulders of the sculpture. On the right shoulder, there is another figure with a *calathus* [vase/basket]on its head, which is also unfinished. This seems to indicate that work on the right side started before work on the left. There is also the rather flattened positioning of the neck; this is also indicative of unfinished work. The colossal bust has been badly damaged by weather over the centuries, but it is still possible to make out what it was originally intended to look like (Elderkin, 1934, pp. 83-84).

4.4.2 The Monastery of Saint Barlaam on Mount Casius

During the 1960s archaeological survey conducted by Djobadze on Mount Casius (1964a, 1964b, 1965), which is approximately sixty-five kilometers southwest of the city center of Antioch, a monastery (see Appendix D.5) was found. The excavators associated this monastery with that of Saint Barlaam. The excavations uncovered three phases of the building: Antique, Early Christian and Medieval. Findings from the Antique era include Doric, Ionic, and Corinthian fragments and capitals; various sizes of architraves, lintels, ornamented blocks, consoles, capitals, chancel posts, closure slabs have been identified for the Early Christian period. Colonettes, ornamented panels and cusps were dated to the medieval period (Djobadze, 1986, pp. 7-9, 27-52).

The monastic complex consisted of a church, circuit wall, rooms of various sizes, a funerary chapel and monastic dependencies in the immediate surroundings of the monastery. These included hermitage cells cut out of the living rock, a cistern, hospices for pilgrims and possibly a quarry for building monolithic column shafts.

Data from the excavation states that the church was a basilica in plan and was located at the southeast quarter of the monastery. The east and south sides of the church were separated from the circuit wall and joined to some monastic complexes. It was designed as a three-aisled basilica with three entrances from the north, south and west sides respectively. Limestone from the local quarry was used as the main building

material all over, but bluish-white marble was used as floor pavement. The type of the masonry used in the church indicates that the church experienced two major building periods. The only standing part of the church from the first period is the exterior, east wall and the wall of the apse; mortar, now barely visible, was used to place the well-squared limestone blocks, and rubble mixed with lime and sand was used for the narrow interior core of the wall. The remaining walls and the pillars of the nave belong to the second building period. In this period, smoothly finished square limestone blocks were used for not only for the exterior but also for the interior face of the west wall; small, roughly finished stones were used for the inner face of the north and south walls. The masonry for the second period of the church included extensive use of mortar and rubble binding (Djobadze, 1986, pp.9-10).

Archaeological evidence shows that when the church was built, some sections of the pavement, including the apse, had mosaic decorations. However, the current pavement has limestone rubble covered with small pebbles and a thin layer of lime plaster mixed with fine sand. Marble *opus sectile* fragments in different size and shape were also found in the debris both inside and outside of the church; and evidence indicates that these fragments were reused in building the walls during the second period of the church. The masonry up to the cornice level had been found in its original state, which indicates that the apse was not rebuilt in the second period of the church. Ornamented conches carved in blocks were also found in this area. The presbytery floor was found covered with red painted pavement; and the pastophoria's construction of the inner and outer faces of its east walls belong to the first period of the church. The other walls were of medieval masonry type. The nave had three pairs of square piers and two pairs of responds; the masonry in this section is medieval. The length of the aisles is not equal and the width of the central nave, which is 5.70 meters long (Figure 4.22). The east responds in this section have reused capitals dating to the Early Christian period and formed in situ style. Reused ashlar blocks were employed for the construction of the west wall of the nave, while small rectangular blocks were used for the north, south and northwest corner of the nave (Djobadze, 1986, pp. 10-12). The excavation reports record that reused materials were commonly used not only for the first period of the church, but also for the second period. The church had a timber roof covered with tiles. Wall mosaics and/or paintings were used for the decoration of the church for the first period and some of the materials from the first period were also reused for the decoration of the second period (Djobadze, 1986, p. 15).

Figure 4.22 : Interior of the Monastery of Saint Barlaam from the west side (Djobadze, 1986, Plate 3 Figure 6).

4.4.3 The Monastery of Saint Symeon the Younger on the Wondrous Mountain

Several surveys and excavations at different times have been conducted on the Monastery of Saint Symeon the Younger on the Wondrous Mountain (see Appendix D.5) at different times. J. S.J. Mécérian started the first excavation in the area in 1932 after prior surveys in 1928 and 1929, but his findings of the site were never published. Archaeological investigations were continued by W. Djobadze from 1962-1965. These focused on the Monastery of Saint Barlaam on Mount Casius, the Monastery of Saint Symeon the Younger on the Wondrous Mountain, and the Church of the Wood of Life in the Black Mountains (Djobadze, 1986). While Djobadze was conducting his surveys on the site, J. Lafontaine-Dosogne studied the monastic complex in 1965 and published her findings. As part of the "Asi Deltası ve Asi Vadisi Arkeoloji Projesi: Samandağ ve Antakya Yüzey Araştırmaları" surface explorations have been taking place since 2003 under the direction of H. Pamir from Mustafa Kemal University in Hatay. Ayşe B. Henry, who was part of the excavation fieldwork for three seasons from 2007-2009, completed recent work on the monastic complex and included some of the findings in her dissertation (Henry, 2015). Of the sources available to us, both Djobadze and Henry have used two important hagiographical texts associated with the monastic complex: the Life of Saint Symeon the Younger and the Life of Martha, his mother[85].

[85] *The Lives of Saint Symeon the Younger Stylite and His Mother Martha*, translated by P. Van den Ven. The first volume contains the life of the Stylite and the second volume contains his mother's: P. Van

Henry's work included an updated study of the archaeological remains, a corrected plan of the site, and new sections, which had not been examined in previous studies (Figure 4.23).

Figure 4.23 : Aerial view of the Monastery of Saint Symeon the Younger on the Wondrous Mountain (URL-31).

Symeon arrived at the Wondrous Mountain in the 540s, and after ten years of living at the site, the Church of the Holy Trinity, the Octagon, the hospice, the storage room and the kitchen were among the first constructed parts of his monastery. After the death of his mother Martha around 562, some new structures were added such as the South Church and the south passage (Djobadze, 1986, p. 59). Henry quoted from the Life of Theodore of Edessa that the monastic activities at the monastery continued even after the Arab conquest of Antioch (2015, pp. 96-98). Henry also states that Saint Lazaros of Mount Galesios visited the site between 1011-1019 during his pilgrimage (Henry, 2014, p. 358). Georgian sources prove that the monastery became very popular with Georgian monks and hermits during the eleventh century. They note too that a library was founded on the site by the Melkite Patriarch Theodore (1034-1042), and this library contained 420 books. Georgian sources also record that there were around sixty Georgian monks on the site by 1057 (Djobadze, 1976, pp. 72-73). The twelfth-century Latin historian William Archbishop of Tyre, states that the Patriarch of Antioch, Ralph

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den Ven, *La Vie Ancienne de S. Syméon Stylite le Jeune*, vol.1, Brussels: Société des Bollandistes, 1962; vol.2, Brussels: Société des Bollandistes, 1970. Unfortunately, we do not have access to these works.

of Domfront, was kept prisoner on here in 1140 (Babcock &Krey, 1943, vol.2, p. 121). The monastic complex continued to function during the thirteenth century. The traveler Oliverus Scholasticus visited in 1222 and stated that both the Georgian and the Greek communities existed when he was there (Djobadze, 1976, p.8 7). A monumental inscription found in the North Passage indicates that the monastery was still active in 1266 (Djobadze, 1986, p. 204), and this is the last record available to us verifying activity on the site.

The monastic buildings make up a complex that forms the shape of a cross. At the center is a rectangular core with the Octagon at its heart. The Octagon itself contains remains of the column of Symeon and its adjacent stairs. North and South Passages divide the complex down the center into two sections: east and west. The Church of the Holy Trinity, the North Church, the South Church, the North and South Chapels and a space called the Eastern Area are in the eastern part of the complex; the Baptistery is located directly north of the North Church. The western side of the complex contains an Atrium with an Entrance Hall that connects that Atrium to the Octagon. A hospice is to the north of the Entrance Hall and a Storage Area is to the south of this same hall. In addition, the complex is surrounded by walls that have two gates. The West Gate is nearly in the middle of the west wall and the North Gate is in the northeastern corner of the wall. There is also a North Tower located at the uppermost northwest corner of the complex's wall.

Djobadze claims that before the establishment of the monastery a Roman military settlement existed on the site. He states (1986) "three small chambers of thick walls constructed in even courses and nine troughs for feeding horses" and supported his findings with a statement from the Life of the Stylite which indicates that there were two small cisterns when Symeon arrived at the mountain (p.57). However, during Henry's fieldwork, the survey team in which she took part, could not place Djobadze's findings, but her team did discover large block stones around the area (Henry, 2015, pp. 106-107).

At the center of the monastic complex is the Octagon. It measures 22 meters in width from north to south and 23 meters (according to Djobadze 22.45 to 22.70) in width from east to west. In the center of the octagonal space stands the column of the Stylite, which is carved from living rock, and the monolithic staircase is located on the south side. On all sides of the octagon arched doorways provide access to the other sections of the building, except from the south side, where a small door is located. Each side of

the Octagon has two rows of benches again cut from living rock. There are two cisterns associated with the Octagon. One is located on the southeast corner and the other is on the northwest corner. In this area of the Octagon water channels (Djobadze, 1986, pp. 93-94) were visible as well as a tomb on the north side of the floor. A Tetraconch built within the large amount of solid rock is located on the southwest corner of the Octagon. The Octagon was constructed with large ashlar blocks and the floor was made out of neatly cut blocks (Henry, 2015, p. 23; Djobadze, 1986, pp. 59-61).

At this point it will be helpful to provide information about the walls of the Octagon in order to understand which structures they lead and their relationships to the structures of the monastic buildings. The west wall of the Octagon is connected to the entrance hall and to the atrium. The doorway of the west wall is supported by two pillar capitals and ashlar blocks. At some point the southern corner of this doorway was repaired by adding ashlar blocks into the carved rock. The northwest wall is constructed of ashlar blocks. According to Henry (2015) this wall had repairs made of reused materials (p. 24). The north wall opens to the north passage. Also, two pillar capitals found in this section have the same molding as the one on the west wall. The northeast wall was also constructed with ashlar blocks with a semicircular niche placed in its center. The east wall leads to the Church of the Holy Trinity, and the southeastern wall also has a rock-cut base and a semicircular niche in its center. However, different from the other walls, here semicircular seats were carved into the upper bench in front of the niche (Henry, 2015, p. 26; Djobadze, 1986, p. 70). The south wall leads to the south passage and provides access to the South Church. This has a rectangular doorway at its center and once had a double door with a small roof facing towards the Octagon (Henry, 2015, p. 27). On this wall it is possible to see different style of restoration work. One restoration was done using ashlar blocks on the eastern end of the wall. One on the western corner used ashlar blocks and extensive mortar. The southwestern wall provides entrance to the Tetraconch, which is the highest rock-cut altitude on the monastic complex (Henry, 2015, p.2 8; Djobadze, 1986, pp. 71-72).

The base of Symeon's column is visible today and is located in the center of the Octagon. The remaining part of this rock-cut column is 4.26 meters tall (according to Djobadze 4.15 meters) as measured from the floor of the Octagon. It is set on top of on a square pedestal with three steps remaining today. Both Djobadze and Henry state that various holes on the northern side of the second step point to the former existence of a rectangular balustrade (Djobadze, 1986, p. 61; Henry, 2015, pp. 28-29).

Data from the excavations record repairs at different parts of the monastic complex dating to different periods. It is not indicated if these repairs had been necessitated specifically by earthquakes; they may have resulted from many causes.

4.4.4 The Church of the Wood of Life in the Black Mountains

Expeditions in the Black Mountains first started in 1924 by H. Seyrig, however the results of and photographs of his work have not been published. J. Mécérian had earlier begun the first archaeological excavations on the site in 1932, at which time he identified the site as Surp Thomas (Djobadze, 1986, p. 119). However, in the 1960s, Djobadze studied the area and identified his findings near Yoğunoluk as the Church of the Wood of Life (see Appendix D.5). He supported his findings with Georgian literary sources that date the building of the complex to the second quarter of the eleventh century (Djobadze, 1976, pp. 96-97) (Figure 4.24).

This church had an inscribed-cross plan and a dome supported by four, freestanding piers. The narthex and a small open central porch were placed on the west side of the structure. The building had five exterior doorways; three on the west side, and one on each of the north and south sides. It was constructed of locally quarried, yellowish limestone. The height of its walls varies on each of its sides. Mortar and limestone rubble were used to build the double-faced walls. The material for the floor of the church is light yellow, fine-grained rectangular limestone blocks. The church had a highly damaged semicircular apse, and the excavator thought that the east wall of the apse had been repaired in the recent past by using the original blocks. The nave walls remain on each side but are of different heights. The walls of the narthex also remain, except for the west wall. In the north and south walls there were four interior and exterior buttresses. A small porch, rectangular in plan, was identified on the west side of the church. This porch stood on an ashlar stylobate of three steps (Djobadze, 1986, pp. 120-124).

The excavation team believes that the church had two domes; a large one in the nave area decorated with paintings and a small one in the west porch ornamented with carving. One of the most important features of the main dome, noted from the remains, are twenty-seven fragments of its exterior upper and springing cornice, which had two fascias. The main dome rested on four central piers. The excavation evidence indicates that the roof of the main dome was built of red brick tiles and three sheets of lead, which were also found in the outer walls of the church. On the other hand, the dome

in the west porch area appears to have had the typical structure of Georgian churches of the eleventh century (Djobadze, 1986, pp. 125-128,121).

Figure 4.24 : General view of the Church of the Wood of Life, from the northwest angle (Djobadze, 1986, Plate 59 Figure 232).

Djobadze concludes that the church had only one building phase during its existence. He bases his view on the understanding that certain sculptured architectural structures did not belong to the Early Christian period. He thinks, in fact, workers in a later period continued to copy late Antique forms. Also, study of the foundation of the church reveals that the church building itself and its porch were placed directly on deep soil (Djobadze, 1986, p.144). One of the characteristic features of this church is that it has various types of ornamental patterns in vegetal forms, geometric shapes and so all over the church (Djobadze, 1986, pp. 144-170).

Although Djobadze is unable to provide certain proof, he thinks that an earthquake was the cause of the church's destruction. During the excavations he noticed gaps between the building blocks, but cannot provide a timeline for the cause of the gaps. The badly damaged coins, pottery and inscriptions found on the site also do not provide any proof of a date for destruction by an earthquake (Djobadze, 1986, p. 146).

4.4.5 The Doric Temple at Seleucia Pieria

In the upper part of Seleucia Pieria, a large Doric Temple was discovered, the remains of which are still visible today. The date of the structure was difficult to pinpoint. However, based on the moldings, specifically the hawk break of the cornice, it was possible to date the structure as early as the end of the fourth century B.C. The most

important finding in the area was a small, broken bronze figure of Isis-Aphrodite (Stillwell, 1941, p. 34). The data from the excavation does not provide any evidence for the date of construction. But the excavators noted the excellent quality of the work, which seems to put construction to an early date. Excavation evidence also suggests that at some point the building was converted into a fortress. This is because it was noted that building materials were set to form two tower-like projections to the north and south. Large stone cut blocks were used as the main building material (Stillwell, 1941, p. 33) (Figure 4.25).

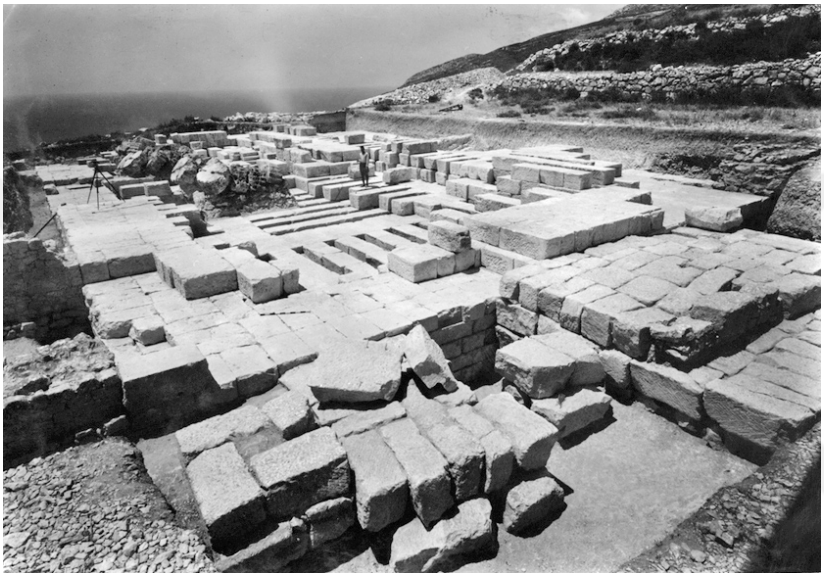

Figure 4.25 : View from the southeast corner of the Doric Temple (URL-32).

4.4.6 The remains at Kasr el-Banaat

The surviving sources do not provide information about this structure, which was apparently situated on the road from Reyhanlı to Aleppo. It is believed that this structure dates back to the sixth century (Çukurtarla Rescue Excavation Report, 2012, p. 2). Information on this building's remains comes from the notes of a Ms. Stuart, who lived in Antioch for many years during the 1920s. She wrote that the remains at Kasr el-Banaat (Kasr el-Benet-Kızlar Sarayı) belonged to a nunnery with a square-planned tower and that there was a chapel on the south side of this tower. The doorways leading to the chapel were decorated with carved stones. The remains indicate that the building had a series of structures that had been erected around a courtyard; the walls were constructed out of irregular-sized, rectangular blocks (Bone, 1926, pp. 5-6) (Figure 4.26). On the east side of the tower, remains of rooms were found. These probably belonged to the guards. On the east side of the tower, eight burial places

carved in the rock walls and a cistern were discovered. The hollows in the rocks indicate that this complex probably had a wooden roof (URL-33).

Figure 4.26 : General view of the nunnery at Kasr el-Banaat (URL-33).

4.4.7 Other remains in the west of Antioch

In addition to the monasteries discovered in the area, the excavation team under W. Djobadze also found several other remains on Mount Casius, on the Black Mountains, and in the Wondrous Mountain.

Two Roman roads were discovered on Mount Casius; the first connects Laodikeia and Seleucia Pieria and the second runs through northeast of the city. Djobadze believes that (1986) this second road is connected to the bridge found in Olahci (close to modern Yeditepe village). Cisterns in various sizes cut from the living rock were found as well as a small chapel. The ashlar masonry of the chapel dates it to the fifth or sixth century. In addition to this chapel the following were also identified: a monastery in the Yayladağı district with buildings, cisterns, and olive oil presses; a single nave church in Bozova village; and a church in the vicinity of the village of Meydan. By looking at the construction materials of mortar and small, unevenly squared stones, the excavation team thought that these churches were built or reconstructed sometime between the tenth or the thirteen centuries (pp. 54-55).

In the Black Mountains[86], Djobadze (1986) claims that he identified two monasteries in the vicinity of Arsuz, which is ninety kilometers away from Antioch. The first is the Monastery of Mount Skopelos (Skupela?) founded by Theodosios of Antioch in the fourth century and the other is the Monastery of Prophet Elias also known as Saint Panteleimon (p. 171). The sources available to us do not appear to mention either of these monasteries.

In the vicinity of Kapısuyu village, near the Titus Tunnel in Seleucia Pieria, a monastery and a basilica-plan church were found. The monastery has been identified as the Monastery of the Reed Valley (Djobadze, 1986, p. 172; Djobadze, 1976, pp. 91-94), but the name of the church had not been determined.

In the area between Kapısuyu and Hıdırbey, remains of two monasteries were identified and excavation evidence uncovered large, engraved stone blocks. The first was carved with equal-armed crosses. The second was composed of evenly cut rock and limestone blocks (Djobadze, 1986, p. 175).

In village called Bityas three churches were identified: the first was a small church with a narthex and has been identified as the Church of Saint Chrysostom by the locals. The second has been attributed to Saint Meletios as indicated by an Arabic inscription found on the site. A fragment of a fine-grained marble capital dates this structure to the sixth century. The last church has been connected to the Virgin Mary and probably dates to the tenth or the eleventh centuries (Djobadze, 1986, p. 177).

In the plateau of Yaylacık, a monastery built with Byzantine red brick was identified. The building had a water supply system in which the pipes made of red clay. Porphyry and green marble *opus sectile* fragments were reported to have been found by the excavators, but visual proof of these was not recorded (Djobadze, 1986, pp. 177-178).

In addition to the hermitage caves and a cemetery found on the Wondrous Mountain, the only complex found in the Nahırlı village is a small church that was constructed of squared limestone blocks. The construction techniques employed date it to the fifth or the sixth century. The excavator associates this complex with the Monastery of Saint

[86] In addition to the structures mentioned below, Georgian literary sources mention additional ecclesiastical buildings in the Black Mountains such as the Monastery of the Holy Romana, the Monastery of the Mother of God in Kalipos, the Monastery of Father Ezra, the Monastery at Kastana, the Monastery of the Holy Mina, and the Monastery of the Holy Procop (Djobadze, 1976, pp. 94-104). The Monastery of the Basilians, the Monastery of the Jesuites, Monastery of Parlahoy, Yisuanc' Vank', Šap'irin Vank', K'arašit'u Vank', the Šuxt Xandarea Vank' are some of the Armenian monasteries located in the Black Mountains (Weitenberg, 2006).

John, the teacher of Saint Symeon. Furthermore, a church from the Byzantine period and remains of a bridge dating to the Roman period were recorded near Sinanlı village by Djobadze and his team (Djobadze, 1986, p. 115).

5. WHAT DO THE WRITTEN SOURCES AND THE ARCHAEOLOGICAL MATERIALS TELL US ABOUT THE ANTIOCHIAN EARTHQUAKES?

Once ranked among the four leading cities of the Roman Empire with Rome, Constantinople and Alexandria, Antioch's geographic position was one reason for her reputation. It also impacted her destiny. The city is located in the area where Mount Silpios and the Orontes River meet in the southwest corner of the Amuq Valley. The geographical position of Mount Silpios was the primary reason behind the heavy accumulation of sedimentation after heavy rains; and over the centuries the city was buried in many meters of silt. A few structures still survive today from Antioch's more glamorous days. These include the hippodrome (and the Podium Temple next to it), the Medieval Citadel, parts of the famous city walls, the Iron Gate, the Monastery of Saint Symeon the Younger on the Wondrous Mountain, and parts of the city's aqueduct system. Unfortunately, neither the excavations conducted by Princeton University nor recent archaeological studies and explorations have located with certainty any of the structures mentioned in the primary sources. Literary sources available to us provide valuable information regarding the effects of the earthquakes and the imperial and ecclesiastical responses and people's reactions to these quakes. Since we do not have direct access to Princeton University's physical findings, it has been difficult for subsequent researchers to fully study the structures Princeton excavated. Furthermore, damage specifically caused by the earthquakes to the excavated structures are generally not stated in the excavation reports and this creates difficulties for the reader who wishes to compare the excavation records with the information provided by the written sources. Meanwhile, recent archaeological studies and explorations have uncovered critical evidence in the physical remains that reflect damage by earthquake. This evidence will elucidate the topography of Ancient Antioch, which will be discussed below.

As discussed in the third chapter of this study, Antioch was exposed to the continuous earthquakes throughout its history; some were mild and some were severe. Among these, the following quakes were the most destructive: September 13-14, 458; October

4/7 (?), 525; May 20/29, 526; November 29, 528; July 9, 551; 580/581; October 31, 587/588; 742; November 24, 847; December 30, 859-January 29, 860; 1053/1054; September 26, 1091; November 13, 1114; November 29, 1115; August 1163, and May 20, 1202. Based on the extant sources, we were able to identify fifty-seven earthquakes between the fourth and the thirteenth centuries. Among these, especially the earthquake of September 13-14, 458, the quake of May 20/29, 526 and the quake of November 29, 528 nearly completely razed the city to the ground. Not only the excavation records of Princeton University but also the current excavations mostly associate the destruction of the buildings and the structures in Antioch and its vicinity with the May 20/29, 526 and November 29, 528 catastrophes. Some examples of structures damaged and abandoned as a result of these seismic events include: the stadium (numbered 86 on Appendix D.1) as well as the Bath A and Bath C on the ancient island (numbered 41 and 42 on Appendix D.1), the House of Aion (numbered 94 on Appendix D.1), vaults/culverts over the Parmenius River (numbered 80 on Appendix D.1), Bath F (numbered 73 on Appendix D.1), the recent discoveries in the Haraparası district (see pages 115-116 and Appendix D.1), the Church in Seleucia Pieria in the lower city (known as the Martyrion), and the building identified as the House of the Worcester Hunt in Daphne.

In order to understand why Antioch has always been prone to earthquakes, it is critical to understand the city's geomorphological characteristics. Material available in the written sources and archaeological evidence will be presented and discussed below. Following this section, we will discuss the effects of earthquakes on all of the known buildings and we will look at structures that were reconstructed as a result of quakes in Antioch and its vicinity. What was the state's policy before or after earthquakes occurred? If it did have a policy, which steps were taken to prepare for these disasters? Did the architects and builders of the time attempt practical measures to make buildings and the city seismically safe or adopt anti-seismic building techniques to reduce the effects of the earthquakes? Were there any common building materials used in Antioch and its vicinity? Was there a change in the techniques or in the building materials over the years to make the buildings more resistant to these quakes? Was there an attempt in the affected city and its vicinity to rebuild in new areas or did they try to rebuild in original locations? Or both? Answers to these questions will also shed light on how Antioch continued to survive uninterrupted since its foundation despite these continuous earthquakes.

5.1 Geomorphological Characteristics of Antioch and Its Vicinity

The modern city of Hatay is located at the northeastern corner of the Mediterranean Sea and of its fifteen districts; Antioch has the largest population while it ranks the second in terms of its surface area. The Amuq Valley, where the city lies at its southwest corner, played a significant role throughout the centuries in regards to military as well as communication and trade:

> The plain lies in the northwest corner of Syria. It is roughly an equilateral triangle with its apex to the north, closed in from the Mediterranean on the west by the Amanus Mountains and their extension, the Kızıldağ, the Jabal al-Aqra foothills, the Jabal al-Alā, and the Jabal Simān bound it on the south, and the Kürt Dağı on the east. Antioch stands at the southwest angle of the triangle. The Orontes, flowing northward from Coelesyria (al-Biqā) through the valley known as al-Ghab, enters the Amuq at Jisr al-Hadīd near the middle of the base of the triangle. Its valley between the Jabal al-Alā and the foothills of the Jabal al-Aqra behind Antioch makes a southern extension to the plain. After reaching Jisr al-Hadīd the Orontes turns abruptly westward, flows through Antioch, and passes on to the sea in a valley between Jabal al-Aqra and the Kızıldağ (Braidwood, 1937, p. 8).

Antioch's geographical position also had positive and negative effects upon it over the centuries. The city continuously suffered from the effects of heavy rains. These rains caused the soil to erode from the mountains into the Orontes River. Layers of mud that have accumulated over the years have unfortunately largely buried the ancient city. The unfortunate effects of heavy floods were also noted in the excavation records. For instance, in 1939 due to heavy rains the excavations were interrupted. In his excavation diary W.A. Campbell, one of the directors of the expedition team, described the city following a severe rain storm as follows:

> …The street on which the house [the field headquarters of the excavation team] is located was a rushing torrent, knee-deep… At the bridge, the Orontes was just within its banks; and from the bridge to the field headquarters was a lake of mud and water. …At Parmenius it could be seen that the main body of water was not following the modern bed at all, but divided to flow in two opposite directions: toward the southwest to join the general run-off from Mount Silpios and toward the northwest. …North of Parmenius the water was running even

> more deeply and swiftly over the road, making it almost impassable... (Stillwell, 1941, pp. 5-6).

In addition to the effects of heavy rains, the city has always been prone to earthquakes. Antioch is located on an active fault line, which is in the northern extremity of the Jordan Rift Valley, and forms a collision zone with the African, Arabian, and Asian plates. In this region there are many different fault systems, and records indicate that since its foundation seismic events have frequently struck Antioch and its surrounding areas. The East Anatolian Fault is located in the northern part of Hatay and delimits the Arabian and Asian plates. It is divided into two different and active fault systems: a submerged fault towards the island of Cyprus and a continental line that joins with the Dead Sea Fault. The fault line that crosses Cyprus marks the boundary between the African and the Asian plates while the Dead Sea Fault separates the Arabian and the African plates (Pirazzoli et al., 1991, p. 296) (Appendix D.6) Scholars have different views as to which is the main fault line affecting the region. Some claim it is the Karasu Rift, which starts in Seleucia and continues to Türkoğlu, while others have identified the Cyprus-Antioch Transform Rift, an extension of the Hellenic-Cyprus Arc, as the main fault line. There are also additional large and small-scale fault lines causing tectonic and seismic activities in the area (Özşahin & Özder, 2011, p. 662).

The geomorphological structure of Antioch puts the city in the Karasu Graben, which is situated between the Amanos Mountains Horst and Mount Silpios and Kuseyr Plateau Horsts. Different geomorphological units make up the city. In its vicinity are mountains, plateaus and plains, but the city center has terraces, slopes and alluvial fans. The main mountainous body outside Antioch is Mount Silpios to the east. This mountain, bordered by fault lines on its slopes facing the city, has a sudden rise with its highest point being the Habib Neccar Hill. Mount Silpios is part of the continuation of the Kuseyr Plateau, which is the most important plateau located on the eastern side of the city (Appendix D.7). Two main factors have contributed to the geomorphological risk factors present in Antioch; being geomorphologically situated in a graben and plain base, and being established and developed on the parts near the mountain slopes of Mount Silpios where the gradient is high (Özşahin, 2010, pp. 6-8).

Tectonic, lithological, geomorphological, and hydrogeological characteristics of the terrain make up the geological conditions of a location. For Antioch tectonic formations created terrain properties that varied within short distances. The geological and lithological characteristics of the city and its surrounding areas (Appendix D.8)

may provide clues about the potential effects of earthquakes. It is possible to divide the terrain of the research area into five different categories: the weakest, weak, less solid, moderately solid, and solid terrains. Alluvial cone and ramp sediments in fill areas of the Quaternary Epoch form the weakest grounds that are composed of pebble, gravel, clay, silt, clay, gravel, and sand. These materials are found in the Amuq Valley, on the slopes of Mount Silpios and on the face of the fault lines between the mountain and the Orontes River Valley. The river terraces in the eastern and western parts of the Orontes River of the Quaternary are also composed of the weak grounds, as pebble, sand and silt are the common elements in these areas. The eastern and western parts of the Orontes River of the Upper Pliocene form the less solid grounds and consist of pebble, silt, schist and mainly sandstone. The moderately solid grounds are formed, the alternated Middle Miocene sandstone, clayey limestone, siltstone, schist and marl, and Early Miocene pebble stone and tile stone. These ground types are found on the western, southwestern and northwestern faces of Mount Silpios and usually bordered with other properties by fault lines. Middle Miocene reef limestone, Early-Middle Eocene limestone and Upper Cretaceous form the solid grounds and are mainly found in the eastern part of Antioch and all-around Mount Silpios (Korkmaz, 2006, pp. 54-64) (Appendix D.9).

5.2 Imperial Responses to Earthquakes

It was the state's priority to help its citizens to recover from the physical and psychological impacts of catastrophes. Although limited, the accounts of chroniclers and historians provide critical data regarding the financial and moral support from the capital. According to the written sources, the first thing the emperors did was to provide financial support to the suffering cities. This was done in two ways: tax exemption or sending additional funding. Following the earthquake of September 13-14, 458, not only was Antioch exempted from paying one thousand talents of gold as a tax, but also the citizens were exempted from paying tax on their buildings destroyed during the catastrophe (Whitby, 2000, p. 96). We see a similar attitude following the quake of November 29, 528. In addition to Antioch, Seleucia and Laodikeia were among the impacted cities and by the order of Emperor Justinian, they were all exempted from paying tax for three years (Jeffreys & Scott, 1990, p. 258). However, we see the exact opposite situation during the Arab occupation of the city. Following the earthquake of December 24, 717, by the order of the Caliphate Umar, only the citizens who converted to Islam were exempted from paying tax (Mango & Scott,

1997, p. 550). No doubt, the state's policy to Islamize the city through psychological pressure would have been unacceptable for those who suffered from the earthquake**.**

The second method of financial support included providing funding for reconstruction. Data from the written sources state that Antioch received five *centenaria* following the quake of May 20/29, 526, and 200 *litrai* after the earthquake of November 29, 528 and that reconstruction efforts commenced immediately (Jeffreys & Scott, 1990, pp. 242, 258; Whitby, 2000, p. 270). While funding was received for reconstruction, it appears that priority was given to public buildings such as churches, aqueducts, bridges, baths, and hospices as they were being used and needed repair without delay. Public places where people gathered for enjoyment such as theatres, baths, and hippodromes were provided with fewer imperial sources intended for reconstruction. John of Ephesus states that, following the earthquake of October 31, 587/588, Patriarch Gregory received some funds from Emperor Maurice (582-602) to rebuild the hippodrome in the ancient part of the city (Whitby, 2000, p. 300, Smith, 1860, p. 226). Whether or not Gregory was able to achieve his mission, the island area was not within the borders of Justinian's new city walls, and furthermore, excavation reports reveal that heavily damaged buildings on the island were not in use at this time. Instead, they were used as quarries (Fisher, 1934b, pp. 6; Fisher, 1934c, p. 31; Pamir, 2017, p. 76).

Our sources provide, at times, detailed information on building activities in the city. When it comes to specific reconstruction attempts following the earthquakes, the information is not complete as we would like it to be. Though the sources do not name a specific building when they employ the word "reconstruction", by collecting the data from the accounts, we are able to conclude that some of the important churches not only survived the earthquakes but also existed for a long time after. This is the case, for instance, with both the Church of the Holy Virgin Mary and the Church of Cassian. The former, also known as the Church of Justinian or the Church of Theotokos, was rebuilt by the Emperor Justinian in or after 527 (Jeffreys & Scott, 1990, p. 243). It was still in use when the Arab historian and traveler Mas'ūdī visited the city in 943 and described it as a round church (Le Strange, 1965, p.3 68). We do not hear of the name of this church again until the end of the second period of Byzantine sovereignty in 1084. When the Seljuqs captured Antioch Sulaiman Kutulmish ordered repairs to the damaged parts of the city. These repairs most probably included the Church of the Holy Virgin Mary (Özaydın, 1987a, p. 128). The church was damaged after the earthquake of September 26, 1091 and reconstructed by the order of Sultan Malik Shah

(Ambraseys, 2009, p. 279; Özaydın, 1987a, p.1 28). It was still standing when the traveler Willbrand of Oldenbourg visited the city in 1211. In his notes he described the church as a round church (Downey, 1961, p. 666; Mayer &Allen, 2012, p. 109). On the other hand, the Church of Cassian, was first mentioned in our sources in 459 when Saint Symeon the Elder's body was brought to Antioch (Doran, 1992, pp. 99-100). As it had been identified as the city's main cathedral in the ninth century, the Church of Cassian probably underwent extensive restoration work in 996 as it had been reconstructed at that time after the model of Hagia Sophia in Constantinople (Kratchkovsky & Vasiliev, 1932, vol.2, pp. 445-446). Following reconstruction works in 1055/1056 as a consequence of the 1053/1054 quake, and in 1098 as a result of the Crusaders' pillaging of the city, we do not hear the name of the church mentioned again until the earthquake of June 29, 1170. In this quake the church's sanctuary collapsed (Michael the Syrian vol.3, pp. 337-339). It is obvious that both churches remained standing despite experiencing several destructive earthquakes. How was this possible? Our sources do not provide accurate information on the locations of the churches. According to the literary sources the Church of the Holy Virgin Mary was located approximately in the area of the foothills of Mount Silpios (numbered 66 on Appendix D.1). The sources do not provide any accurate information on the location of the Church of Cassian, but the eleventh-century Christian physician Ibn Butlān who visited Antioch in 1051 places the church in the city center (Le Strange, 1969, p. 371). W. Mayer and P. Allen hypothetically suggest that the present-day Habib Neccar Mosque (Appendix D.2) stands on the site of the church (2012, p. 54). As seen on the map, an active major fault line runs parallel to the main cardo of the city and both of these churches were located on each side of this cardo. Given that they were very close to the major fault line, no doubt both churches experienced several destructive earthquakes and underwent various reconstructions. The sources unfortunately do not mention any specific details of the post-disaster reconstruction processes they experienced.

The Church of the Holy Virgin Mary was described as a round-shaped church. This potentially means the sources meant a domed building. In the case of the Church of Cassian, we cannot be sure about its shape since it does not survive. The historian Yahyā-Ibn-Sáïd stated that it was modeled after Hagia Sophia in Constantinople during the reconstruction process. We cannot be sure if the source meant it was modeled after Hagia Sophia structurally or by using similar construction techniques or materials. Since the church had been identified as the main church of the city, relating

it to Hagia Sophia in Constantinople, the most important building in the empire, the historian probably tried to emphasize the importance of this church. Both the Church of the Holy Virgin Mary and the Church of Cassian were located in the city center and were famous for their beauty. Most likely the state did not let them fall into ruin as they were both being used.

As Antioch was famous for the beauty and the length of its city walls, one would expect too that the walls would have been repaired or reconstructed quickly since they served as a key element of the city's defense system. Our sources record specific damage to the city walls after the earthquakes of September 13-14, 458; November 29, 528; December 30, 859-January 29, 860; 972; September 26, 1091; November 13, 1114; August 1163; and June 29, 1170. The city walls were enlarged during the reign of Emperor Theodosios II due to an increase in the population (Whitby, 2000, p. 48). Afterwards Antioch experienced one of the most destructive earthquakes in its history in 458. However, our sources do not inform us about any reconstruction work on the walls until the sixth century. As part of Emperor Justinian's reconstruction and rebuilding efforts, Antioch's walls were redesigned in order to secure it not only against the foreign attacks but also against other natural disasters (Dewing & Downey, 1940, p. 165). Although the sources do not describe the damage caused by the quakes of 531-534, February 548, July 9, 551, 558, December 561, or June 572 the city walls must have collapsed or been damaged. It is safe to assume that citizens fled the city because the walls were in a ruinous state and could not protect them against the Persians in 573. After the work done by the Emperor Justinian in the sixth century, the second largest restoration of the city walls occurred in the tenth century by the Emperor John I Tzimiskes in 972 due to an earthquake that occurred in the same year. Tzimiskes sent one of his officials, Michael Burtzes, with 12,000 workers to restore the collapsed walls (Kratchkovsky & Vasiliev, 1932, vol.2, p. 351). This act of imperial benefaction is a sign that the imperial government wanted to consolidate their sovereignty in Antioch. Similar efforts were put forth by the Seljuqs after the earthquake of September 26, 1091 at which time ninety towers along the walls were destroyed (Ambraseys, 2009, p. 279; Özaydın, 1987a, p. 128). The earthquake of June 29, 1170 caused great damage to the city walls and the towers. Although workers and funds were provided by the Crusaders, only some parts of the walls were restored as the damage was very extensive (Babcock & Krey, 1943, vol.2, p. 370).

One of the common features the excavation reports mention is that the second period of reconstruction efforts exhibit inferior craftmanship and poor-quality building materials. Restoration efforts, unfortunately, extended over time as continuous earthquakes occurred during or after these works. It is tempting to speculate about the reasons why the builders or workmen imprecisely and hurriedly restored the damaged structures following an earthquake. The first likely reason would be that the buildings and structures were being used and repairs were needed as soon as possible in order to help the citizens recover from the impacts of the catastrophe. Second, the deaths of skilled builders perhaps forced inexperienced locals to take on the rebuilding efforts. Excavation evidence from the site of Bath C indicates that inferior workmanship on the walls and on the mosaic floors were easily to recognize. Sometime between 350 and 400 the bath underwent reconstruction and reused materials from the site were employed, but the stones were randomly placed and excavators noticed that the construction of the floor was a poor imitation of previous work (Fisher, 1934, p. 31). Similar information comes from the site of the Monastery of Saint Symeon the Younger. Djobadze (1986) notes the irregularity of the shapes and dimensions of the pavements of the Holy Trinity Church as a result of crude craftmanship and poor material (p. 78). Henry (2015) also mentions crude reconstruction at the West Gate. She points out that irregular small stones were used (p. 54). Visiting the site will provide the reader more visual examples of cracks being filled with small irregular stones all around the monastic complex. Another reason for the poor quality of workmanship could be that insufficient financial resources were available. We learn from our sources that the city was exempted from paying taxes following the earthquakes of September 13-14, 458 and November 29, 528; in addition to these quakes Antioch also received additional funding after the earthquake of May 20/29, 526 for reconstruction purposes. However, the sources do not mention any other financial support from the emperors after an earthquake. This could possibly be due to either the political situation of the empire or the depth of the emperors' interests in the city. Therefore, it may be suggested that in order to support the continuance of business life and to reinvigorate the economy, rebuilding efforts must have been done hurriedly.

Earthquakes were not the only catastrophes after which Antioch received funding from the state for reconstruction. It is stated that the Emperor Theodosios II donated two hundred gold coins to rebuild the Forum of Valens due to damage caused by a fire (Whitby, 2000, p. 49; Whitby & Whitby, 1989, p. 75). Furthermore, as a result of a

riot in 520/521 the city caught under fire and many places burned down. The city received two *centenaria* of gold from the Emperor Justin to repair fire damage (Jeffrey & Scott, 1990, p. 236).

Equally important, the emperors also gave moral support to Antioch's citizens. They shared their grief and showed their humility. Emperor Justin spent Christmas Day without his crown after the quake of October 4/7 (?), 525 (Becker, 1856, pp. 494,500). What is more, games were canceled after the earthquake of May 20/29, 526 and the emperor entered the church (probably Hagia Sophia in Constantinople) without his crown and wore a purple cloak along with senators during the Holy Pentecost. In order to lead the reconstruction efforts, Justin sent his *comes* Carinus to the city along with the patriarch and with some other officials (Jeffreys & Scott, 1990, pp. 241-242). The name of Antioch was changed to Theoupolis [City of God] following the severe earthquake of November 29, 528 by the Emperor Justinian (Jeffreys & Scott, 1990, p. 258; Mango & Scott, 1997, p. 270). As stated earlier, Antioch played an important role in regards to the spread of Christianity, and the remains of three important saints' bodies were brought to the city: Saint Babylas's relics were transferred in 351/354, Saint Ignatius's remains were brought back between 408-450, Saint Symeon the Elder's relics were brought in 459. We may never be sure what the actual reason was for changing the city's name. It may have been, though, to reflect the emperor's concern for the sufferings of his Antiochian citizens. It may also have been to underscore the city's religious status. There was also, probably, an imperial effort to protect the city's status quo as a major city in the East.

Although limited information on different ways in which the emperors gave financial and moral support to its citizens have been discussed above, we cannot find any direct evidence that official investigations were ever made in Antioch following the collapse of structures because of a quake. However, the fourth-century Latin historian Ammianus Marcellinus mentions that when the Temple of Apollo in Daphne was destroyed as a result of a sudden fire, this unexpected destruction of the temple made the Emperor Julian very angry. The emperor gave orders that investigations were to be made stricter than usual (Rolfe, 1972, vol.2, pp. 269-271). On the other hand, our sources inform us about two incidents occurred in Constantinople where engineers were blamed for using improper techniques, avoiding expenses, and using weak construction materials. The first incident occurred on May 7, 558 when the eastern

semi-dome and part of the dome of Hagia Sophia collapsed as a result of the quake of December 14, 557. Again, the earthquake of January 9, 869 caused the collapse of the western arch and a portion of the dome of Hagia Sophia (Bakır, 2002, pp. 154-155). The sources do not mention if investigations were started after these events. Instead, they talk about the possible causes. Although the causes of these two events in Constantinople and Antioch are dissimilar, it seems logical to assume that if an investigation was begun after a fire, it is most probable that investigations took place following the collapses of the domes of Hagia Sophia. After all, Hagia Sophia was the most important building and the main cathedral of the empire.

Structural damage to Antioch's buildings and infrastructure were certainly some of the most important results of the earthquakes. As the sources provide critical and descriptive data on the enormous damage caused by these quakes, we assume damage assessment would have been made after each quake that the city experienced. As a long-term effect, earthquakes must have created opportunities for administrators, architects and engineers to make arrangements and effect modifications on the urban setting. We cannot be sure if consistent imperial policies were undertaken after each quake, but Emperor Justinian's special interest in the city's reconstruction stands out. According to the sources, the earthquake of November 29, 528 was followed by a fire and destroyed the whole city. All of the buildings that had not collapsed in the quake of May 20/29, 526 finally did. Although the sources state that none of the buildings survived the earthquake of 528, it looks as if the sources may have exaggerated their accounts. Either reconstruction work started shortly after or some buildings were in fact still standing that had yet to be destroyed in a subsequent quake. The sudden Persian attacks in 540 unfortunately left Antioch in ruins and wiped out the ongoing reconstruction efforts. Following these events, the city received imperial benefaction again. Thanks to the account of the sixth-century historian Prokopios, we understand that Emperor Justinian did not merely restore Antioch, he structurally recreated it. As has been stated earlier, due to increase in the population, the city walls were enlarged during the reign of Emperor Theodosios II. However, Justinian gave orders for the reduction of the city walls to include only the city itself and exclude the island section (Appendix D.1). Artisans and workmen were brought to Antioch from other cities to rebuild it almost literally from scratch. Debris was cleared away in large areas, the street system was recreated, and the infrastructure system was redesigned. In addition, markets, stoas, water channels, fountains, churches, hospices, and hospitals were built

(Dewing & Downey, 1940, pp. 165-173). During the Princeton University excavations, excavators found a Justinianic street pavement abutting a wall composed of large blocks at the point parallel to the axis of today's bridge. Therefore, because of the date of this pavement, it is safe to assume this wall could date to the time of the fortification walls of Justinian (Stillwell, 1941, p. 19) (Figure 5.1).

Justinian's new modifications and his reducing of the circuit of the city walls no doubt impacted and changed the urban setting and residential zones of the city. According to the soil resistance map of Antioch (Appendix D.9), the ground of the ancient island, which is the modern Haraparası district, is composed of loose soil. The archaeological evidence also confirms that from the foundation of the city until the sixth century this

Figure 5.1 : Medieval street pavement, city wall and Gate of the Bridge (URL-34).

part of Antioch had important buildings such as the tower area, palace, circus, stadium and several public baths. Data from excavations indicates that earthquakes heavily affected this part of the city. For example, the earthquake of September 13-14, 458 struck the island heavily and afterwards the city center began to be relocated to the other side of the river; the earthquakes of May 20/29, 526 and November 29, 528 thoroughly destroyed this area. Excavation evidence indicates that Bath C was used as a quarry in the sixth century and two kilns were built in the middle of the rooms in this bath to turn marble into lime (Fisher, 1934c, p. 31). Recent archaeological

investigations in the hippodrome area[87] showed that there were some residential buildings dated to the fifth or seventh century (Pamir, 2014c, pp. 275-276). The area was used as a cemetery and gravestones with Kufic inscriptions were found dating to the mid-ninth early tenth century (Hitti, 1934, pp. 54-57). Similar to Bath C, the hippodrome and its environs were used as a kiln and became an industrial area as sources mention a leather factory there (Witakowski, 1996, p. 46; Pamir, 2017, p. 76). Due to the effects of the earthquakes on built structures in this area and as a result of Justinian's policy, the center of the city was transferred to the east, where modern Antakya is presently located. Although Justinian's newly reconstructed city was built on a much smaller scale, Antioch was still an important hub for the empire in the East until the Arab conquest.

Earthquakes not only disrupted and changed settlement patterns in the city center but also in the suburbs. As Antioch also suffered from the effects of heavy rains causing the soil to erode from the mountains into the Orontes River, so too did Seleucia Pieria, unfortunately, share the same fate. Following the foundation of Seleucia Pieria, Seleucus built the harbour and destroyed the pre-Hellenistic harbour in al-Mina, which had been inhabited since the Iron Age (Vorderstrasse, 2005, p. 16). In Seleucia Pieria, the soil brought by the Kapısu River, which flows to the inner harbour, accumulated over the years and caused sedimentation build up in the harbour basin. In order to prevent this accumulation, the Titus Tunnel was constructed between 69 and 81 in order to divert the Kapısu torrent to a place outside the inner harbour (Erol & Pirazzoli, 1992, p. 320; Ozaner, 1993). Seleucia Pieria had two harbours: the inner harbour and the outer harbour. During the reign of Emperor Constantius the southern entrance to the inner harbour was closed by building two piers and a new channel towards the north was constructed with the intention of using this southern entrance as the outer harbour (Erol & Pirazzoli, 1992, p. 321). Unfortunately, the harbour started losing its importance and as a result of the earthquakes of 526 and 528 the area was in ruins as were other parts of the city. It is tempting to assume that Seleucia Pieria also benefited from Emperor Justinian's reconstruction efforts, but the sources do not mention its name after the last decade of the sixth century. The effects of the earthquakes not only effected the urban setting of Seleucia Pieria, but also changed the geomorphological

[87] The remains of the last extensive military structures from the Roman imperial period were identified during recent surface explorations were also found in this area (Pamir and Brands, 2005a, p. 95).

characteristics of the area. As a result of the earthquakes of 526 and 528 the population of the city decreased over the years. A recent survey conducted using the geomorphological and marine biological evidence has shown that the coast of Seleucia Pieria was uplifted by about 0.7-0.8 of a meter as a result of the earthquakes. The researchers connect this uplift to the sixth century earthquakes (Erol & Pirazzoli, 1992, p. 321).

5.3 Potential Precautionary Measures Taken to Prevent the Effects of Earthquakes

The accounts of historians and chroniclers as well as archaeological findings help us to visualize how Antioch appeared over the centuries in terms of its monumental buildings and structures (see Appendix D.1, Appendix D.2, and Appendix D.3). Due to the strategic position of the city, emperors took special interest in efforts to build or rebuild it. In fact, emperors embellished the city with many works. The city was chosen as the imperial seat during the reigns of Emperor Constantius (337-361), Emperor Julian (361-363), and Emperor Valens (364-378), and as they spent several years in the city getting prepared for their military campaigns they also beautified it. Since its foundation Antioch grew steadily and the population increased. The fourth century was the city's golden age and its population reached at least 200,000 (Mayer & Neil, 2006, pp. 109-110). As the population increased, more residences were required and as a result the limits of Antioch expanded beyond its extant walls (Downey, 1959, p. 677). This expansion continued in the following years. Because Antioch was expanding, it seems logical to expect that builders and architects worked without consistently following any imperial rules or codes for erecting structures. We cannot be sure, but it would be tempting to speculate that people were already doing the opposite of what the future law stated. In so doing the law must have been enacted to limit or control building projects in Antioch. The *Codex Theodosianus*, a Latin law book, informs us about the building programs and regulations to be followed throughout the empire. One of the articles relating to private and public buildings inform us about the minimum distance that should be kept between buildings when constructing new ones: "…it has been similarly established that a space of ten feet [approximately 3.04 meters] shall be left between the buildings of private persons, and a space of fifteen feet [approximately 4.57 meters] between public buildings" (Pharr, 1952, p. 102).

Although some construction codes were set by law, we cannot be sure if the builders and workmen obeyed them. In fact, what we read from the sources makes us think that they often did not. In his account where he discusses the effects of the earthquake of September 13-14, 458, the sixth-century historian Evagrios Scholastikos informs us about the density of the buildings on the island section of the city. According to his account, there were not any unoccupied or neglected spaces and the island was full of buildings (Whitby, 2000, p. 95). If the island section of the city was heavily populated, logically the same must have been true for the old city as well. Furthermore, the findings from recent archaeological excavations in the Haraparası district are also evidence that the rules were not strictly followed. Recent excavations in the Haraparası district on the southern side of the Parmenius River bed uncovered two houses (numbered 71 and 72 on Appendix D.1) located next to each other in a north to south direction. The excavation reports revealed that the houses were heavily damaged (Pamir, 2013, p. 105; Pamir, 2014d, pp. 110-111). It seems clear that these houses were damaged because they were built so close together and on weak ground. As many other residences that do not survive must also have suffered a similar fate, we can only guess at the damage and loss of life Antioch suffered due to earthquakes. The archaeological material noted above is helpful but we believe more examples will be found as the excavations continue.

Antioch was built, from its very foundation, on an active fault line. However, we have no way of knowing if its citizens were aware of this. What we are sure about is that they must have learned how to live with the earthquakes despite the seismic tremors causing structural changes in the urban fabric of the city. Otherwise life in the city would not have been possible to continue without interruption. In addition to the structural damage to the houses and public buildings, in the long run demographical, social, and economical consequences of the quakes effected the lives of the citizens, but it did not cause permanent abandonment of the city.

The literary sources inform us about the post-disaster imperial responses to help the citizens to overcome the effects of the earthquakes. These sources do not, however, make clear how the Antiochian builders and workman dealt with and overcame structural deficiencies. The sources do not tell us how they developed earthquake resistant construction techniques and materials to reduce the effects of the earthquakes. The Princeton University excavators as well as recent archaeological studies unfortunately found limited proof for the necessary precautions taken to reduce the

effects of the quakes on the built structures. However, by analyzing the available material we will derive some information regarding the necessary precautions which were taken to reduce the effects of the quakes on the environment.

Before we discuss some of the construction techniques employed, it would be useful to provide information on the common building materials used in Antioch and its vicinity. It is common for building materials used in a region to depend upon the local availability of those materials. In the case of Antioch, which was located close to a limestone massif, limestone was one of the commonly used building materials. Located on the northwest side of the city, the Amanus Mountains (modern Gavur Dağı) separates the city from Alexandretta (modern İskenderun); while the eastern part of Antioch is separated from northern Syria by the limestone massif Jebel al-Aqra (Mount Casius), also known as the Massif Calcaire. Various types of limestone such as soft tawny, hard close-grained, fine-grained, white, black, red, brown, grey-green, and blue-grey were used in different parts of Antioch's buildings and structures as well as in those of surrounding areas such as Seleucia Pieria and Daphne. The other common building material used in Antioch was brick. Stone and brick were used in different combinations. Excavation records reveal that different construction methods were used. *Opus caementicium*, *opus mixtum*, and *opus testaceum* were among the most commonly utilized. Furthermore, since limestone was the standard building material in the region, ashlar construction was widely employed.

Recent archaeological studies and explorations have identified several quarries around the city. However, in addition to these quarries, excavation reports reveal that the ruins of demolished or destroyed buildings also served as quarries for new buildings or as sources for reconstruction materials. Once considered as the center of Antioch, the island section was in ruins as a result of earthquakes and therefore the structures there functioned as quarries. However, this was not limited to the island section - as we see in the case of the Church of Saint Babylas, located on the right bank of the Orontes River. Excavation evidence unfortunately does not note any earthquake damage to this church. Nonetheless, the church was used as a quarry. Photos from the excavation site show that everything on the site except the foundations of the church was demolished either by natural causes or by human causes. The Excavation Director's Report for the Season of 1935 states: "The church seems to have survived until the great earthquake of 526 and possibly up to the Persian invasion of 540. After this period, it seems not to have been restored but demolished and used as a quarry" (Campbell, 1935, p. 39).

Daphne, the famous suburb of Antioch, was also a source of building materials. Data from Princeton University revealed that the plateau of Daphne was also used as a quarry (Wilber, 1938a, p. 50).

The other building material used in Antioch was timber which was mostly supplied from Daphne. Daphne was famous for having thick cypress groves (Downey, 1959, p. 678). The excavation reports reveal that the following excavated churches had wooden roofs: the public bath identified as the Bath F and the Church of Saint Babylas in Antioch; the Church in Seleucia Pieria in the lower city, the Church at Daphne; and the Monastery of Saint Barlaam on Mount Casius. The literary sources also inform us that the Great Church had a wooden dome.

Since Antioch's foundation, not only the emperors but also government officials and locals too adorned the city with different types of buildings. As we discussed in the second chapter of our study, the city was so rich in structures that building activities were continuous. As new buildings were being erected, construction materials needed to be sourced or manufactured. As in other parts of the empire, reuse of building materials (Ousterhout, 1999, pp. 140-145) was also a common practice in Antioch. Although archaeological studies and research indicate reuse of building materials in nearly all of the excavated buildings, our written sources do not mention the word "reused" when discussing reconstruction efforts in the city. However, in the *Codex Theodosianus*, we find evidence for rebuilding programs and the reuse of materials from demolished buildings. So, we can safely assume the same occurred in Antioch. The regulations in the *Codex Theodosianus* state:

> Since you [*comes Orientis* Asterius] have signified that roads and bridges over which journeys are regularly taken and that aqueducts as well as walls ought to be aided by properly provided expenditures, we direct that all material which is said to be thus destined from the demolition of temples shall be assigned to the aforesaid needs, whereby all such constructions may be brought to completion (Pharr, 1952, p. 427).

Following the consecutive earthquakes of May 20/29, 526 and November 29, 528, the accounts of historians and chroniclers inform us that the city walls were in a ruinous condition and probably hard to repair. As part of Emperor Justinian's policy for restructuring Antioch, the limits of the city walls were reduced in order to secure the city. This had to be done as fast as possible and instead of carving new ashlar blocks, materials from ruined areas, mostly from the hippodrome area, were reused. This

practice no doubt was time-efficient, economical, and practical and helped the city recover from the effects of the earthquakes.

Stones from demolished or destroyed buildings were reused not only in Antioch but in other cities as well. After the sack of Antioch by the Persians in 540, the Persian general Chosroes ordered marbles and columns to be deposited outside of the city walls in order to transport them as building materials to be used in his own country (Dewing, 1914, p. 341). We see a similar incident in the tenth century when the city was under Arab sovereignty. When the Arab historian Mas'ūdī visited the city in 943, he talked about the beauty of Antioch and stated that the Umayyad Caliph Al Walîd, son of Abd al-Malik, carried off some of the marble and alabaster columns to Damascus from the Church of the Holy Virgin Mary, which had been identified as the city's main cathedral by that time (Le Strange, 1969, p. 368). It is clear from these two cases that even though the city continuously suffered from earthquakes and was in the progress of unending reconstruction efforts, there were still enough materials to harvest.

Various construction techniques were used by Antiochian architects and builders that were common throughout the empire. They used them in order to reduce the effects of seismic tremors. Relieving arches, beams, buttresses, coigning, monolithic construction, vaults and various others are some of the techniques generally employed (Harries, 1996; Gavrilovic et al., 2003). It is unfortunately very difficult from the remains at hand to always identify which of these techniques were applied. However, the excavations and research reports indicate that beams, buttresses, and relieving arches were some of the earthquake resistant construction techniques that were used.

Data from the excavations indicates that the usage of timber for construction purposes was very common in Antioch. According to the excavation reports the usage was mostly for church constructions, on roofs and domes. Moreover, wooden tie-beams are used in the churches to cover the space below and support the springing of the arches above (Bardill, 2008, p.344). We believe this was a common practice in sixth-century Antioch and possibly applied to churches built afterwards. The first occasion on which we come across the usage of wooden tie-beams is at the Great Church. This church was among the many affected buildings during the earthquake of October 31, 587/588; it collapsed to the ground except for its dome. Following the calamitous earthquakes of 526 and 528, the Great Church was restored. In this period the church's dome was tilted towards the north and wooden tie-beams from Daphne were employed to exert

counter pressure. However, the earthquake of 587/588 caused these previously applied wooden time-beams to fail and consequently the dome was reconstructed into its former position (Whitby, 2000, p. 298).

The Monastery of Saint Barlaam on Mount Casius (see Appendix D.5) also provides proof of the usage of beams. According to the excavation evidence from the site, Djobadze assumes that the church foundation was built during the first half of the sixth century and was demolished by one of the earthquakes that occurred during the first quarter of the sixth century, probably the quakes of 526 and 528. Written sources and archaeological findings indicate that the site was not occupied until the reconquest of the city in 969. In the eleventh century, the church was described as Georgian. A lead seal of Bohemund III and twenty-four Crusader coins found on the site confirm that the church was under the control of Bohemund III. The Mamluks drove out the inhabitants of the complex in 1268 and a fire was set which ended up destroying the whole monastery. Excavators also noted that signs of this fire were visible all over the complex, but did not, however, record evidence of any earthquake. However, the excavations records revealed some large wooden beams in the domestic quarters of the monastery (Djobadze, 1986, pp. 3-6, 18).

The last evidence regarding the usage of beams comes from the site of a public bath identified as the Bath F (numbered as 73 on Appendix D.1). Built on an earlier building, dated before the sixth century, the excavation reports reveal that the structure had at least four different periods of construction. It is believed that the last layer belongs to a reconstruction period probably followed by the earthquake of May 20/29, 526. A heavy masonry wall found on the site is thought to have belonged to a three-aisled structure probably had a wooden roof. Excavators also noticed layers of burned roof beams on the floor. The importance of the discovery of the Bath F is that the site provides the only epigraphic evidence so far recording reconstruction efforts following an earthquake. The earlier building was larger in size and the reconstruction was completed on a smaller scale. Some remains of the earlier structure were used in the reconstruction while other remains of the older bath were left in ruins. Following its reconstruction in 537/538 the bath was abandoned after a fire set by the Persians during their capture of the city in 540. The inscription found on the site reads as follow:

> Under Philotheos (?), the great and most glorious … of the East, and all-pervading *sacrae largiliones* [*comes* of Sacred Largesses (?)], the public bath …, was rebuilt from the foundations, (and a) four-sided colonnaded court was

> contrived (in it). In (the) times of indiction 1, of the 586th year [537/538]. (Stillwell, 1941, pp. 8, 9; Downey, 1941a, pp. 84-85)

The other technique we see in the buildings of the city is the use of buttresses. Buttresses are added to walls, including church buildings, to strengthen them or to reduce the pressure from overhead loads (Ousterhaut, 1999, p. 216). According to the data available to us, in Antioch we see buttresses as architectural elements in four different structures located in different parts of the city: the Podium Temple and Bath A in Antioch, the church at Daphne and the Church in Seleucia Pieria in the lower city. The foundations of these three structures date to different periods, and it is clear from the excavations that the builders were using the supportive system of buttresses since the early periods of the city.

The Podium Temple (numbered 96 on Appendix D.1) is located in the ancient part of the city close to the hippodrome. Excavation evidence reveals that the temple underwent restoration before the mid-third century. Although it is not entirely clear, it is most probable that the temple experienced earthquake damage, and as a result its walls were fractured and broken. In order to strengthen the foundation, a two meters wide platform was added to the inner and outer walls of the foundation of cella. Furthermore, during the cleaning of the debris in this section, ten buttresses were brought to light adjacent to the inner and outer walls of the cella and these buttresses descend to the lowest point of the foundation (Pamir, 2017, p. 82; Pamir et al., 2018, p. 348).

A public bath identified as Bath A (numbered 41 on Appendix D.1) located near the bank of the Orontes River on the island, is dated to sometime between 350 and 400 according to the mosaic patterns and techniques found on the site. After experiencing several earthquakes, reconstruction works took place and it is assumed that the site was abandoned following the earthquake of November 29, 528. The bath was a small one and during the excavations several rooms were uncovered. Archaeological evidence suggests some precautions were taken to reduce the effects of the seismic tremors such as adding buttresses. To the north end of the room numbered 39 a large semicircular exedra was added and its curved wall was strengthened on the exterior by adding four buttresses (Fisher, 1934b, p. 4).

The church at Daphne (see Appendix D.5) was built on an earlier structure, the nature of which cannot be determined. The coin found on the site dates the destruction of the church at Daphne to the year 583. For the second period of the church, evidence from

the excavation points to a reconstruction date between either 969-1084 or sometime between 1098 and 1268. Therefore, it is not possible to give an exact date of the re-foundation of this building. Regrettably, data from the excavations does not indicate if the church sustained earthquake damage (Downey, 1934, pp. 108, 111-113). However, reports from the excavations do reveal evidence of use of some earthquake resistant techniques. For instance, buttresses were inserted onto the northeast walls of the church. Although excavation reports from the site do not mention specifically addition of buttresses, the photographs taken from the excavation site proves the existence of buttresses (Figure 5.2).

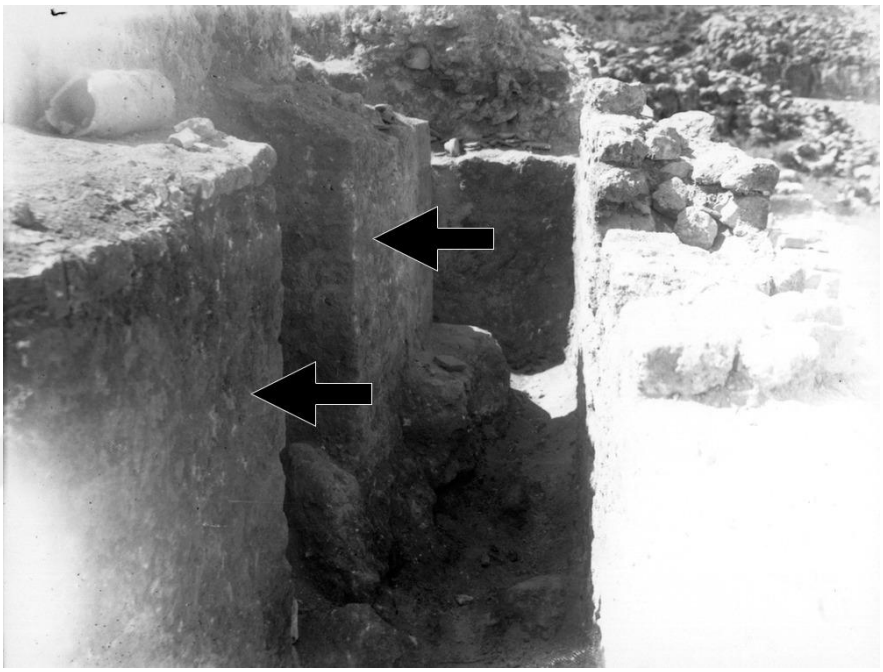

Figure 5.2 : Buttresses at the northwest angle of church at Daphne (URL-35).

The excavation reports reveal that the centralized planned Church in Seleucia Pieria in the lower city (see Appendix D.5) had three periods of construction and experienced two destructive events before its final collapse. The second phase of the building was probably heavily damaged during the earthquake of May 20/29, 526. Following this destructive earthquake, further damage was caused during the quake of November 29, 528 when reconstruction work was in progress. Data from the excavations informs us that as a result of the damage caused by the earthquake of 528, the north walls of the baptistry were strengthened by adding a long buttressing wall (Campbell, 1941, p. 51). The excavations conducted in Daphne by the Hatay Archaeology Museum between the years 2016-2017 revealed a church (see Appendix D.5) dated to the sixth century. Findings from the excavation site have shown that the architectural plan and the

mosaic setting were similar to the Church in Seleucia Pieria in the lower city (Aydın & Çilingir, 2017). The reports do not point to any earthquake-related damage but state that the site was not in use after the sixth century. However, excavation reports from the site state that curved walls outside the church form the outer walls of the structure and the walls here were strengthened by adding two buttresses (Aydın & Çilingir, 2017, p. 191). It is safe to assume that it was not in use probably because it suffered damage during the 526 or 528 earthquakes. We, of course, do not know which church was built first and are unlikely to learn the reasons why the builders used the same plan. However, an alternative interpretation would be as it was a common and a well-known plan in the empire and the builders previously experienced the building process, they did not hesitate copying the plan and using the materials they had to hand.

The excavation records about the Church in Seleucia Pieria in the lower city indicate that when the additions to the walls were made of a different material, different techniques were also used to build upon the remains of the original construction. The walls from the second building period show major rebuilding. The earthquake which the building experienced was so destructive that changes in the building materials and method of construction were necessary to make the church more earthquake resistant. The mortar was mixed with finer sand and more lime in order to provide additional strength. Smaller pieces of rubble were used in the interior of the wall and appeared to serve, unlike in the earlier period, as more than mere filling. We understand from the records this new type of mortar was used in other areas of the building where reconstruction was necessary (Campbell, 1941, pp. 38-39,47).

In addition to locating and uncovering some of the splendid buildings and structures of the Ancient Antioch, one of the most important findings of the excavations conducted in the city and its vicinity was the discovery of more than three-hundred mosaics. We believe as the excavations continue there will be more discoveries. For example, a second-century floor mosaic was recently discovered. It represents a mythological scene and is located on the floor in the *triclinium* of a private house. Some claim it to be the largest one-piece mosaic in the world (Pamir, 2013, p. 104; Pamir, 2014d, pp.1 06-110). The uncovered mosaics mostly came from residences and private structures. The mosaics provide details on the everyday life of a city, its culture, social and economic history, architectural features and history, and most importantly its topography. They also reveal clues that the written sources do not. Of the mosaics reflecting architectural elements, the mosaic uncovered in Daphne is the most notable.

This work is in a building identified as the House of the Menander and it is located in a room identified by the number thirteen. The panel depicts an olive harvest, but more importantly in the background are architectural elements that possibly represent part of a building. Here we see a passage opening in the wall with a relieving arch above the lintel; below the lintel is a beam (Campbell and & Stillwell, 1941, pp. 187-188) (Figure 5.3). Arches are generally used as load-bearing elements to relieve the stress and the pressure in a building. Since mosaics depict scenes from everyday life, based on this evidence it is logical to assume that the builders in the city used relieving arches to reduce the effects of the earth tremors on structures there.

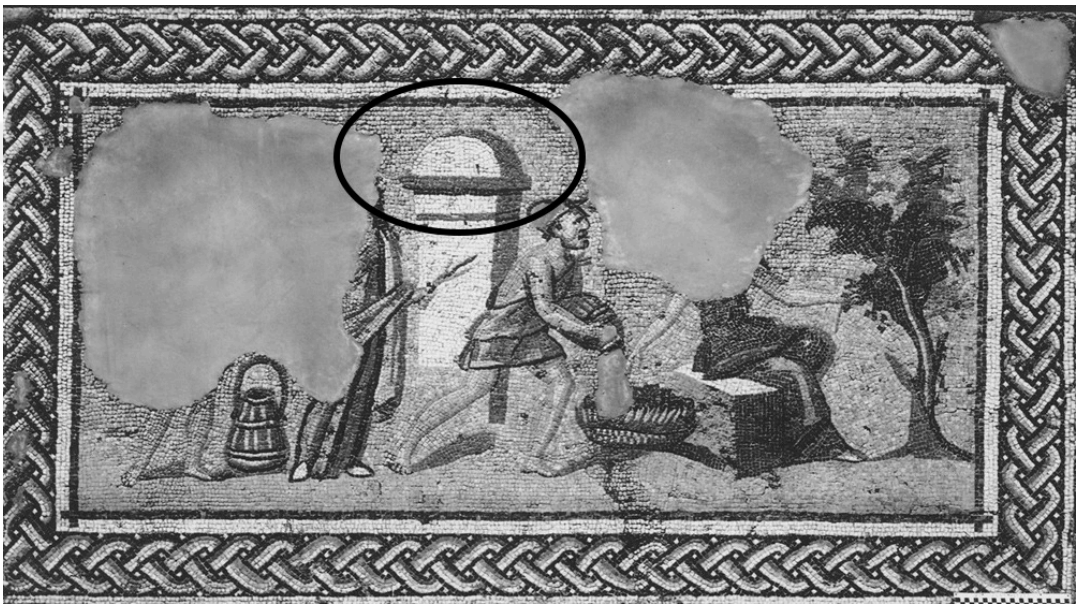

Figure 5.3 : Mosaic scene from the House Menander with some architectural figures (URL-36).

Based on the very limited evidence stated above it may still be concluded that the builders and workmen knew of techniques and materials to reduce the effects of earthquakes. However, even though potential precautionary measures must have been taken by the craftsmen, since Antioch was located on an active fault line and on weak soil, it was impossible for them to mitigate entirely the effects of quakes.

We are fortunate that some of the structures from Antioch's early period still survive so we have some idea of the appearance of the city in those early centuries. As a result of Emperor Justinian's rebuilding policy, the island section was not within the borders of his new city walls, and the buildings and structures there were abandoned and used as quarries. First and foremost, the island area was kept safe from the mud and alluvion coming down from Mount Silpios after heavy rains and this was a reason the structures there not buried in soil as deeply as those in the old city.

Even though excavation reports rarely inform us about reconstruction efforts either as a result of natural causes or human causes, in the cases where the information does exist, a close look at the different types of construction techniques can be informative. The Iron Gate is a good example. The gate was built during the rebuilding activities of the Emperor Justinian following the Persian sack of 540. The purpose of the gate was not only to control the torrent coming down from the mountain in order to serve as a dam, but also to secure the city's safety against foreign attacks. Recent archaeological studies and photogrammetric survey results have revealed that the gate had at least three reconstructions and repairs at different periods necessitated either by earthquakes or some other causes. The exterior surface was built in *opus mixtum* by using limestone blocks and bricks. On the side where the gate faces the city, an *opus africanum* construction technique was employed and reused blocks were used for building the upper part of the wall (Pamir, 2014d, pp. 88-89). In addition to the *opus caementicium* core found in the spandle area on the Mount Silpios side of the rock edge, three blocks show that the wall over the arch had an *opus quadratum* core (Pamir et al., 2008, p. 9). Unfortunately, the research reports on the gate do not indicate if any damage needing repair had been caused specifically by earthquakes. However, different types of construction techniques all over the gate make it clear that at different periods the structure went through several stages of repair that was needed due to damage caused that resulted from many causes that must have included earthquakes.

The city was known for having various baths due to its rich water resources. The variety of baths was not only mentioned in the Byzantine sources but also in travelers account of the tenth and eleventh centuries, as well as Crusades' accounts. The baths were not built only in one part of the city; they were well distributed all around Antioch (see Appendix D.1). One of the ways for the emperors to show their favor towards a city was to adorn it with different kinds of buildings, including baths. We see the continuation of this behavior following earthquakes as well. Depending on the damage caused by the quakes, restoring and repairing damaged baths was always the priority of the emperors and city administrators. It is possible to argue that by doing so the emperors tried to signify their power and contribution to the city. A good example in Antioch followed the earthquake of September 13-14, 458. The island section of the city was heavily damaged including all the buildings and baths there, except the bath adjacent to the imperial place. As it was the only bath standing or not damaged on the island, it was immediately put back into operation to help the citizens to overcome the psychological effects of the recent disaster. According to the written sources and

excavation evidence there were possibly seven baths on the island. However, starting with the earthquake of 458 and ending with the earthquakes of 526 and 528, the island section of the city was not included within the limits of Emperor Justinian's new city walls. As a result, the buildings as well as the baths there ultimately were abandoned and ended up being used as quarries. Sources do not talk about the building of new or reconstruction of existing baths after the reign of Justinian.

5.4 Evidence of Earthquake Damage on Buildings and Structures

Earthquakes are one of the most devastating types of natural disasters and the effects of them on cities can be extremely destructive. The extent of destruction depends on various factors such as a city's being located on or close to a fault line, its geomorphological characteristics, and the construction techniques and materials of its structures. Earthquakes may occasionally cause total destruction while at other times only slight or partial damage results; and they can leave major as well as minor evidence of impact on structures. As stated previously, Antioch was located on an active fault line and therefore was threatened by and suffered from quakes throughout its history. As a result, one expects to see earthquake related damage on the excavated buildings and structures. However, evidence from the excavations and recent studies and explorations in the city and its vicinity reveal very limited earthquake related damage. We do not have physical access to some of the remains excavated by the Princeton University. Therefore, by using photographs provided by the excavators we will attempt to identify damage that most likely resulted from earthquakes. We are, of course, aware that it is challenging, even for the experts in the field to identify damage from the photographs alone, but we will carry out our analysis by also taking into account related academic studies.

Excavations conducted in Fleet Village (modern Aşağıokçular Köyü) in 1935 brought to light a very damaged mosaic floor (Figure 5.4). This building, identified as the House of Polyphemus and Galatea by the excavators (numbered 19 on Appendix D.1), is located on the island section of the city. According to the excavators the house was destroyed during the earthquake of December 13, 115 and was never occupied again. (Levi, 1947, vol.1, pp. 25-28; Campbell, 1988, pp. 30-31). As seen in the image, the mosaic floor is very damaged as it is sunken and broken into pieces. The earthquake of 115 was one of the most severe in the city's history. The house was also built in an area of Antioch where the soil was especially weak (Korkmaz, 2006, pp. 57-64). This area also was very close to the stream bed of the Orontes River. Therefore, having

been built on marshy land, the ground on which the house was built was not solid. It is tempting to speculate that during the seismic activity the mosaic floor fractured and sank as a result of the intensity of the tremors.

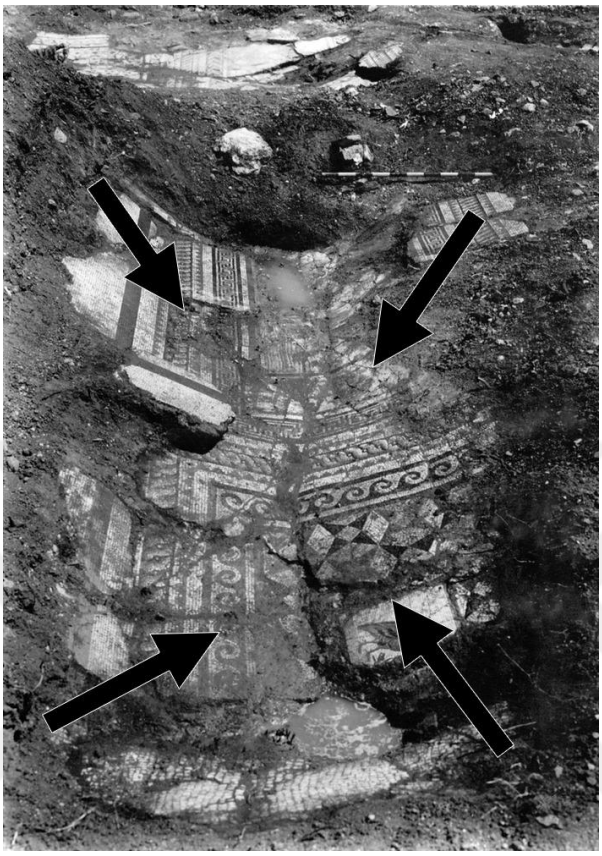

Figure 5.4 : General view of the mosaic floor of the House of Polyphemus (Levi, 1947).

The recent rescue excavations conducted in the Haraparası district brought to light, we believe, one of the most important discoveries that reveals the effects of earthquakes on Antioch's buildings. The level where the effected structure was found has been dated from the fourth to the sixth centuries. The structure itself has been identified as some kind of parliament building (Pamir, 2013, p. 104; Pamir, 2014d, pp. 106-108). Its mosaic floors, especially those in the west wing, show evidence of the fluid, springing motion of the ground during a seismic wave. There are also indications that traces of an architectural structure had fallen on the mosaic floor (Figure 5.5).

Furthermore, the east wing of this public structure provides more material regarding the traces of earthquakes. In the eastern wing of the structure, remains of a slanted row of columns and an arch of ashlar stonework were uncovered (Figure 5.6). The excavators believe that this building complex experienced the 526 and 528 earthquakes as well as the Persian invasions in 540, and due to damage caused by these incidents

the building went out of use. We hope that ongoing studies in this field will reveal additional information on the effects of earthquakes. During the Princeton excavations, remains of a building that existed from the Hellenistic to the Byzantine periods was uncovered. The map created following the Princeton University Excavations of 1932-1939, locates this building in the sector 17-O (numbered 82 on Appendix D.1). The excavation records state that the second period of this building was destroyed by an earthquake. The excavators base their view on the fact that three remaining courses resting on the thin concrete foundation were tipped at such an angle that as soon as the earth was excavated immediate propping up was required (Stillwell, 1941, p. 18) (Figure 5.7). The parliament building mentioned above is located in sector 16-O (numbered 50 on Appendix D.1) and as seen on the map, both of these buildings are parallel to each other along the main cardo. Recent findings in this area supports the excavators' suggestion for the cause of the destruction of the building in sector 17-O. Once the center of the city, sectors 16 and 17 still contain critical data regarding the life of the city in different periods; the New Committee for the Excavations of Antioch and Its Vicinity by Princeton University might reveal some additional data on the effects of the earthquakes.

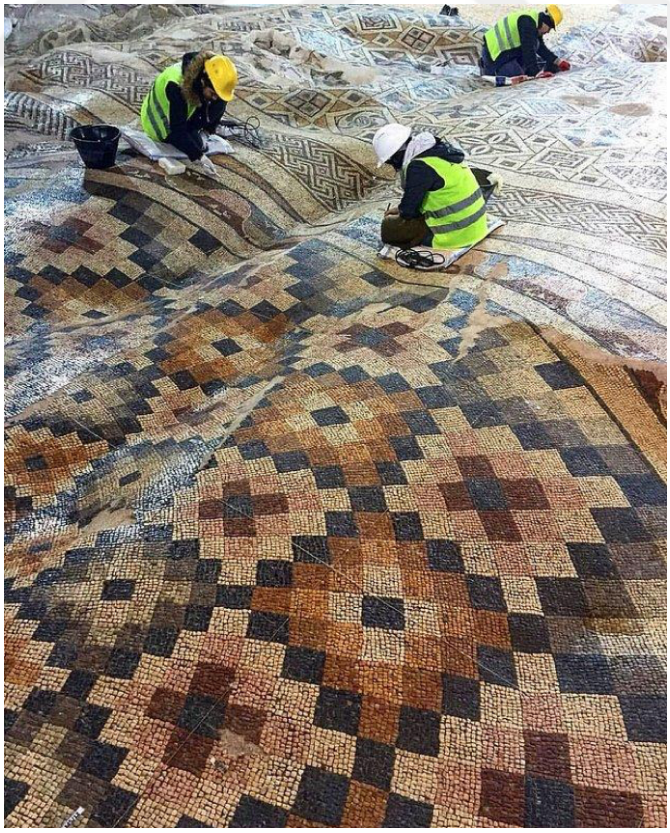

Figure 5.5 : The mosaic floor found in the Haraparası district showing the spreading of the ground (URL-37).

Figure 5.6 : View of the remains of a slanted row of columns in the rescue excavation in the Haraparası district (Pamir, 2013, p.112).

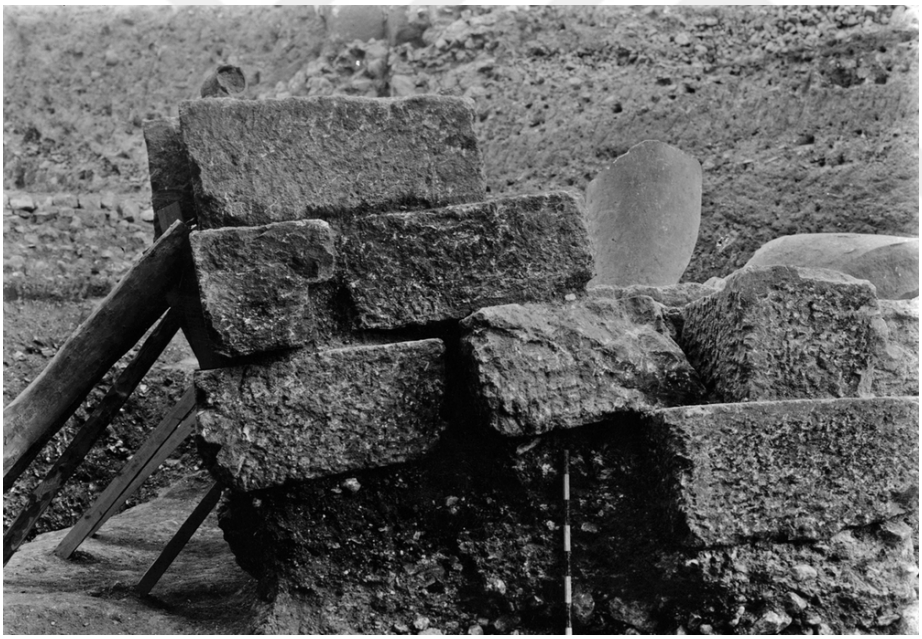

Figure 5.7 : Detail of a propped wall from a building in sector 17-O (URL-38).

In another case, earthquake damage can be seen in the fallen columns of the Doric Temple at Seleucia Pieria. Although it is difficult to date this temple structure, based on its moldings the excavators placed it at the end of the fourth century B.C. (Stillwell, 1941, p. 34). The remains of this building are still visible today (Figure 5.8). The excavation reports do not specifically point to damage caused by an earthquake, but

when we compare the evidence here with the photographs from other sites, we believe the structure has left traces of damage from past earthquakes (Marco, 2008, pp. 150-152; Alexandris et al., 2014). For instance, it is possible to see the remains of fallen column drums in different parts of the temple. The columns appear to have fallen in a northeasterly direction and the drums all fell in alignment.

During the excavations on the ancient island section of the city excavators uncovered a public bath identified as Bath E (numbered 103 on Appendix D.1). The coins found on the site date the construction of the bath to the early fourth century. Following this finding, excavators continued digging exploratory trenches in the area to gain a general idea of the bath complex. In the southeast side of the bath, it was still possible to see the damage caused probably by several earthquakes which left the island section in total destruction. Although we are unable to provide visual proof, the narrative of the Excavation Director's Report for the Season of 1934 informs us about the severe damage from this catastrophe. There was a road composed of large basalt boulders embedded in concrete that had been severely damaged by a violent earthquake (Campbell et al., 1934, pp. 3-5; Stillwell, 1938, p. 180; Levi, 1947, vol.1, p. 26; Campbell, 1988, pp. 7-11).

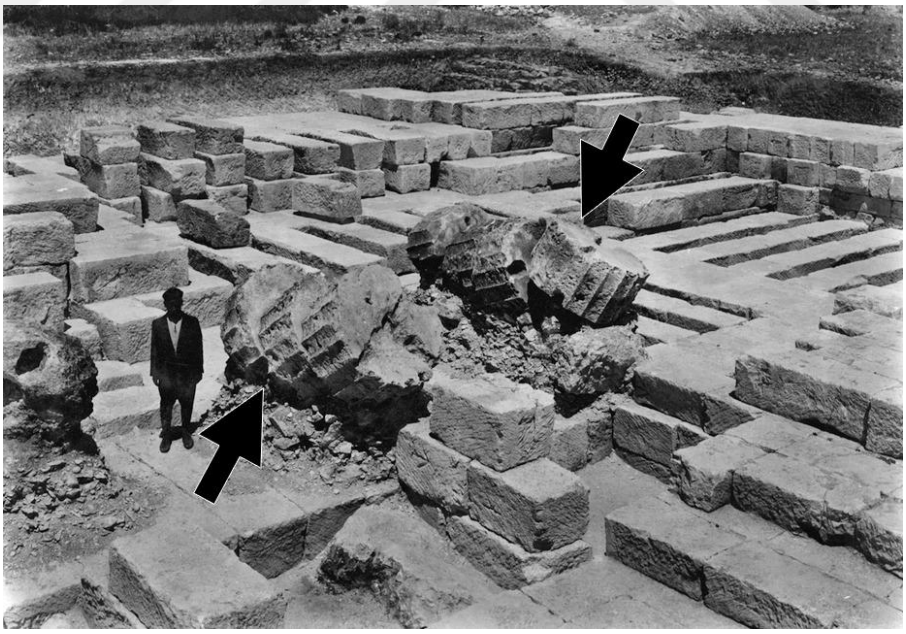

Figure 5.8 : Detail of fallen column drums at the Doric Temple (URL-39).

6. CONCLUSION

Our study's focus on Antioch and its vicinity has confirmed that for the Late Antique and Medieval eras the primary sources help date the known earthquakes but they do not often provide the details one would wish about particular building structures. It was necessary, therefore, to integrate the historical, architectural, and archaeological evidence to formulate a whole picture of the earthquakes and their impact on Antioch's built environment between the fourth and the thirteenth centuries.

Since Antioch's foundation, the city experienced rapid growth. Emperors, wealthy citizens, and imperial administrators constantly adorned it with public and ecclesiastical buildings and structures. The first and the second centuries were the periods when the number of settlers in the city increased. Although excavations uncovered limited information regarding the settlement areas outside the city gates, as the fourth-century rhetorician Libanios stated in his famous *Antiochikos (Oration 11)*, in the late Roman period the city was extended northward towards the road to Aleppo (Downey,1959, p. 677). The growth of the city was not limited to the north of the city, for excavation evidence records various structures, ecclesiastical buildings and private houses with splendid mosaics also in the southern part of the city in Seleucia Pieria and Daphne, two important suburbs (Levi, 1947; Campbell, 1988).

Primary sources from different periods recorded seismic events that occurred in Antioch and its surrounding areas, including Seleucia Pieria and Daphne. These sources include histories, chronicles, hagiographies, homilies, and ecclesiastical histories. Other materials such as coins, mosaics, epigraphic evidence, and travelers' accounts served as primary evidence as well. The authors of the primary source texts were sometimes eyewitnesses who wrote at the time of the tremors. However, some chroniclers and historians wrote at later dates. They all, however, presented views of the quakes as they knew them firsthand or as they understood them from past recorders. In addition to these sources and materials, archaeological excavations conducted in and around the city uncovered valuable information on urban life, on

damage caused by earthquakes to structures, and on reconstruction efforts that followed upon these quakes.

In our study, we took a journey in exploring these resources and this excursion allowed us to devise lists of all the sources in chronological order and to note the key, relevant passages about the city. The first list includes the public and ecclesiastical buildings mentioned in the primary sources. This list is important as it notes information on buildings that could not be found in the excavations; confirms the existence of some of the unearthed structures, and provides limited but critical information regarding the rebuilding and restoration efforts that some of the structures have undergone. The second list, however, identifes buildings that have been built from the foundation of the city, and in addition to the ones mentioned in the primary sources it includes the findings of past and current excavations. Created for the first time, these lists provide future readers with a guide to available materials and contribute to our knowledge and understanding of the history of Antioch. They also provide an overview of Antioch's topography and its transformation from the fourth through the thirteenth centuries.

The information gleaned in our journey through the primary and secondary literature and the excavation reports allowed us to mentally walk through ancient and medieval Antioch and its environs. This resulted in the creation of maps that will allow current and future students and scholars to do the same. They can do so now visually as well in tandem with their own reading of the primary and secondary materials. The contents of the maps are important in bringing together the information that is known and can safely be conjectured about the built environment and topography of ancient and medieval Antioch and its vicinity. The first of these maps (see Appendix D.1) covers the period from the foundation of the city by the Macedonian general Seleucus I Nicator on May 22, 300 B.C. until the end of the first Byzantine period in the seventh century. As a continuation of the first map, the second map (see Appendix D.2) covers the period until the eleventh century, including the early Islamic, Middle Byzantine, and Seljuq periods. The third map (see Appendix D.3) focuses on the Crusaders' siege of the city in 1097/1098.

These maps have been adapted from the one published as a result of the Princeton University Excavations of 1932-1939 and compiled with data from the primary sources, from the Reports of the Princeton University Excavations of 1932-1939, and from recent archaeological studies and explorations, modern publications and studies. Each map has been divided into different periods. Within each period date ranges are

given for when the buildings and other structures were in use. The locations for some buildings and structures mentioned in the primary sources are indicated approximately as it was not possible to identify their exact locations. Specific symbols and colours were chosen in each map to denote respective buildings, topographical, and geological features. The city walls and gates, which changed over the centuries, the main cardo of the city, water resources, cemeteries, and fault lines are also indicated. The first map contains public buildings such as baths, squares, venues for entertainment, bridges, quarters and agoras. Religious and residential buildings such as temples and private houses are indicated as well. The second map notes private houses, churches, a temple, a bath, the Citadel, mosques, and other structures. Different from the former two, the third map contains towers built by the Crusaders before their siege. The maps altogether serve to bring together in a brief, visual format the information that is known and can safely be conjectured about the built environment and topography of ancient and medieval Antioch and its vicinity.

Given that Antioch and its environs were located on an active fault line, the map(s) provided have taken this into account. Careful study of the geomorphological characteristics of the terrain across the whole city and how they vary and impacted seismic events were a critical component of this study. The map in Appendix D.4 is a result of this research. In fact, this map has been generated by merging two previous maps: the one that has been created for the first time in the scope of this study (see Appendix D.1), and the soil resistance map of the city that was created once by Korkmaz (2006, p.56; see Appendix D.9). On this latter map, the terrain of Antioch has been divided into five different groups, and each colour represents different geomorphological features of the city: the weakest terrains are indicated in red, weak terrains in pink, less solid terrains in yellow, moderately solid terrains in green, and solid terrains are indicated in grey. As seen on this map, not only the island section but also the Colonnaded Street, the main cardo of the city, were located on the weakest terrains of the city. These areas were also densely populated and heavily built. Since the buildings and structures built in the areas highlighted in red were erected on the weakest soil of the city, it was impossible for the citizens to mitigate completely the effects of quakes. This was especially the case when tremors would hit the city while reconstruction efforts from previous quakes were still underway. As the city was located on an active fault line, the other parts of the city also suffered from the destructive effects of the earthquakes, but not as drastically as those who resided where the terrain was the weakest. The island section, once referred as the Basileia, due to

the palace built there, experienced several ruinous quakes and as a result it started losing its importance especially with the devastating earthquake of September 13-14, 458. After that time, it began to be used as a quarry and a kiln and became, therefore, an industrial area. Following the continuous destructive earthquakes in the fifth and sixth centuries, the island section was in ruins. The same applies to the Colonnaded Street. The current Kurtuluş Caddesi is the modern version of the famous Colonnaded Street. Running throughout the city for a length of four miles from north to south direction, the Colonnaded Street was founded by Emperor Tiberios (14-37). Later on, as the city grew, not only in regards to population but also in the number of buildings and structures, the grid street plan of the city was followed and its traces can still be seen today in modern Antakya. Shops, public buildings, and other structures were built along this street. Unfortunately, however, like the island section of the city, over the centuries as a result of earthquakes and foreign invasions the Colonnaded Street lost its major importance. It did, however retain its identity as the main cardo of the city.

One important point we noticed during our study was that when the primary sources discuss the effects of earthquakes, they often note the extent of the destruction following a particular seismic event. This is true, for example, for the earthquakes of September 13-14, 458 and May 20/29, 526 and especially after the quake of November 29, 528, which changed the urban setting of city. Findings by the Princeton University excavators as well as discoveries from current excavations connect the destruction of the city to these successive catastrophes. The map showing the city's growth from its foundation until the end of the first Byzantine period in the seventh century (see Appendix D.1), and the one from the seventh until the eleventh century (see Appendix D.2) clearly show us the effects of the earthquakes on the built environment and the city's transformation. The destructiveness of the quakes were so severe that only the buildings numbered as 87, 91, and 96 on Appendix D.1. from the island section survived until the conquest by the Crusaders (see Appendix D.3). As part of Emperor Justinian's reconstruction and rebuilding efforts following the earthquake of November 29, 528 and the Persian sack of the city in 540, the island section of the city was not included inside the borders of the new city walls, which were redesigned to secure the city against both natural disasters and foreign invasions. By excluding the island section, the city was essentially relocated back to the other side of the Orontes River, where modern Antakya presently resides. The decrease of the city in size can clearly be seen on the map of Antioch-on-the-Orontes between the seventh and the eleventh centuries (see Appendix D.2). Emperor Justinian's modifications and his

reduction of the circuit of the city walls no doubt impacted and changed Antioch's urban setting and residential zones. The settlements shifted towards the slopes of Mount Staurin and Mount Silpios as seen on Appendix D.2., and the known residentials areas were discovered between the Colonnaded Street and the fault line. This map also shows the Islamic amendments to the city when the Arabs and Seljuqs modified the city according to their needs and lifestyles. Following the reconquest of Antioch in 969, the Byzantines were focused on restoring the city's cultural and architectural identity by constructing new buildings and mending damaged ones. These efforts were meant at the same time to protect the city against future foreign invasions. As indicated on the map of Antioch-on-the-Orontes in 1097-1098 (see Appendix D.3), the borders of the city walls remained as in the sixth century, but the form of the walls were changed in preparation for attacks by the Crusaders. These changes included the addition of many towers.

Among the churches built in the city at this time two stand out: the Basilica of Saint George and the Church of the Holy Virgin Mary (also known as the Church of Justinian or the Church of Theotokos). Both churches were located on each side of the main cardo of the city where the fault line runs parallel. The Basilica of Saint George is numbered as 76 on Appendix D.1., and the Church of the Holy Virgin Mary is numbered as 66 on Appendix D.1. Both churches experienced extremely destructive earthquakes but they both remained functioning until the Crusaders' conquest of the city. One interesting point to mention is that both churches' geomorphological characteristics where they were built on differ (see Appendix D.4). According to the soil resistance map of the city, the Basilica of Saint George was located on weak terrain most prone to damage or destruction by earthquake. The Church of the Holy Virgin Mary on the other hand was located on a solid terrain where the possibility of destruction was far less likely. It is ironic that two buildings were survived one was built on a weaker soil and the other was not. And it proofs that since they both survived they were important to repair and maintain.

A separate map (see Appendix D.5) for Seleucia Pieria and Daphne has also been created. The map is adapted from Djobadze's (1986, Plan A) and Mayer and Allen's (2012, p. 291) works and includes data from the Princeton University Excavations of 1932-1939, and findings of recent archaeological studies and explorations. This map will help readers to envision and locate the whereabouts of the main buildings and

structures in Seleucia Pieria and Daphne discussed in this paper. The map also indicates the main fault lines in the area.

We can of course never be sure to what extent the Antiochenes were aware that their city was located on an active fault line, but the way they constantly continued their lives gives us a clue. Based on information found in the sources and in the archaeological and architectural records, it is certain that the natives of the city learned how to live and deal with earthquakes. As in the other parts of the empire which were prone to earthquakes, such as, for example, Constantinople and Nicomedia (modern Kocaeli), the natives of Antioch never abandoned their home. They persisted and rebuilt. They attempted and did overcome the physical and psychological effects of the quakes. They, time and again, took necessary precautions to reduce the effects of these tremors throughout the centuries by using earthquake-resistant building techniques and materials. The available sources and materials inform us that relieving arches, buttresses, and beams were some of the earthquake resistant construction techniques the architects and builders who were survivors in Antioch used as others did in other parts of the empire. We are hopeful future excavations will shed light on building techniques peculiar to Antioch and future researchers will have a better understanding of how the residents protected their city against quakes and dealt with their aftermath. The historical record confirms one thing overall, however, it is that the citizens' determined resistance against earthquakes, were a fundamental reason that the city survived without interruption since its foundation. The reasons behind this interrupted continuity may also include the fact that Antioch was located in a very strategic position, had a rich and vibrant culture, played an important role in the religion, and was surrounded by rich water resources.

Our earlier study (Bakır, 2002) focused on the impacts of earthquakes in Byzantine Constantinople, and how people reacted in light of these disasters. Essential to these reactions were the imperial and ecclesiastical responses. However, this study in particular focused on Antioch. Critical to this study, to be sure, was how the residents and those in power prepared for and responded to earthquakes. In comparison to Constantinople, this has not been studied in depth for Antioch. More specifically an attempt to understand the structures that existed were important, were rebuilt or fell into ruin is critical to this study. Antioch's strategic position consistently played an important role in the Empire. It was ranked among one of the four leading cities of the late Roman Empire, and was chosen as the imperial seat during the fourth century. Yet

it suffered from earthquakes throughout its history that fundamentally impacted its topography as well as its citizens. Yet it remained the center of conquest. The Romans, Arabs, and Crusaders all desired it. And when it came into their power, they repaired and built anew.

Scholars of Late Antiquity and Byzantium tend to focus on Constantinople, as more material on its history and the earthquakes that impacted it are available. We believe with our study specific attention will be brought in this regard to one of the empire's key urban centers where such information is not as readily available. Studying Constantinople does not necessarily tell us how citizens in other major cities of the empire responded to quakes and changed their own built environment accordingly. Certainly, influence from the imperial capital was strong, but it is only by studying cities like Antioch - as their own entities - we can shed light on regional responses and practices that influenced how the residents decided to regroup, rebuild and move forward. They rebuilt time and again. This study has attempted to analyze how they did so that the city of Antioch never died and is still with us today. If Libanios were with us, would his words not still resonate?

> Indeed, if a man had the idea of travelling all over the earth, not to see how cities looked, but to learn their ways, our city would fulfill his purpose and save him his journeying. If he sits in our market place he will sample every city, there will be so many people from each place with whom he can talk. (Downey, 1959, p. 670)

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APPENDICES

APPENDIX A : Tables

APPENDIX B : Descriptions from the primary sources

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APPENDIX D : Maps

APPENDIX E : List of authors and anonymous works

APPENDIX A : Tables

Table A.1 : Public and ecclesiastical buildings mentioned in the primary sources.

Name of structure	Date range	Reference(s)
Temple of Zeus Bottios	May 22, 300 B.C.	John Malalas (p. 106).
City walls		
-City walls were built to surround the city	May 22, 300 B.C.	John Malalas (p. 106).
-City wall was built adjacent to a Colonnaded Street	A.D. 14-37	John Malalas (p. 124).
-City walls were enlarged	408-450	John Malalas (p. 188); Evagrios Scholastikos (p. 48).
-City walls were redesigned to secure the city	After 527	Prokopios in *Buildings* (1940, p. 165).
-City walls were restored	972	Yahyā-Ibn-Sáïd (1932, vol.2, p. 351).
-City walls were repaired after the earthquake	September 26, 1091	Ibn al-Qalanasi (in Ambraseys, 2009, p. 279); Ibn al-Athir (in Özaydın, 1987a, p. 174).
-City walls were destroyed	Between April 3, 1156 and 1159	Ibn al-Athir (in Özaydın, 1987b, p.185).
Granaries		
-Two grain elevators were built	May 22, 300 B.C.	Downey (1961, p. 72).
-Granaries were built to store corn	284-305	John Malalas (p. 167).
A marble statue was set up at the Romanesian Gate in honour of the priest Amphion	During the reign of Emperor Seleucus I Nicator (died in 281/280 B.C.)	John Malalas (p. 107).
Bouleuterion was erected	175-163 B.C.	John Malalas (p. 108); Libanios *Oration 11* (in Downey,1959, p. 666).

Table A.1 (continued) : Public and ecclesiastical buildings mentioned in the primary sources.

Name of structure	Date range	Reference(s)
Quarters of the city		
-A new quarter was added on the island	246-226 B.C.	Strabo (vol.7, p. 243).
-The Epiphaneia Quarter was founded	175-163 B.C.	John Malalas (p. 108).
-The Agrippiatai Quarter was founded	31 B.C. - A.D. 14	John Malalas (p. 117).
-The Ostrakin Quarter	Mentioned during the earthquakes of September 13-14, 458 and October 31, 587/588.	Evagrios Scholastikos (pp. 95, 299).
Temple of Pythian Apollo	Mentioned when Libanios talks about the earthquakes that the city suffered.	Libanios *Oration 11* (in Downey,1959, p. 677).
Temple of Demeter	Mentioned when Libanios talks about the building activities of the emperors.	Libanios *Oration 11* (in Downey,1959, p.666).
Temple of Minos	Mentioned when Libanios talks about the building activities of the emperors.	Libanios *Oration 11* (in Downey,1959, p. 666).
Temple of Heracles	Mentioned when John Malalas talks about the earthquake occurred sometime between 41-54.	John Malalas (p. 131); Libanios *Oration 11* (in Downey,1959, p. 666).
The Muses (*Mouseion*) was built	Sometime between 114 and 84 B.C.	John Malalas (p. 125).
-Destroyed in the fire	A.D. 23/24	John Malalas (p. 125).
-Rebuilt/repaired with its sigma-shaped nymphaeum	161-180	John Malalas (p.1 65).
-Decorated together with its sigma-shaped nymphaeum	276-282	John Malalas (p. 165).
-Converted to the seat of the *comes Orientis*	335	John Malalas (p. 173).

Table A.1 (continued) : Public and ecclesiastical buildings mentioned in the primary sources.

Name of structure	Date range	Reference(s)
Palace was built on the island	Quintus Marcius Rex gave orders in 67 B.C.	Strabo (vol.7, p. 243); John Malalas (p. 119).
-Palace was rebuilt due to Persian invasions	287	John Malalas (p. 167).
-First and second buildings of the palace were overthrown	September 13-14, 458	Evagrios Scholastikos (p. 95).
Basilica of Kaisarion was built	67 B.C.	John Malalas (p.1 14).
-Demolished in order to build the Forum of Valens	364-378	John Malalas (p. 184).
Temple of Ares (Macellum)	47 B.C.	John Malalas (p. 114).
Baths of Julius Caesar and an aqueduct on the Acropolis were built	47 B.C.	John Malalas (p. 114).
Pantheon was restored	47 B.C.	John Malalas (p. 114).
Amphitheatre was built	47 B.C.	John Malalas (p. 114).
Theatre of Caesar was built	47 B.C.	John Malalas (p. 114).
-A new tier of seats was added	31 B.C.-A.D. 14	John Malalas (p. 118).
-The theatre was rebuilt and another tier of seats was added, but the construction was not completed.	14-37	John Malalas (p. 125).
-Construction of the theatre was completed	Around or after 115	John Malalas (p. 146).
Baths of Agrippa (Ampelion/ Baths in the Vineyards) was built	31 B.C. - A.D. 14	John Malalas (p. 117).
Fountains of the Nymphs in Antioch	Mentioned when Libanios talks about the springs of the city.	Libanios *Oration 11* (in Downey,1959, p. 658)
Fountains of the Nymphs in Daphne	Mentioned when Libanios talks about the beauties of Daphne.	Libanios *Oration 11* (in Downey, 1959, p. 678).
Temple of Capitoline Zeus was built	14-37	John Malalas (p. 124).

Table A.1 (continued) : Public and ecclesiastical buildings mentioned in the primary sources.

Name of structure	Date range	Reference(s)
Colonnaded Street was built	14-37	John Malalas (p .124).
-A vaulted tetrapylon was built at the cross-streets	14-37	John Malalas (p. 124).
-Paving of the street was carried out	138-161	John Malalas (p. 149).
Temple of Capitoline Zeus was built	14-37	John Malalas (p. 124).
Baths of Tiberios was built	14-37	John Malalas (p. 125).
Eastern Gate (Aleppo Gate/Bab al-Fāris/Gate of Saint Paul) was built	14-37	John Malalas, (p. 125).
-Existed until the Crusaders conquered the city	1097/1098	William Archbishop of Tyre (vol.1, p. 207); *Gesta Francorum* (p. 38)
Temple of Dionysus was built	14-37	John Malalas (p. 125).
Temple of Pan was built	14-37	John Malalas (p. 125).
Bath of Varium	37-41	John Malalas (p. 129).
Trinymphon was built	37-41	John Malalas (p. 129).
Temple of Artemis	Mentioned when John Malalas talks about the earthquake occurred sometime between 41-54.	John Malalas (p. 131).
Cherubim Gate was mentioned during the building activities of the Emperor Vespasian	69-79	John Malalas (p. 138).
-A stone tablet was placed at the gate following the pavement of Colonnaded Street by the Emperor Antoninus Pius	138-161	John Malalas (p. 149).
Temple of the Winds was built	69-79	John Malalas (p. 138).
Bath of Paradise was built	81-96	John Malalas (p. 139).
Temple of Asclepius	81-96	John Malalas (p. 139).

Table A.1 (continued) : Public and ecclesiastical buildings mentioned in the primary sources.

Nameof structure	Date range	References(s)
Temple of Aphrodite	Mentioned during the reign of Emperor Domitian (81-96).	John Malalas (p. 139).
Temple of Artemis in Daphne was built	Around or after 115	John Malalas (p. 146).
Temple of Zeus the Savior in Daphne	115	John Malalas (p. 145).
Daphne Gate (Golden Gate/West Gate/Bāb Muslim/Gate of Saint George) mentioned when the Emperor Trajan entered the city	Before the earthquake of 115	John Malalas (p. 144).
-Two bronze doors of the gate were gilded	408-450	John Malalas (pp. 144, 197).
-Mentioned during the Persian capture of the city	540	Prokopios (Dewing, 1914, p. 333).
-Mentioned when describing the Tower of the Two Sisters during the Crusaders' capture of the city	1097/1098	William Archbishop of Tyre (vol.1, p. 242).
Theatron of the Springs of Daphne	117-138	John Malalas (p. 147).
Temple of the Springs	117-138	John Malalas (p. 147).
Temple of the Nymphs	117-138	John Malalas (p. 147).
Temple of Trajan	117-138	*Souda* and John of Antioch (in Downey, 1961, p. 220).
Xystos (running-track) was built	180-192	John Malalas (p. 151).
Temple of Olympian Zeus was built	180-192	John Malalas (p. 151).
Temple of Athena	180-192	John Malalas (p. 151).
Baths of Commodus	180-192	John Malalas (p. 151).
Bath of Livianum was built	193-211	John Malalas (p. 157).

Table A.1 (continued) : Public and ecclesiastical buildings mentioned in the primary sources.

Name of structure	Date range	Reference(s)
Plethron was built	193-194	John Malalas (p. 154).
-It was enlarged	379-395	Libanios (in Downey, 1961, pp. 688-694).
Temple of Apollo in Daphne was reconstructed	284-305	John Malalas (p.1 67).
-Temple was destroyed by a fire and restored during the reign of the Emperor Julian	361-363	Ammianus Marcellinus (vol.2, pp. 269, 271); Sokrates (p. 88); Sozomenos (p. 342).
Palace was built in Daphne	284-305	John Malalas (p. 167).
Three arms factories were founded	284-305	John Malalas (p.1 67).
Three unnamed baths were built	284-305	John Malalas (p. 168).
Senatorial Bath was built	284-305	John Malalas (p. 168).
Stadium at Daphne; and Temple of Olympian Zeus and Nemesis were founded in the stadium.	284-305	John Malalas (p. 167); Yakto Mosaic (Lassus, 1934b, pp. 131-132; Levi, 1947, vol.1, p. 326; Cimok, 2000, p. 273).
Temple of Hecate (with 365 steps) was built in Daphne	284-305	John Malalas (p. 167).
Church of Martyr Susinus (?)	After the death of Diocletian 305 (?)	Abū al-Makārim (in Hacken, 2006, p. 199).
The Old Church (Palaia/Apostelic Church) was restored	Before the reign of Constantine I (306-337).	Theodoret of Cyrrhus (p.34); Chronicon Paschale (p. 38).
Basilica of Rufinus was built	306-337	John Malalas (p. 172).
-It was burned and rebuilt after the riot	507	John Malalas (p. 223).
Church of Saint Babylas	351-354	Sokrates (p. 88); Sozomenos (pp. 342-343); Evagrios Scholastikos (p. 43).

Table A.1 (continued) : Public and ecclesiastical buildings mentioned in the primary sources.

Name of structure	Date range	Reference(s)
Xenon (hospice) was built	306-337	John Malalas (p. 172).
-Leontius, the Bishop of Antioch built new ones for strangers	344-358	Chronicon Paschale (p.26).
-A new one was built and it received 4,000 *nomismata* from the emperor for its construction	In or after 529	John Malalas (pp. 243, 265).
-Construction of the Great Church began	326/327	Eusebios of Caesarea (pp. 140-141); Sokrates (p. 132); Sozomenos (p.285); Theophanes the Confessor (p. 45); Dionysios of Tell Mahre, (p. 45).
-Construction of the church was completed	332/333	John Malalas (p. 177); Sokrates (p. 38); Sozomenos (p. 285).
-The church collapsed	May 20/29, 526	John Malalas (p. 239); Evagrios Scholastikos (p. 298); John of Nikiu (p. 136); Zacharias of Mitylene (p. 311).
-The outer structures of the church except the dome were collapsed and rebuilt	October 31, 587/588	
A library was built in Antioch	July 362-March 363	Emperor Julian (vol.3, p. 125).
The two curved ends of the *Kynegion* was built, vaults and seats were added	364-378	John Malalas (p. 184).
Forum of Valens was constructed	364-378	John Malalas (p. 184).
Baths of Valens was built	364-378	John Malalas (p. 184).
- It was partially burned down	375	Ammianus Marcellinus (vol.3, p. 379).
- It was restored	408-450	Chronicon Paschale (p. 75); Evagrios Scholastikos (p. 49).
Martyrium at the Romanesian Gate	Last quarter of the fourth century.	Mayer and Allen (2012, pp. 94-95).

Table A.1 (continued) : Public and ecclesiastical buildings mentioned in the primary sources.

Name of structure	Date range	Reference(s)
Extension was made to the Tauriana Gate	385/386	Theophanes the Confessor (p. 106).
Matrona Synagogue	Saint John Chrysostom mentions it in his homily *Against the Jews Oration 1* delivered in 386.	Saint John Chrysostom (in Mayer and Allen, 2000, p. 160).
Church of Saint Drosis	Saint John Chrysostom mentions it in his homily *On Saint Drosis* delivered between 386-397.	Saint John Chrysostom (in Mayer and Neil, 2006, pp. 192-207).
Church of Saint Romanus	Last decade of the fourth century.	Severos of Antioch (in Mayer and Allen, 2012, pp. 102-103).
Church of the Maccabees (Church of Kerateion)	Last decade of the fourth century.	Saint John Chrysostom (in Leemans et al., 2003, pp. 117-118); John Malalas (p. 109); John of Nikiu (p. 136).
The building known as Athla	Mentioned in mid-430s.	John Malalas (p. 196).
Philonauta Gate (Bab al-Bahr/Gate of the Bridge) was mentioned when the city walls were extended.	During the reign of Emperor Theodosios II (408-450)	John Malalas (p. 188).
-Existed until the Crusaders conquest of the city.	1097/1098	William Archbishop of Tyre (vol.1, p. 207); *Gesta Francorum* (p.3 8)
Monastery of Euprepius	431	Evagrios Scholastikos (p. 20).
Psephium (law court) was reconstructed.	After 437/438	Evagrios Scholastikos (p. 45).
Basilica of Zoilus was built.	After 437/438	Evagrios Scholastikos (p. 45).
Stoa of Callistus was built.	After 437/438	Evagrios Scholastikos (p. 45).

Table A.1 (continued) : Public and ecclesiastical buildings mentioned in the primary sources.

Name of structure	Date range	Reference(s)
Church of Cassian (Qusiyān/ Cassianus/Church of Saint Peter) -Saint Symeon the Elder's body was brought to the church (?).	In 459 (?)	The Lives of Simeon Stylites (in Doran, 1992, pp. 99-100).
-Mentioned in a homily.	Severos of Antioch mentions it in his homily *Lenten Fast* delivered on February 22, 513.	Mayer and Allen (2012, p. 52).
-Emperor Justinian's robe was displayed in the church.	In or after 529	John Malalas (p. 264).
-Mentioned during the patriarchal dispute.	In 579	John of Ephesus (pp. 300-304).
-Identified as the city's main church.	In 845	Michael the Syrian (vol.2, p. 205).
-Mentioned when Mas'ūdī visited the city.	In 943	Mas'ūdī (in Le Strange, 1965, p. 367).
-Reconstructed after the model of Hagia Sophia.	In 996	Yahyā-Ibn-Sáïd (1932, vol.2, pp. 445-446).
-Mentioned in a letter when Ibn Butlān visited the city.	In 1051	Ibn Butlān (in Le Strange,1965, p. 371).
-Mentioned during an earthquake and burned by a fire following the quake.	1053/1054	Matthew of Edessa (p. 85).
-Reconstructed after the Crusaders pillaging the city.	1098	William Archbishop of Tyre (vol.1, p. 207).
-The sanctuary of the church was overthrown during an earthquake.	June 29, 1170	Michael the Syrian (vol.3, pp. 337-339).
Stoa (or Basilica) of Anatolius was built.	439	John Malalas (p.196); Evagrios Scholastikos (p. 45).
-It was rebuilt.	After 527	John Malalas (p. 243).
(Temple of) Tychaeum was converted to the Church of Saint Ignatius	After 439	Evagrios Scholastikos (p. 42).

Table A.1 (continued) : Public and ecclesiastical buildings mentioned in the primary sources.

Name of structure	Date range	Reference(s)
Martyrium of Saint Symeon the Elder	Sometime between 473 and 530.	John Malalas (p. 203); Evagrios Scholastikos (pp. 34-37); Chronicon Paschale (p.86).
Martyrium of Saint Stephen (Thecla/Church of Saint Stephen) -mentioned upon the death of Peter the Fuller, Patriarch of Antioch.	490/491	Theophanes the Confessor (p. 208).
-Mentioned during the fire in the city.	520/521	John Malalas (p. 236).
-Mentioned during the fire occurred after an earthquake.	October 4/7 (?), 525	Theophanes the Confessor (p. 263).
-Mentioned while explaining the damage of an earthquake.	May 20/29, 526	John of Nikiu (p. 135).
A public bath in Daphne.	Mentioned when Evagrios Scholastikos talks about the Antiforum, around 490s.	Evagrios Scholastikos (p. 164).
Hospice in the suburb of Daphne.	Mentioned in mid-500s.	Evagrios Scholastikos (p. 240).
Antiforum (?) in Antioch	507	John Malalas (p. 223).
Church of Saint Andronicus	?	Abū al-Makārim (in Hacken, 2006, p. 215).
Martyrium of Saint Leontius (formerly a Jewish synagogue) was built in Daphne.	507	John Malalas (pp. 222-223).
Church of Saint John	Mentioned during the riot of 507.	John Malalas (p. 223).
Bath of Olbia	Mentioned during the riot of 507.	John Malalas (p. 223).
Basilica of Zenodotos	Mentioned during the riot of 507.	John Malalas (p. 223).
Church of Thomas the Apostle in Seleucia Pieria	Mentioned in a homily delivered by Severos of Antioch on July 3, 513.	Severos of Antioch (in Mayer and Allen, 2012, pp. 110-111).

Table A.1 (continued) : Public and ecclesiastical buildings mentioned in the primary sources.

Name of structure	Date range	Reference(s)
Church of the Holy Virgin Mary (Church of Justinian/Church of Theotokos)	Severos of Antioch mentions it in his *Homily 83* delivered on December 25, 515.	Mayer and Allen (2012, pp. 107-108).
-Burned to the ground.		John Malalas (p. 239).
-The church was rebuilt.	After the earthquake of May 20/29, 526	John Malalas (p. 243); Prokopios (1940, p. 173).
-The curtain around the holy table was burned.	In or after 527	Evagrios Scholastikos (pp. 283-284).
-Still in use	During the reign of Emperor Maurice (582-602)	Mas'ūdī (in Le Strange, 1965, p. 367).
-Repaired after an earthquake	Mentioned in 943 when Mas'ūdī visited the city.	Ibn al-Athir (vol.10, p. 128).
-Damaged during an earthquake	1084	Ibn al-Kalānisī (in Ambraseys, 2009, p.2 79).
	September 26, 1091	Downey (1961, p. 666); Mayer and Allen (2012, p. 109).
-Still standing when the traveler Willbrand of Oldenbourg visited the city	1211	
Martyrium of Saint Thomas	Sometime during the reign of the Emperor Justinian (527-565).	Evagrios Scholastikos (p. 240).
Saint Julian's Gate	Mentioned during the earthquake of May 20/29, 526.	John Malalas (p. 240).
Bath of Tainâdônhûs	Mentioned during the earthquake of May 20/29, 526.	John of Nikiu (p. 135).
Church of the Holy Prophets was destroyed.	Mentioned during the earthquake of May 20/29, 526.	John Malalas (p. 239 in Slavic version).
Church of Saint Zacharias	Mentioned during the earthquake of May 20/29, 526.	John Malalas (p. 239 in Slavic version).
Martyrium of Saint Dometius	Second decade of the sixth century.	Severos of Antioch *Homily 51* (in Mayer and Allen, 2012, p. 68).

Table A.1 (continued) : Public and ecclesiastical buildings mentioned in the primary sources.

Name of structure	Date range	Reference(s)
Church of Saints Cosmas and Damian was built.	After 527	John Malalas (p. 243).
Church of Archangel Michael in Antioch was built.	After 527	John Malalas (pp. 239, 243 in Slavic version).
Martyrium of Saint Julian	529	John Malalas (p. 265); Prokopios (1914, p. 345).
Basilica of Saint George	Seventh century	John of Nikiu (p. 102).
-Still in use when the city was captured by the Crusaders.	1097/1098	William Archbishop of Tyre (vol.1, p. 207).
-Survived during an earthquake.	The earthquake of June 29, 1170.	Michael the Syrian (vol.3, p. 339).
Church of Archangel Michael in Daphne	Mentioned in 540 when the Persians captured the city.	Prokopios (1914, p. 353).
Church of Saint Justina	Around 570s	Pilgrim Antoninus *Itinerarium 47* (in Downey, 1961, p .561).
Martyrium of Saint Euphemia in Daphne	Late sixth-early seventh century.	Evagrios Scholastikos (p. 240).
Church of Saint Paul (Monastery of the Fleas/Dayr al-Barãghith)	Mentioned in 943 when Mas'ūdī visited the city.	Mas'ūdī (in Le Strange, 1965, p. 368).
Church of Saint Ashmūnît	Mentioned in 943 when Mas'ūdī visited the city.	Saint John Chrysostom (in Mayer and Allen, 2012, pp. 92-94); Mas'ūdī (in Le Strange, 1965, p. 368).
Church of Saint Barbara (Kanîsah Barbârâ)	Mentioned in 943 when Mas'ūdī visited the city.	Mas'ūdī (in Le Strange, 1965, p. 368).
A crypt	Mentioned in 943 when Mas'ūdī visited the city.	Mas'ūdī (in Le Strange, 1965, p.3 68).
Bakras Castle was built.	966/967	John Skylitzes (p.260); Yahyā-Ibn-Sáïd (1924, vol.1, p. 816).

Table A.1 (continued) : Public and ecclesiastical buildings mentioned in the primary sources.

Name of structure	Date range	Reference(s)
Tower of Kalla	Mentioned by John Skylitzes when he talks about the recapture of the city in 969.	John Skylitzes, (p. 261).
Citadel was built	989	Yahyā-Ibn-Sáïd (1932, vol.2, pp. 427-430).
Church of Saint John Chrysostom	Second half of the ninth century.	*Life of Patriarch of Christophoros* (in Kennedy, 1992, p. 189).
Church of Azkas'utis	Second half of the ninth century.	*Life of Patriarch of Christophoros* (in Kennedy, 1992, p. 89).
A hospital (Bimāristan)	1051	Ibn Butlān (in Le Strange,1969, p. 371).
A watchtower	1051	Ibn Butlān (in Le Strange,1969, p. 371).
Tower of Malregard was built.	Mentioned when the city was captured by the Crusaders in 1097/1098.	*Gesta Francorum* (p.30); William Archbishop of Tyre (vol.1, p. 228).
Tower of Tancred was built.	Mentioned when the city was captured by the Crusaders in 1097/1098.	*Gesta Francorum* (pp.39-41); William Archbishop of Tyre (vol.1, pp. 236-237).
Tower of La Mahomerie (Castle of Raymond) was built.	Mentioned when the city was captured by the Crusaders in 1097/1098.	*Gesta Francorum* (pp.3 9-42).
Tower of the Two Sisters	Mentioned when the city was captured by the Crusaders in 1097/1098.	William Archbishop of Tyre (vol.1, p. 242).
Castle of Aregh	Mentioned during the Crusaders army's advancement to the city in 1097/1098.	*Gesta Francorum* (pp. 29, 35).

Table A.1 (continued) : Public and ecclesiastical buildings mentioned in the primary sources.

Name of structure	Date range	Referenc(s)
Gate of the Duke (Gate of the Gardens/Bāb al-Jinān)	Mentioned when the Crusaders conquered the city in 1097/1098.	*Gesta Francorum* (p.38); William Archbishop of Tyre (vol.1, p. 207).
Gate of the Dog (Bab el-Kalb)	Mentioned when the Crusaders conquered the city in 1097/1098.	*Gesta Francorum* (p.38); William Archbishop of Tyre (vol.1, p. 207); Albert of Aachen (p. 201).
Basilian Monastery in the Black Mountains	November 13, 1114	Matthew of Edessa (p. 217).

Table A.2 : List of the earthquakes and their locations between 320 B.C. and 1269.

#	Year	Estimated Time	Duration	Location(s)	Intensity[88]
		Hellenistic Period (320 B.C.-31 B.C.)			
1	February 21, 148 (or 130)	-	-	Antioch	VIII
2	Sometime between 83-69	-	-	Antioch	IX
		Roman Period (31 B.C.-A.D. 324)			
3	April 9, 37	at dawn	-	Antioch, Daphne	VIII
4	Sometime between 41-54	-	-	Asia Minor, Antioch	VII
5	December 13, 115	at dawn	several days and nights	Antioch, Daphne	IX
		Byzantine Period (324-637/638)			
6	341	-	3 days	Antioch	VIII
7	July 21, 365	after day break	-	Across the world, especially in Alexandria	X
8	396	-	3-7 days	Across the world	III
9	September 13-14, 458	at dawn	-	Antioch	XI
10	November 6, 472	-	-	Asia Minor	VII
11	September 7, 513	-	-	Antioch	III
12	October 4/7 (?), 525	-	for a year	Constantinople, Antioch, Pompeiopolis	XI
13	May 20/29, 526	-	for 18 months	Antioch	XI
14	November 29, 528	during the third hour	an hour	Antioch	XI
15	Sometime between 531 and 534	-	-	Antioch	III
16	February 548	-	-	Antioch	III
17	July 9, 551	-	-	Antioch, Lebanon	IX
18	558	-	-	Antioch	V
19	December 561	-	-	Antioch, Anazarbos	III
20	June 572	-	-	Across the world	IV

[88] The intensity of the earthquakes has been evaluated according to the comparison data provided by Boğaziçi University Kandilli Observatory and Earthquake Research Institute (URL-40).

Table A.2 (continued) : List of the earthquakes and their locations between 320 B.C. and 1269.

#	Year	Estimated Time	Duration	Location(s)	Intensity
21	580/581	mid-day	-	Daphne, Antioch	IX
22	October 31, 587/588	during the third hour	-	Antioch	IX
23	April 2, 601/602	-	-	Across the world	VIII
		Early Islamic Period (637/638-969)			
24	February 28-March 10, 713	in the middle of the night	40 days	Antioch, Aleppo, Qenneshrin (both in Syria)	VIII
25	Decmber 24, 717	during the third hour	-	Syria	IV
26	742	-	-	Across the world, but heavily felt in Saba	X
27	January 18, 746/747	-	-	Syria, Palestine	VIII
28	March 9, 755/756	-	-	Syria, Palestine	IV
29	Sometime between January 5-December 25, 835	-	40 days	Antioch	VIII
30	November 24, 847	-	three hours	Antioch, Damascus	IX
31	September 852-August 853	-	-	Across the world	VI
32	December 856	-	-	Syria, Qumis (in Iran)	VI
33	December 30, 859-January 29, 860	-	-	Antioch, Laodikeia	IX
34	May 16, 881	-	-	Syria, Al-Jazīrah (in Iraq)	VIII
		Second Byzantine Period (969-1084)			
35	972	-	-	Antioch	VII
36	March 12, 1036-March 11, 1037	mid-day	-	Antioch	VIII
37	August 5, 1050	during early hours of the day	-	Antioch, Ghunjara	VIII
38	1053/1054	-	-	Antioch	IX
39	Sometime between July 30-August 27, 1063	-	-	Antioch, Laodikeia, Tripoli, Sur	VIII

Table A.2 (continued) : List of the earthquakes and their locations between 320 B.C. and 1269.

#	Year	Estimated Time	Duration	Location(s)	Intensity
40	1072	-	-	Antioch	VII
41	1074/1075	-	-	Antioch	VI
		Seljuq Period (1084-1098)			
42	1080/1081	-	-	By the coast, Antioch (?)	VI
43	1086/1087	-	-	Syria	V
44	September 26, 1091	at night	-	Antioch	IX
45	April-May 1094	-	for a long time	Syria	VII
46	December 30, 1097	shortly after night fall	-	Antioch	VII
		Frankish Principality of Antioch (1098-1268)			
47	September 1108	-	-	Across the world	VIII
48	November 13, 1114	-	-	Antioch, Aleppo, Edessa, Mamistra	X
49	November 29, 1115	in the evening	-	Antioch, Maraş, Edessa	X
50	April 3, 1118	-	-	Al-Jazīrah	IX
51	1123/1124	-	-	Antioch	VIII
52	February 3 – September, 1133	during the day	-	Antioch	VI
53	July-August 1135	-	-	Iran, Mosul	VII
54	October-November 1137	-	-	Al-Jazīrah, Syria, Mosul, Diyarbakır	VII
55	July-August 1140/1141	-	-	Across the world	III
56	Between April 3, 1156 and 1159	at dawn	-	Antioch, Laodikeia, Tripoli	VIII
57	August 1163	-	-	Antioch	IX
58	June 29, 1170	-	three to four months	Antioch, Aleppo	X
59	February-March 1194	-	-	Al-Jazīrah, Iraq	III
60	May 20, 1202	shortly before dawn	-	Al-Jazīrah, Syria, Mosul	IX
61	March 4, 1225	-	-	Al-Jazīrah, Iraq, Mosul	III
62	April 17, 1269	at the first hour of the night	-	Antioch, Cilicia	VIII

Table A.3 : List of important events in Antioch between April 23, 300 B.C. and twelfth century.

#	Date	Occasion
1	April 23, 300 B.C.	Foundation of Seleucia Pieria
2	May 22, 300 B.C.	Foundation of Antioch
3	246-244 B.C.	Occupation of the city by the Egyptians
4	145 B.C.	The city was burned and plundered during the Seleucid rivals
5	166 B.C.	Gladiatorial Games were introduced
6	83-69 B.C.	Occupation of the city by Tigranes II of Armenia
7	67 B.C.	Quintus Marcius Rex visited the city
8	64 B.C.	The city became the capital of the Roman province in Syria and Roman occupation began under Pompey
9	51 B.C.	Siege of the city by the Parthians
10	47 B.C.	Julius Caesar visited the city
11	40-30 B.C.	Parthians occupied the city
12	37 B.C.	Marc Anthony and Cleopatra VII wed in the city
13	31 B.C.-A.D. 14	Foundation of the local Olympic Games under Emperor Augustus
14	23/24	Fire
15	44-47	Famine
16	70	Fire
17	Sometime between 138 and 161	Fire

Table A.3 (continued) : List of important events in Antioch between April 23, 300 B.C. and twelfth century.

#	Date	Occasion
18	192	Olympic Games suspended
19	212	Olympic Games restored
20	259	The city was captured by the Persians
21	260 (?)	The city was captured by the Persians
22	313	Plague and famine
23	324	Famine
24	333	Famine and epidemic
25	351-354	The remains of Saint Babylas were transferred to Antioch from Daphne
26	354	Grain shortage
27	361/362	Drought
28	362/363	Grain shortage
29	365	Famine
30	Winter of 384/385	Strong rainfall, outbreak of pests
31	382/383	Famine
32	384/385	Famine and bread shortage
33	387	Tax riots
34	408-450	The remains of Saint Ignatius were brought back to Antioch from Rome
35	May-June 431	Strong rainfall, grain shortage and famine
36	438/439	Empress Eudokia visited the city

Table A.3 (continued) : List of important events in Antioch between April 23, 300 B.C. and twelfth century.

#	Date	Occasion
37	440s	Famine in the Amuq Valley
38	444	Empress Eudokia revisited the city
39	458	Fire
40	459	Death of Saint Symeon the Elder and his relics were brought to the city
41	474/491	Famine in Syria
42	April 501	Outbreak of epidemic in Edessa and spread to Antioch
43	502/506	War with Persia
44	507	Factional riot and fire
45	522	Fire
46	525	Great Fire
47	536/537	Dust-veil event, with cold summer, crop problem
48	June 540	The city was captured and burned by the Persians
49	542	Bubonic plague
50	544	Plague
51	553	Cattle plague
52	561	Bubonic plague
53	573	Suburbs of Antioch were burned by the Persians, fire in the city and its vicinity
54	580/581	Epidemic in Antioch, damage to crops
55	591/592	Fourth break of bubonic plague
56	599	Drought
57	602	Crop damage
58	602/604	Famine in Syria

Table A.3 (continued) : List of important events in Antioch between April 23, 300 B.C. and twelfth century.

#	Date	Occasion
59	611	Antioch was captured by the Persians
60	628	Re-establishment of the Byzantine rule in the city
61	634/635	Epidemic in Syria
62	637/638	Antioch was captured by the Arabs
63	699	Plague
64	725/726	Plague in Syria
65	733/734	Plague in Syria
66	734/745	Plague in Syria
67	748-750/751	Pandemic in Syria
68	951	Famine
69	964	Famine
70	October 28, 969	Byzantines took over the city
71	December 22, 969	Eclipse
72	October 31, 1029	Heavy rain
73	1030	Severe famine
74	1032/1033	Famine
75	1050	Heavy rain, strong thunder and lightning
76	1053	Eclipse
77	1058/1059	Famine
78	1071	Battle of Manzikert against the Seljuqs
79	1079/1080	Famine
80	1084-1098	Seljuq occupation of the city

Table A.3 (continued) : List of important events in Antioch between April 23, 300 B.C. and twelfth century.

#	Date	Occasion
81	1098	Establishment of the Frankish Principality of Antioch in the city
82	1098/1099	Famine, followed by plague
83	June 3, 1098	Bohemund I became the master of the Frankish Principality of Antioch
84	1117	Drought
85	1119	Pest (locust) infestation
86	1123/1124	Water shortage in the city
87	1133/1134	Pest (grasshopper) infestation
88	Sometime between March 12, 1036 and March 11, 1037	Eclipse
89	1154	Famine
90	1170-1174	Famine and plague
91	April 11, 1176	Eclipse
92	1176	Drought
93	May 1178	Flood
94	1179	Fire
95	1180	Famine, disease and plague
96	1191	Famine

Table A.4 : Classification of public and ecclesiastical buildings and other structures.

NAMES OF THE BUILDINGS AND STRUCTURES	Archaeologically studied structures that are not known in the primary sources	Archaeologically studied structures that are known in the primary sources	Structures that are known in the primary sources but not in the archaeological studies	Structures that remain today (also includes findings of the recent archaeological studies and explorations in the city and its vicinity)	Numbers of the buildings and structures given in Figure D.1.
IN ANTIOCH					
Antioch city walls		✓		✓	
Remains of polygonal city walls on the southwestern, northern and western slopes of Mount Staurin	✓			✓	
Remains of a polygonal terrace wall (?) on the southwestern slopes of Mount Silpios				✓	
Remains of a second-century polygonal city wall close to the Aqueduct of Cossutius	✓				
Remains of the Hellenistic period street pavement on the Colonnaded Street around the Forum of Valens	✓				4
Vaults/culverts over the Parmenius River	✓			✓	80
Remains of the wall along the Parmenius River in the Haraparası district				✓	2
Two grain elevators			✓		
Temple of Zeus Bottios			✓		
Hippodrome		✓		✓	81
Temple of the Muses (*Mouseion*) and its sigma-shaped nymphaeum			✓		
Temple of Demeter			✓		
Temple of Minos			✓		
Temple of Heracles			✓		

Table A.4 (continued) : Classification of public and ecclesiastical buildings and other structures.

NAMES OF THE BUILDINGS AND STRUCTURES	Archaeologically studied structures that are not known in the primary sources	Archaeologically studied structures that are known in the primary sources	Structures that are known in the primary sources but not in the archaeological studies	Structures that remain today (also includes findings of the recent archaeological studies and explorations in the city and its vicinity)	Numbers of the buildings and structures given in Figure D.1.
Podium Temple near the hippodrome	✓			✓	96
Bouleuterion			✓		
Temple of Jupiter Capitolinus			✓		
Aqueduct of Cossutius	✓				1
The Charonion		✓		✓	79
Palace on the island			✓		
Temple of Ares (Macellum)			✓		8
Baths of Julius Caesar and an aqueduct on the acropolis			✓		7
Amphitheatre (*monomacheion*) on the acropolis			✓		6
Basilica of Kaisarion			✓		85
Theatre of Caesar		✓			5
Pantheon			✓		
A small private bath around the House of Iphigenia	✓				78
A structure with a portion of a mosaic near the Forum of Valens	✓				3
Remains of a building around the latrine area in the Haraparası district	✓			✓	82
Romanesian Gate			✓		
Baths of Agrippa (Ampelion/Bath in the Vineyards)			✓		9
Fountains of the Nymphs			✓		
Eastern Gate (Aleppo Gate/Bab al-Fāris/Gate of Saint Paul)			✓		

Table A.4 (continued) : Classification of public and ecclesiastical buildings and other structures.

NAMES OF THE BUILDINGS AND STRUCTURES	Archaeologically studied structures that are not known in the primary sources	Archaeologically studied structures that are known in the primary sources	Structures that are known in the primary sources but not in the archaeological studies	Structures that remain today (also includes findings of the recent archaeological studies and explorations in the city and its vicinity)	Numbers of the buildings and structures given in Figure D.1.
Colonnaded Street and a vaulted tetrapylon)			✓		
Foundation of shops and pavement of the eastern side of the Colonnaded Street		✓			
Baths of Tiberios			✓		13
Temple of Capitoline Zeus			✓		
Temple of Pythian Apollo			✓		
Bath of Varium			✓		
Bath of Salianus			✓		
Trinymphon			✓		
Temple of Dionysus			✓		
Temple of Artemis			✓		
Temple of Pan			✓		12
Stadium		✓			86
Cherubim Gate			✓		
Temple of the Winds			✓		14
Temple of Aphrodite			✓		17
Bath of Paradise			✓		
Baths of Domitian			✓		16
Remains of a villa on the ancient island below the house identified as House A	✓				87

Table A.4 (continued) : Classification of Public and Ecclesiastical Buildings and Other Structures.

NAMES OF THE BUILDINGS AND STRUCTURES	Archaeologically studied structures that are not known in the primary sources	Archaeologically studied structures that are known in the primary sources	Structures that are known in the primary sources but not in the archaeological studies	Structures that remain today (also includes findings of the recent archaeological studies and explorations in the city and its vicinity)	Numbers of the buildings and structures given in Figure D.1.
House of the Evil Eye in Çekmece Village	✓				90
Temple of Asclepius			✓		15
House of Trajan's Aqueduct	✓				88
The Aqueduct of Trajan		✓		✓	89
House of Polyphemus and Galatea	✓				19
Baths of Trajan and Hadrian			✓		18
The Aqueduct of Hadrian			✓		
Atrium House	✓				21
House of the Bacchis Thiasos	✓				22
Temple of the Springs			✓		
Temple of the Nymphs			✓		
Temple of Trajan			✓		
House of Iphigeneia (lower and upper levels)	✓				23
Tower area	✓				91
Remains of a house with many rooms close to the tower area	✓				97
Bath of Centenarium			✓		
Xystos (running-track)			✓		25
Temple of Olympian Zeus			✓		26

Table A.4 (continued) : Classification of public and ecclesiastical buildings and other structures.

NAMES OF THE BUILDINGS AND STRUCTURES	Archaeologically studied structures that are not known in the primary sources	Archaeologically studied structures that are known in the primary sources	Structures that are known in the primary sources but not in the archaeological studies	Structures that remain today (also includes findings of the recent archaeological studies and explorations in the city and its vicinity)	Numbers of the buildings and structures given in Figure D.1.
Baths of Commodus			✓		92
Temple of Athena			✓		24
Plethron			✓		93
Bath of Livianum			✓		
Baths of Septimius Severus			✓		27
A bridge located in the district of Kışlasaray, on the western side of the Aqueduct of Trajan				✓	83
Remains of a Roman period street pavement on the Colonnaded Street near the Forum of Valens	✓				10
Remains of a bridge (?) on the very narrow stream bed of the northwestern slopes of Mount Staurin				✓	
House of the Calendar	✓				28
House of the Drunken Dionysus (upper leve	✓				29
Remains of a *triclinium* of a private house with a mythological themed mosaic floor panel in the Haraparası district	✓			✓	84
Remains of a two kilometers length late Roman *opus caementicium* wall that once separated the new city from the old one				✓	
Remains of the large-scale late Roman military building activities on the ancient Island	✓				
Remains of a structure opposite of the badly damaged house next to the villa with the Megalopsychia Mosaic in the Haraparası district	✓			✓	104

Table A.4 (continued) : Classification of public and ecclesiastical buildings and other structures.

NAMES OF THE BUILDINGS AND STRUCTURES	Archaeologically studied structures that are not known in the primary sources	Archaeologically studied structures that are known in the primary sources	Structures that are known in the primary sources but not in the archaeological studies	Structures that remain today (also includes findings of the recent archaeological studies and explorations in the city and its vicinity)	Numbers of the buildings and structures given in Figure D.1.
Remains of a fountain or a plaza pavement around the Habib Neccar Mosque	✓				63
Bath B	✓				37
House of Aion (uppr level)	✓				94
A structure identified as House A near the Atrium House	✓				20
Remains of a large circular plaza around the Cherubim Gate	✓				100
Remains of a Roman road leading to Aleppo		✓		✓	
Remains of a structure in the suburbs of the city around the Epiphaneia Quarter	✓			✓	39
Remains of a farm in Narlıca	✓				30
Remains of a residential building with four mosaic floor pavements including the Sundial and Convivium Scene in the district of İplik Pazarı	✓			✓	95
House with the Mosaic of Briseis' Farewell	✓				32
Tomb of Amerimnia on the eastern slopes of the Mount Silpios	✓				
A bridge in the Büyükdere Valley in the district of Dursunlu	✓			✓	105
Church of Martyr Susinus (?)			✓		
House of the Peddler of Erotes	✓				98
House of the Mysteries of Isis	✓				99
Remains of a structure with a list of food	✓				34
Arm factories			✓		

Table A.4 (continued) : Classification of public and ecclesiastical buildings and other structures.

NAMES OF THE BUILDINGS AND STRUCTURES	Archaeologically studied structures that are not known in the primary sources	Archaeologically studied structures that are known in the primary sources	Structures that are known in the primary sources but not in the archaeological studies	Structures that remain today (also includes findings of the recent archaeological studies and explorations in the city and its vicinity)	Numbers of the buildings and structures given in Figure D.1.
Baths of Diocletian			✓		36
Remains of a castle and a late Roman church (?) located on the 39th kilometer of the Antakya-Halep road in Yenişehir Village	✓				
Three unnamed baths were built during the reign of Diocletian			✓		
The Old Church (Palaia/Apostelic Church)			✓		
Senatorial Bath			✓		
Remains of a building with fragments of a topographical border	✓				31
Granaries			✓		
Dursunlu water channels and an aqueduct				✓	77
Bath of Philip			✓		
The Great Church			✓		
Four *triclinia* adjoining to the Great Church			✓		
Basilica of Rufinus			✓		40
Xenon (hospice)			✓		
Five holy places (either chapels or churches) on the south side of the Parmenius River and on the northwestern slopes of Mount Silpios				✓	
Monastery of Euprepius			✓		
Bath D	✓				102
Bath A	✓				41

Table A.4 (continued) : Classification of public and ecclesiastical buildings and other structures.

NAMES OF THE BUILDINGS AND STRUCTURES	Archaeologically studied structures that are not known in the primary sources	Archaeologically studied structures that are known in the primary sources	Structures that are known in the primary sources but not in the archaeological studies	Structures that remain today (also includes findings of the recent archaeological studies and explorations in the city and its vicinity)	Numbers of the buildings and structures given in Figure D.1.
Bath E	✓				103
Bath C	✓				42
Necropolis of Mnemosyne	✓				43
Remains of a structure with mosaic fragments around the Necropolis of Mnemosyne	✓				44
Library			✓		
Nymphaeum at the Forum of Valens		✓			
Remains of a brick building behind the nymphaeum	✓				35
Forum of Valens			✓	✓(?)	45
Kynegion			✓		
An unnamed basilica located opposite of the Baths of Commodus	✓				47
Remains of a latrine around the Forum of Valens	✓			✓	38
Baths of Valens			✓		46
Series of vaulted shops/store rooms near the Forum of Valens	✓				51
Horologion (timepiece)			✓		48
Gate of Tripylon			✓		
Tauriana Gate			✓		
Matrona Synagogue			✓		
Church of Saint Drosis			✓		

Table A.4 (continued) : Classification of public and ecclesiastical buildings and other structures.

NAMES OF THE BUILDINGS AND STRUCTURES	Archaeologically studied structures that are not known in the primary sources	Archaeologically studied structures that are known in the primary sources	Structures that are known in the primary sources but not in the archaeological studies	Structures that remain today (also includes findings of the recent archaeological studies and explorations in the city and its vicinity)	Numbers of the buildings and structures given in Figure D.1.
Church of Saint Romanus			✓		
Church of Saint Babylas			✓		49
Remains of a parliament building in the Haraparası district				✓	50
Martyrium at the Romanesian Gate			✓		
Daphne Gate (Golden Gate/West Gate/Bāb Muslim/Gate of Saint George)			✓		
The building known as Athla			✓		
Barracks House	✓				56
Basilica of Zoilus			✓		54
Stoa of Callistus			✓		53
Stoa (or Basilica) of Anatolius			✓		
Psephium (law court)			✓		
Church of Saint Ignatius			✓		55
Temple of Tychaeum			✓		
Gate of the Bridge (Philonauta Gate/Suwaydiyah Gate/Bab al-Bahr)			✓		
Saint Julian's Gate			✓		
House with the Mosaic of the Biblical Inscription, Mosaic of Ananeosis, and the Mosaic of the Striding Lion	✓				57
Remains of a late fifth-early sixth-century structure with mosaic pavements close to the House of Polyphemus and Galatea	✓				60
Church of the Maccabees (Church of Kerateion)			✓		

Table A.4 (continued) : Classification of public and ecclesiastical buildings and other structures.

NAMES OF THE BUILDINGS AND STRUCTURES	Archaeologically studied structures that are not known in the primary sources	Archaeologically studied structures that are known in the primary sources	Structures that are known in the primary sources but not in the archaeological studies	Structures that remain today (also includes findings of the recent archaeological studies and explorations in the city and its vicinity)	Numbers of the buildings and structures given in Figure D.1.
House of Ktisis	✓				58
Martyrium of Saint Symeon the Elder			✓		
Remains of a villa with the Megalopsychia Mosaic in the Haraparası district	✓			✓	71
Remains of a badly damaged house next to the villa with the Megalopsychia Mosaic in the Haraparası district	✓			✓	72
A bath in Çekmece Village	✓				70
Remains of a structure around the hippodrome area	✓				33
Church in Machouka	✓				62
Remains of a bath complex on the northern side of the Haraparası district	✓			✓	101
Bath of Olbia			✓		64
Martyrium of Saint Leontius			✓		
Church of Saint John			✓		
Basilica of Zenodotos			✓		
Antiforum (?)			✓		
A structure with the Magdouh Mosaic	✓				65
Martyrium of Saint Stephen (Thecla/Church of Saint Stephen)			✓		
Church of the Holy Virgin Mary (Church of Justinian/Church of Theotokos/Church of the Mother of God)			✓		66
House with the Mosaic of the Dumbarton Oaks Hunt	✓				68

Table A.4 (continued) : Classification of public and ecclesiastical buildings and other structures.

NAMES OF THE BUILDINGS AND STRUCTURES	Archaeologically studied structures that are not known in the primary sources	Archaeologically studied structures that are known in the primary sources	Structures that are known in the primary sources but not in the archaeological studies	Structures that remain today (also includes findings of the recent archaeological studies and explorations in the city and its vicinity)	Numbers of the buildings and structures given in Figure D.1.
Bath of Tainâdônhûs (?)			✓		
Church of Saint Job			✓		
Martyrium of Saint Dometius			✓		
Church of Saints Cosmas and Damian			✓		
Church of Archangel Michael			✓		
Church of the Holy Prophets			✓		
Church of Saint Zacharias			✓		
Church of Cassian (Qusiyān/Cassianus/Church of Saint Peter)			✓		59
Bath F	✓				73
Buildings under Bath F	✓				74
Martyrium of Saint Julian			✓		
Church of Saint Andronicus (?)			✓		
Martyrium of Thomas			✓		
A building with three fragmentary mosaics with floral carpets in the Arab Darası neighbourhood	✓				61
Remains of a sixth-century border inscription in reference to Anastasios Palladi on the terraced section of the western slopes of Mount Staurin	✓			✓	
Remains of a house with a mosaic piece on the western side of hippodrome dated sometime between fifth and seventh centuries	✓			✓	69
Basilica of Saint George			✓		76

Table A.4 (continued) : Classification of public and ecclesiastical buildings and other structures.

NAMES OF THE BUILDINGS AND STRUCTURES	Archaeologically studied structures that are not known in the primary sources	Archaeologically studied structures that are known in the primary sources	Structures that are known in the primary sources but not in the archaeological studies	Structures that remain today (also includes findings of the recent archaeological studies and explorations in the city and its vicinity)	Numbers of the buildings and structures given in Figure D.1.
Iron Gate (Bāb al-Hadid)		✓		✓	
Remains of a bridge on the Parmenius River near the Iron Gate	✓			✓	75
Baths of Apolausis in Narlıca	✓				52
Remains of a building complex in the districts of Bağrıyanık and Dursunlu				✓	
Martyrium of Saint Euphemia			✓		
The Sûk (market) of the armourers and lance-makers			✓		
The Great Mosque			✓		
Crypt	✓				
Habib Neccar Mosque		✓		✓	
A stele from the Islamic Period	✓				
Burial ground and a basilical style three-aisled colonnaded Medieval church	✓				
Church of Saint Justina			✓		
Church of Saint Paul (Monastery of the Fleas or Dayr al-Barãghith)			✓		
Church of Saint Ashmûnît			✓		
Church of Saint Barbara (Kanîsah Barbârâ)			✓		
Citadel		✓		✓	
Church of Saint John Chrysostom			✓		
Church of Azkas'utis			✓		
Hospital (bimāristan)			✓		

Table A.4 (continued) : Classification of public and ecclesiastical buildings and other structures.

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(The Cave) Church of Saint Peter				✓	
Transverse Wall				✓	
Castle of Aregh			✓		
Tower of Kalla			✓		
Tower of La Mahomerie (Tower of Raymond)			✓		
Tower of Tancred			✓		
Tower of Malregard			✓		
Tower of the Two Sisters			✓		
Gate of the Dog (Bab el-Kalb)		✓			
Gate of the Duke (Gate of the Gardens/Bāb al-Jinān)			✓		
Remains of series shops and a storage on the southern side of the Colonnaded Street in the Haraparası district	✓			✓	67
Basilian Monastery in the Black Mountains			✓		
Meydan Bath				✓	
IN SELEUCIA PIERIA					
City walls		✓		✓	
The Doric Temple	✓			✓	
A structure with pieces of Dionysos and Panther statues in the area close to the Doric Temple	✓				
Remains of barracks at the very top along the city walls	✓				

Table A.4 (continued) : Classification of public and ecclesiastical buildings and other structures.

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Lower city	✓				
Upper city	✓				
A rock-cut stairway with sixty-twosteps connecting the lower and the upper parts of the city	✓			✓	
A gate -probably existed at the place where the stairway connecting the lower and the upper parts of the city meets the upper city	✓			✓	
A structure with statue pieces on the acropolis above the stairway	✓				
The Titus Tunnel	✓			✓	
A bridge on the stream bed of the Titus Tunnel	✓			✓	
The Market Gate in the lower city	✓			✓	
The Church Gate in the upper city	✓			✓	
The Air Gate in the upper city	✓			✓	
The Harbour Gate in the upper city	✓			✓	
Side gates in the walls that surround the city	✓			✓	
Theatre	✓				
Remains of a three-naved church in Yoğunoluk Village	✓			✓	
Two towers; one of them is a rock-cut	✓			✓	
House of the Drinking Contest	✓				
House of Dionysus and Ariadne	✓				
House of Oceanus and Thetis	✓				

Table A.4 (continued) : Classification of public and ecclesiastical buildings and other structures.

NAMES OF THE BUILDINGS AND STRUCTURES	Archaeologically studied structures that are not known in the primary sources	Archaeologically studied structures that are known in the primary sources	Structures that are known in the primary sources but not in the archaeological studies	Structures that remain today (also includes findings of the recent archaeological studies and explorations in the city and its vicinity)	Numbers of the buildings and structures given in Figure D.1.
House of the Sea Goddess	✓				
House of the Porticoes	✓				
Remains of a structure with statue pieces in the area close to the House of Porticoes	✓				
House of Cilicia	✓				
Remains of an early Byzantine period three-naved basilical planned church in the district of Yaylıca, seventeenth kilometers away from Samandağ	✓			✓	
Inner harbour and the breakwaters		✓		✓	
A dried-up channel with a length of 457 meters and a width of sixty meters, extending from north to the east of the inner harbour	✓			✓	
A series of portals	✓				
In the portal area Statue of Fortuna Victoria and fragments of a Dionysos statue	✓				
Remains of a monumental monolithic column of grey marble veined with black, near the portal area	✓			✓	
In the northeastern side of the portal area remains of a rectangular-shaped structure, probably a fountain	✓			✓	
Docks	✓				
Agora		✓			

Table A.4 (continued) : Classification of public and ecclesiastical buildings and other structures.

NAMES OF THE BUILDINGS AND STRUCTURES	Archaeologically studied structures that are not known in the primary sources	Archaeologically studied structures that are known in the primary sources	Structures that are known in the primary sources but not in the archaeological studies	Structures that remain today (also includes findings of the recent archaeological studies and explorations in the city and its vicinity)	Numbers of the buildings and structures given in Figure D.1.
A row of shops with a colonnaded passage, a limestone wal,l and a large red Assian granite exedra with a stone bench between the shops and the passage	✓				
Remains of a 5x7 meter wall with a hole in its center located towards the northeast of agora	✓			✓	
Remains of a big structure towards the west of the area (mentioned in the previous line) with several rooms placed at depths ranging from 0.3 meter and 2.4 meters	✓			✓	
Ruins of a building next to the agora -probably belonged to a bath	✓				
Remains of a wall and thirty-two postaments on the western part of the agora next to the *granarium*	✓			✓	
Granarium	✓			✓	
Remains of a warehouse (*horrea*) with a barrel-vaulted roof on the northeastern side of the harbour	✓			✓	
Church of Thomas the Apostle			✓		
Monastery of Saint John (?), 300 meters away from Nahırlı Village spring	✓				
The Monastery of Saint Symeon the Younger on the Wondrous Mountain		✓		✓	
Church in Seleucia Pieria in the lower city	✓				
Remains of a church identified as the Church of Saint John Chrysostom (?) in Bityas Village	✓				

Table A.4 (continued) : Classification of public and ecclesiastical buildings and other structures.

NAMES OF THE BUILDINGS AND STRUCTURES	Archaeologically studied structures that are not known in the primary sources	Archaeologically studied structures that are known in the primary sources	Structures that are known in the primary sources but not in the archaeological studies	Structures that remain today (also includes findings of the recent archaeological studies and explorations in the city and its vicinity)	Numbers of the buildings and structures given in Figure D.1.
Remains of the Church of Saint Meletios on the northern part of Bityas Village	✓				
Church in Seleucia Pieria in the upper city	✓				
Remains of a monastery in the valley between Kapısuyu and Hıdırbey about 2.5 kilometers northwest of Hıdırbey	✓				
Remains of a monastery in the area between Kapısuyu and Hıdırbey, about two kilometers northwest of Hıdırbey	✓				
Remains of a structure identified as the Monastery of the Reed Valley	✓				
Western necropolis	✓			✓	
Eastern acropolis	✓			✓	
Beşikli Cave	✓			✓	
Mağaracık Necropolis	✓			✓	
Remains of a church in the district of Batıayaz (modern Teknepınarı)	✓			✓	
Batıayaz Old Church (converted to a mosque which is in use today) located in the district of Batıayaz				✓	
Remains of the Church of Virgin Mary (?) in the district of Batıayaz	✓			✓	
Bridge on the Batıayaz River				✓	
Remains of the Church of the Wood of Life in the Black Mountains	✓			✓	
Remains of the Church of Virgin Mary (?) in Bityas Village	✓				

Table A.4 (continued) : Classification of public and ecclesiastical buildings and other structures.

NAMES OF THE BUILDINGS AND STRUCTURES	Archaeologically studied structures that are not known in the primary sources	Archaeologically studied structures that are known in the primary sources	Structures that are known in the primary sources but not in the archaeological studies	Structures that remain today (also includes findings of the recent archaeological studies and explorations in the city and its vicinity)	Numbers of the buildings and structures given in Figure D.1.
IN DAPHNE					
An epitaph, dedicated to the Cult of Isis (?) in Yeşilpınar	✓				
House of the Buffet Supper (lower, intermediate, and upper levels)	✓				
Remains of a bridge in the district of Dermaşta in the Kantara River Valley	✓			✓	
Kantara Bridge, thirty meters east of the bridge in the district of Dermaşta	✓			✓	
Remains of a bridge in the district of Esenbulak, 750 meters northwest of Dursunlu Village	✓			✓	
A public bath built by the Emperor Helios Gaius (Caligula)			✓		
An arch from the period of Caligula in the plateau of Daphne		✓			
Aqueduct of Caligula		✓			
Jewish synagogue, located formerly on the site of the theatre			✓		
Theatre	✓		✓		
A structure with the mosaic identified as the Mosaic of a Season	✓				
Temple of Artemis			✓		
Temple of Zeus the Savior			✓		
Theatron of the Springs			✓		
Temple of the Nymphs			✓		
House of the Man of Letters (lower level)	✓				
Remains of a structure with mosaic floors on the western side of the Orontes Valley	✓			✓	

Table A.4 (continued) : Classification of public and ecclesiastical buildings and other structures.

NAMES OF THE BUILDINGS AND STRUCTURES	Archaeologically studied structures that are not known in the primary sources	Archaeologically studied structures that are known in the primary sources	Structures that are known in the primary sources but not in the archaeological studies	Structures that remain today (also includes findings of the recent archaeological studies and explorations in the city and its vicinity)	Numbers of the buildings and structures given in Figure D.1.
House of Narcissus	✓				
A structure with the Mosaic of Hall of Philia	✓				
Nymphaeum with mosaics	✓				
House of the Rams' Heads	✓				
Temple of Apollo			✓		
Two noria type mills	✓			✓	
House of the Boat of Psyches	✓				
House of the Worcester Hunt	✓				
Remains of a wall with Ionic and Corinthian capitals	✓				
Remains of a house with mosaics (close to the remains of a wall with Ionic and Corinthian capitals mentioned in the previous line	✓				
A courtyard and part of a street around the house mentioned in the previous line	✓				
A structure with a mosaic panel depicting four famous scenes of Menander’s comedy; Perikeiromene, Philadelphoi, Synaristosai and Theophoroumene, in the district of Upper Harbiye	✓			✓	
Temple of Hecate (with 365 steps)			✓		
Stadium			✓		
Temple of Olympian Zeus at the stadium			✓		

Table A.4 (continued) : Classification of public and ecclesiastical buildings and other structures.

NAMES OF THE BUILDINGS AND STRUCTURES	Archaeologically studied structures that are not known in the primary sources	Archaeologically studied structures that are known in the primary sources	Structures that are known in the primary sources but not in the archaeological studies	Structures that remain today (also includes findings of the recent archaeological studies and explorations in the city and its vicinity)	Numbers of the buildings and structures given in Figure D.1.
Temple of Nemesis at the stadium			✓		
Palace			✓		
House of the Beribboned Parrots	✓				
Remains of a building identified with the Mosaic of the Beribboned Lion	✓				
House of the Green Carpet	✓				
The Constantinian Villa	✓				
House of Menander in the area close to the Constantinian Villa (lower and upper levels)	✓				
House of the Red Pavement in the area close to the Constantinian Villa	✓				
Remains of a building with capitals to the southwest of the Constantinian Villa and another structure with two geometric mosaic pavements	✓				
Private building of Ardaburius			✓		
A residential building with mosaics in the land of Rasim Adalı	✓				
House of the Triumph of Dionysus	✓				
Remains of a building with mosaic floors located north of the House of the Triumph of Dionysus	✓				
House of the Amazonomachy	✓				
House of the Sundial and another house next to it with mosaics	✓				

Table A.4 (continued) : Classification of Public and Ecclesiastical Buildings and Other Structures.

NAMES OF THE BUILDINGS AND STRUCTURES	Archaeologically studied structures that are not known in the primary sources	Archaeologically studied structures that are known in the primary sources	Structures that are known in the primary sources but not in the archaeological studies	Structures that remain today (also includes findings of the recent archaeological studies and explorations in the city and its vicinity)	Numbers of the buildings and structures given in Figure D.1.
A building complex in Yakto (upper level) with geometric pattern mosaics	✓				
A building complex in Yakto (lower level) with the Megalopsychia personification	✓				
Remains of a church building located on the road to Laodikeia	✓				
Remains of a residential building in the district of Armutlu on Uğur Mumcu Boulevard	✓			✓	
Remains of a church with a mosaic floor in the district of Armutlu on Uğur Mumcu Boulevard	✓			✓	
Fountains of the Nymphs			✓		
Antiforum (?)			✓		
Remains of a structure with opus sectile floor, seven mosaic floor pieces, and water channels in the district of Harbiye on Şehit Er Mehmet Duman Boulevard	✓			✓	
House of Ge and the Seasons (upper level)	✓				
Remains of a residential building with mosaics close to the House of Ge and the Seasons	✓				
House of the Phoenix (upper and lower levels)	✓				
A structure with a fragment of a statue wearing drapery found on the southwest of the House of the Phoenix	✓				
Hospice			✓		

Table A.4 (continued) : Classification of Public and Ecclesiastical Buildings and Other Structures.

NAMES OF THE BUILDINGS AND STRUCTURES	Archaeologically studied structures that are not known in the primary sources	Archaeologically studied structures that are known in the primary sources	Structures that are known in the primary sources but not in the archaeological studies	Structures that remain today (also includes findings of the recent archaeological studies and explorations in the city and its vicinity)	Numbers of the buildings and structures given in Figure D.1.
Martyrium of Saint Leontios			✓		
Remains of a building identified as the House of the Bird-Rinceau (lower and upper levels)	✓				
Church of Archangel Michael			✓		
Remains of a building in Yakto (modern Yeşilpınar)	✓				
Remains of another building in Yakto	✓				
A structure with the mosaic of the House of the Birds and the Kantharos Necropolis (lower level)	✓			✓	
Karyer Cave Necropolis in the district of Karyer	✓			✓	
Koz Castle (Cursat Castle/Kusayr)		✓		✓	
A bridge and quarries around the Koz Castle		✓		✓	
Columnar boundary stone near the Yeşilpınar junction	✓				
IN OTHER PLACES IN THE VICINITY OF ANTIOCH					
Remains of a temple in Ceylanlı Village in Kırıkhan County	✓			✓	
Water channels in Kuruyer Village and its vicinity	✓			✓	
Remains of a residential area with tomb chambers, places with several entrances, and a reservoir in the district of Gavurköy in Şenköy County	✓			✓	
A bastion in the district of Burcun Kalesi in Şenköy County	✓			✓	
Remains of a residential area in the district of Şimaltepe in Şenköy County	✓			✓	

Table A.4 (continued) : Classification of public and ecclesiastical buildings and other structures.

NAMES OF THE BUILDINGS AND STRUCTURES	Archaeologically studied structures that are not known in the primary sources	Archaeologically studied structures that are known in the primary sources	Structures that are known in the primary sources but not in the archaeological studies	Structures that remain today (also includes findings of the recent archaeological studies and explorations in the city and its vicinity)	Numbers of the buildings and structures given in Figure D.1.
Remains of a residential area in the district of Ercemil in Şenköy County	✓			✓	
Remains of a late antique residential area with a mosaic floor in the district of Ayvacık in Sungur Village in Yayladağı County	✓			✓	
Remains of a building complex or a church with a niche in the area close to the Akıybe Farm in Yayladağı County	✓			✓	
Remains of a residential area in Ayışığı Village in the district of Tırnaklı in Şenköy County	✓			✓	
Remains of a residential area in Ayışığı Village in the district of Turgut in Şenköy County	✓			✓	
Remains of three different residential areas in the district of Yoncakaya Ceni in Şenköy County	✓			✓	
Remains of a residential area in the Tokaçlı Village in the district of Vadi Reyhan in Altınözü County, next to the Reyhan Stream	✓			✓	
Remains of a residential area in the area close to Yanıkpınar Village in the Altınözü County	✓			✓	
Remains of a church in Tokaçlı Village in Altınözü County	✓			✓	
Remains of a bridge oriented north to south direction of the Pazar Stream	✓			✓	
Remains of a tower and a ranch house in Altınözü County on the west side of the road from Yunushanı district to Akdarı district	✓			✓	
Remains of a Roman period bridge in Sinanlı Village	✓			✓	
Remains of a residential area in Dağyolu neighbourhood in the district of Avuttepe in Altınözü County	✓			✓	

Table A.4 (continued) : Classification of public and ecclesiastical buildings and other structures.

NAMES OF THE BUILDINGS AND STRUCTURES	Archaeologically studied structures that are not known in the primary sources	Archaeologically studied structures that are known in the primary sources	Structures that are known in the primary sources but not in the archaeological studies	Structures that remain today (also includes findings of the recent archaeological studies and explorations in the city and its vicinity)	Numbers of the buildings and structures given in Figure D.1.
Remains of the Bāb al-Hawa Gate on the Syrian frontier post	✓			✓	
Remains of a Roman period rock-cut church in the district of Alemdar Çiftliği, seven kilometers south of Sürütme Village in Yayladağı County	✓			✓	
Remains of a rock-cut church, known as the Nakışın Cave by the locals, in Şenköy County	✓			✓	
Remains of a late Roman period bath with the Mosaic of Artemis as well as an aqueduct, citadel, remains of a colonnaded Roman road with shops on both sides, odeon and a theatre in the ancient site of Epiphaneia in Erzin	✓			✓	
Remains of a late Roman residential area in Topraktutan Village in the Kuseyr Plateau	✓			✓	
Remains of a late Roman period residential area on the southern part of the Sungur Village in Yayladağı County	✓			✓	
Remains of a late Roman period rural settlement in the area of Hisarcık Village in Yayladağı County	✓			✓	
Remains of a late Roman period ranch house in the vicinity of Akgedik in Yayladağı County	✓			✓	
Remains of a chapel on the north of the stream bed of Kızılgöl in Yayladağı County	✓			✓	
Roman/Ottoman period bridge in Demirköprü	✓			✓	
Sapanlı Castle in the district of Sapanlı Çiftlik in Yalaz Village in Yayladağı County	✓			✓	

Table A.4 (continued) : Classification of public and ecclesiastical buildings and other structures.

NAMES OF THE BUILDINGS AND STRUCTURES	Archaeologically studied structures that are not known in the primary sources	Archaeologically studied structures that are known in the primary sources	Structures that are known in the primary sources but not in the archaeological studies	Structures that remain today (also includes findings of the recent archaeological studies and explorations in the city and its vicinity)	Numbers of the buildings and structures given in Figure D.1.
Remains of a church with an inscription on the Göleğen Hill in the Karacurun Village in Yayladağı County	✓			✓	
Remains of a late Roman early Byzantine period residential area in the district of Narlıyatak in Şenköy County	✓			✓	
Remains of a late Roman early Byzantine period residential area in Sürütme Village in Yayladağı County	✓			✓	
Remains of a structure identified as a bath by the locals on the northern side of the stream bed in Kışlak Village in Yayladağı County	✓			✓	
Remains of a late Roman early Byzantine period residential area on the south of the Kulaç district in Yayladağı County	✓			✓	
Remains of a late Roman early Byzantine period church on the western side of the Yayladağı-Antakya road	✓			✓	
Remains of a building in Aşağıokçular Village with the mosaic identified as the Mosaic of Feleet Village	✓				
Two water pumps and two watermills on the Pazar Stream	✓			✓	
Remains of a Roman-Byzantine period residential area in the district of Gavurköy in Şenköy County with an inscription and two column bases	✓			✓	
Monastery of Mount Skopelos (Skupela?) in the vicinity of Arsuz County	✓				
Remains of a building complex in Şenköy County identified as the Kızlar Sarayı by the locals	✓			✓	

Table A.4 (continued) : Classification of public and ecclesiastical buildings and other structures.

NAMES OF THE BUILDINGS AND STRUCTURES	Archaeologically studied structures that are not known in the primary sources	Archaeologically studied structures that are known in the primary sources	Structures that are known in the primary sources but not in the archaeological studies	Structures that remain today (also includes findings of the recent archaeological studies and explorations in the city and its vicinity)	Numbers of the buildings and structures given in Figure D.1.
Remains of a building complex in Hanyolu Village on both sides of the old road leading to Syria	✓			✓	
Remains of a church with two narthexes n the district of Hassa in Çukurtarla Village	✓			✓	
Remains of a church in the district of Mahmatlı in Yayladağı County	✓				
Remains of a chapel in Olahci close to Yeditepe Village	✓				
Remains of a Byzantine period monastery in Yaylacık	✓				
Remains of a church or a castle from the Byzantine period in the district of Bektaşlı in Kırıkhan County	✓				
Remains of a Byzantine period church in the district of Hassa in Eğribucak Village	✓				
Remains of a Byzantine period church in Sinanlı Village	✓				
Remains of a building complex at Kasr el-Banaat in Reyhanlı County	✓			✓	
The Monastery of Saint Barlaam on Mount Casius		✓		✓	
Remains of a three-naved church identified as the Church of the Holy Apostles with mosaic panels in the district of Arpaçiftliği in Arsuz Village	✓			✓	
Remains of a Byzantine early Islamic period residential area (or castle) on the southern side of Hisarcık Village in Yayladağı County	✓			✓	
Remains of a residential area from the Byzantine early Islamic period on the way to Kışlak Village in Yayladağı County	✓			✓	

Table A.4 (continued) : Classification of public and ecclesiastical buildings and other structures.

NAMES OF THE BUILDINGS AND STRUCTURES	Archaeologically studied structures that are not known in the primary sources	Archaeologically studied structures that are known in the primary sources	Structures that are known in the primary sources but not in the archaeological studies	Structures that remain today (also includes findings of the recent archaeological studies and explorations in the city and its vicinity)	Numbers of the buildings and structures given in Figure D.1.
Remains of a residential area from the Byzantine early Islamic period in the district of Çakmaklı Tepe in Kışlak Village in Yayladağı County	✓			✓	
Remains of a wall in a residential area in the district of Logda in Şenköy County	✓			✓	
Remains of buildings from the Byzantine early Islamic period in the district of Lebbede in Hanyolu Village	✓			✓	
Bakras Castle		✓		✓	
Remains of a single-nave church in Bozova Village	✓				
Remains of a monastery in Kara Mağara (Koca Kalesi)	✓				
Remains of a church in Meydan Village	✓				
Monastery of Prophet Elias (Saint Panteleimon) (?) in the vicinity of Arsuz County	✓				
Remains of an ancient period residential area in the district of Turfanda in Şenköy County on the southern part of Şimal Tepe	✓			✓	
Remains of the Crusader Şıvlan Castle between the counties of Kırıkhan and İskenderun	✓			✓	
Sarıseki Castle on the tenth kilometer of the road from İskenderun to Adana	✓			✓	
Crusader Darb-ı Sak Castle in Alaybeyli Village	✓			✓	
Remains of a Byzantine Ottoman period castle in Yukarıokçular Village	✓			✓	

Table A.4 (continued) : Classification of public and ecclesiastical buildings and other structures.

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Remains of a castle in Yayladağı County	✓			✓	
Remains of an observation tower or a bastion in the district of Yeldeğirmeni in Sungur Village in Yayladağı County	✓			✓	
Remains of a castle on the southwest of the village center of Sungur in Yayladağı County	✓			✓	
Yeşiltepe Castle in the district of Kaleboğazı in Yeşiltepe Village in Yayladağı County	✓			✓	
Remains of watermills in Sultan Merkezi Village	✓			✓	
Remains of a bridge on Şeyh Abdullah Stream in Çatbaşı Village	✓			✓	
Şeyh Ahmedi Kuseyri Bridge in Nuhiye neighbourhood in the district of Avuttepe in Altınözü County	✓			✓	

APPENDIX B : Descriptions from the primary sources.

B.1 : Description of the city by the Latin historians.

The anonymous author of the *Gesta Francorum* from the eleventh century described the city of Antioch as follows:

> The city of Antioch is a very fine and distinguished place. Within its walls are four great mountains, which are exceedingly high. The Citadel, a wonderful building which is exceedingly strong, stands on the highest of them. Down below lies the city, which is impressive and well planned, adorned with all kinds of splendid buildings, for there are many churches, and three hundred and sixty monasteries. Its patriarch is metropolitan over a hundred and fifty-three bishops.
>
> This city is surrounded by two walls, the greater of which is very high and amazingly broad, built of great stones, and there are set upon it four hundred and fifty towers. Everything about this city is beautiful. On the east it is shut in by four great mountains, on the west, beside the city walls, runs a river called the Orontes. This city is the center of great authority, for it was formerly established by seventy-five kings, of whom the chief was King Antiochus, from whom it gets its name of Antioch. (Hill, 1962, pp.76-77)

The twelfth-century Latin historian William Archbishop of Tyre, likewise recorded a very detailed description of the city:

> Antioch is a noble and glorious city. To it has been described as the third or possibly the second place of dignity [for there is much controversy over this question] after Rome itself. It stands at the head and is the governor of all the region of the East. …The city of Antioch is most delightfully and advantageously situated in the province of Coelesyria, which is a part of Greater Syria. It extends along a valley of unusual beauty with fertile soil and rich fields, practically all of which are well watered by rivulets and streams. This valley lies in the midst of mountains, which slope towards the west. It is about forty miles in length and from four to six in width, varying according to the place. In the upper part is a lake formed from the influx of water from adjacent springs, which are here brought together…
>
> The mountains, which encircle Antioch on both sides, although very high, gives rise to sweet and limpid waters, and their sloping sides to the very summits are particularly well, adapted to agriculture. The mountain on the south is called Orontes, as is also the river, which flows past the city, according to Jerome, who says Antioch lies between the Orontes River and the mountain of the same name….
>
> The reader may not be confused by the ambiguous word Seleucia; he should be informed that there are two cities of that name. The first of these is the capital of Isauria rather more than a five days journey from Antioch. The other is close by that city, scarcely ten miles away, near the mouth of the Orontes River. This latter city is now called the port of Saint Simeon. The spring mentioned above is known as the fountain of Daphne or the Castalian spring. It is said that there was once at this place a temple dedicated to Apollo, to which the Gentiles, in their superstitious belief, were wont to resort to consult the oracle in matters of doubt…
>
> On the north of Antioch is a height commonly known as Black Mountains. This abounds in springs and is also well watered by rivulets. It affords the

inhabitants of the region many advantages in the way of woods and pastures. In early times there are said to have been numerous monasteries in this vicinity, and, even now, many venerable places, the abode of those vowed to the service of God, are cherished here with loving care.

Through the middle of this valley flows the river already mentioned on its way to the sea. The city is built on the nearer and steeper slope of the mountain, toward the south, between it and the river. The wall starts from the top of the height and runs down along the slope to the river. Within its circuit is enclosed a very wide area of mountainside and plain, the latter extending from the base of the mountain to the river. Two very high peaks also lie within the wall. On the summit of the higher of these was the Citadel of Antioch, a strongly fortified place regarded as impregnable. A deep and narrow ravine separates these two peaks, and through it rushes a mountain torrent. In its passage through the center of the city, this stream is a source of many benefits to the citizens. There are several other springs in the city, the principle one being the Eastern or Gate of Saint Paul. The fountain of Daphne, three or four miles away, has also been artificially conducted thither by means of an aqueduct. By a skillful device this furnishes water at stated times to many different places.

On the heights and slopes as well as in the plain, the city is surrounded by walls of solid masonry, very thick and proportionately high. Above these rise, at equal distances apart, numerous towers well adapted for defense. On the west, lower down, around the more modern part of the city, the river runs so close to the walls and the mountain that the bridge, which spans it, forms a continuation of the wall and the city gate. According to some authorities the extent of the city lengthwise is two miles; others say three. It is ten or twelve miles from the sea. (Babcock and Krey, vol.1, pp.199-203)

B.2 : Description of the palace by Libanios.

The fourth-century Greek orator and rhetorician Libanios records his description of the palace in the city as follows:

> Such then is the form of the old city. The new city stands on the island, which the division of the river formed. Following from above in one stream, and keeping this form for the most part, it divided itself, and surrounding this place, made it an island. One of the streams flows between the two cities, while that on the other side of the new city proceeds, after having formed the island, to unite its course, and makes the river again the same as it was before it was parted. The form of this new city is round. It lies in the level part of the plain, the whole of it in an exact plan, and an unbroken wall surrounds it like a crown. From four arches, which are joined to each other in the form of a rectangle, four pairs of stoas proceed as from an omphalos, stretched out toward each quarter of the heavens, as in a statue of the four-handed Apollo. Three of these pairs, running as far as the wall, are joined to its circuit, while the fourth is shorter but is the more beautiful just in proportion as it is shorter, since it runs toward the palace which begins hard by and serves as an approach to it. This palace occupies so much of the island that it constitutes a fourth part of the whole. It reaches to the middle of the island, which we have called an omphalos, and extends to the outer branch of the river, so that where the wall has columns instead of battlements, there is a view worthy of the emperor, with the river flowing below and the suburbs feasting the eyes on all sides. A person who wishes to describe this part carefully would have to make it the subject of a discourse, but it cannot be a part of a discourse on another subject. Nevertheless, one should say at least that to the other palaces which exist in every part of the world, some of which are praised for their size and others for their beauty, it is in no way inferior; but it is far superior to many, nowhere surpassed all others, divided into so many chambers and stoas and halls that even those who are well accustomed to it become lost as they go from door to door. I believe that, if this palace stood itself in some insignificant city, such as are numerous in Thrace, where a few huts form cities, it would give the one that possessed it good reason to claim a proud position in the catalogue of cities. (Downey, 1959, pp. 674-675)

B.3 : Description of the Great Church.

Among our sources the fourth-century Greek author Eusebios is the only one to provide details about the Great Church. In his *Vita Constantini*, Eusebios describes it as:

> The most pre-eminent cities of the other provinces, he [Emperor Constantine] made to excel in the artistic buildings of their places of prayer, just as he did in the case of the metropolis of the Orient, which was named after Antiochus. In it, as if to crown the provinces there, he consecrated a church unique for its size and beauty, surrounding the whole shrine with great precincts outside, and raising the hall of worship to an enormous height. It was constructed in an octagonal shape, with a ring of bays built right round at ground-floor and first-floor levels, and he encircled it with decorative features rich in abundant gold and bronze and all kinds of precious stuff. (Cameron and Hall, 1999, pp.140-141).

In addition to his description in his *Vita Constantini*, in his *Ecclesiastical History* Eusebios provides more a detailed description of the church as follows:

> Now as to the royal house, he [Emperor Constantine] hath built it of abundant and still richer materials, eagerly desiring to spare no expense. I deem it superfluous for me to describe here the length and breadth of the edifice, to recount in full the brilliant beauty, the magnitude no words can express, and the dazzling appearance of the workmanship, yea, and the loftiness that reached haven, and the costly cedars of Lebanon that are placed above; the mention of which even the divine oracle doth not pass over in silence, saying: 'The trees of the Lord shall be glad, even the cedars of Lebanon which he hath planted.' Why need I now speak more particularly of the perfect wisdom and art with which the building hath been ordered, and the surpassing beauty of every part, when the witness of the eyes leaved no place for the instruction that cometh through the ears? Nevertheless, having thus completed the temple he adorned it with thrones, very lofty, to do honor unto the presidents, and likewise with benches arranged in order throughout in a convenient manner; and after all these he hath placed in the midst the holy of holies even the altar, and again surrounded this part also, that the multitude might not tread thereon, with a fence of wooden lattice-work, delicately wrought with the craftsman's utmost skill, so as to present a marvelous spectacle to those that see it. Nor did even the pavement, as one might suppose, escape his care. This also, for example, he hath made exceeding brilliant with every kind of marble; and then, finally, passing on outside the temple as well, he hath constructed chambers and buildings on either side, very large, the which he had skillfully joined together to the sides of the royal house [palace], and united with the openings into the central building. These also were wrought by our most peaceful Solomon, who built the temple of God, for those who still have need of cleansing and sprinkling with water and the Holy Spirit, insomuch that the aforesaid prophecy is no longer a word only, but is become a fact. For the latter glory of this house had become, and in truth even now is, greater than the former. (Lake, 1959, vol.2, pp.425-427).

B.4 : Rebuilding activities of the Emperor Justinian.

Regarding the rebuilding activities that took place in Antioch during the reign of Emperor Justinian, Prokopios provides detailed information:

> Above all he [Emperor Justinian] made Antioch, which was now called Theoupolis, both fairer and stronger by far than it had been formerly. Emperor Justinian contracting the wall as would best serve the need, carefully remade it so as to guard, not the same districts as before, but only the city itself. As for the lower part of the circuit-wall, where the city was dangerously spread out, he changed its course by drawing it inward as much as possible, most advantageously crowding the city at this point, it having gained protection by being compressed. And the Orontes River, which had flowed past the city, as it formerly was, in a winding course, the thrust over so that it ran in a new bed, hugging the circuit-wall. In this way, he both relieved the city of the danger arising from its excessive size and recovered the protection afforded by the Orontes. And by building other bridges there he furnished new means of crossing the river; and after changing its stream for as great a distance as was necessary, he then restored it to its former course. The upper part [of the circuit-wall], in the mountainous portion, he managed as follows: on the summit of the mountain which they call Orocassias [Mount Casius] there happened to be a rock outside the wall and very close to it, nearly matching it quite vulnerable. …So, he bade a long farewell to the rock, which, being close to the wall, was fiendishly devised to make the wall easy to capture, and decided to build the defenses of the city as far away from it as possible, having learned from the experience of events the folly of those who had built the city in former times. Moreover, he made quite level the region within the wall, which formerly had been precipitous, building ascents there which would in the future be passable, not only for men on foot, but for cavalry, and would even serve a wagon-roads. He also built baths and reservoirs in these hills inside the wall. He dug a cistern in each tower, remedying by means of rain-water the want of water which had previously existed there.
>
> It is proper to describe also what he did with the torrent, which comes down from these mountains. Two precipitous mountains rise above the city, approaching each other quite closely. Of these they call the one Orocassias and the other is called Staurin. Where they come to an end they are joined by a glen and ravine which lies between them, which produces a torrent, when it rains, called Onopnictes [Parmenius River-The Donkey Drowner]. This coming down from a height swept over the circuit wall and on occasion rose to a great volume, spreading into the streets of the city and doing ruinous damage to those who lived in that district. But even for this the Emperor Justinian found the remedy, in the following way: Before that part of the circuit-wall which happens to lie nearest to the ravine out of which the torrent was borne against the fortifications, he built an immense wall or dam, which reached roughly from the hollow bed of the ravine to each of the two mountains, so that the stream should no longer be able to sweep on when it was at full flood, but should collect for a considerable distance back and form a lake there. And by constructing sluicegates in this wall he contrived that the torrent, flowing through these, should lose its force gradually, checked by this artificial barrier, and no longer violently assault the circuit-wall with its full stream, and so overflow it and damage the city, but should gently and evenly glide on in the manner I have described and, with this means of outflow, should proceed through the channel

wherever the inhabitants of former times would have wished to conduct it if it had been so manageable.

This, then, was what the Emperor Justinian accomplished concerning the circuit-wall of Antioch. He also rebuilt the whole city, which had been completely burned by the enemy. For since everything was everywhere reduced to ashes and levelled to the ground, and since many mounds of ruins were all that was left standing of the burned city, it became impossible for the people of Antioch to recognize the site of each person's house, when they first carried out all the debris, and to clear out the remains of a burned house; and since there were no longer public stoas and colonnaded courts in existence anywhere, nor any market-place remaining, and since the side-streets no longer marked off the thoroughfares of the city, they did not any longer dare to build any house. But, the Emperor without any delay transported the debris as far as possible from the city, and thus freed the air and the ground of all encumbrances; then he first of all covered the cleared land of the city everywhere with stones each large enough to load a waggon. Next he laid it out with stoas and market-places, and dividing all the blocks of houses by means of streets, and making water-channels and fountains and sewers, all those of which the city now boasts, he built theatres and baths for it, ornamenting it with all the other public buildings by means of which the prosperity of a city is wont to be shewn. He also, by bringing in a multitude of artisans and craftsmen, made it easier and less laborious for the inhabitants to build their own houses. Thus, it was brought about that Antioch has become more splendid now than it formerly was. Moreover, he built there a great Church to the Mother of God. The beauty of this, and its magnificence in every respect, it is impossible to describe; he also honored it with an income of a very large sum. Moreover, he built an immense Church for the Archangel Michael. He made provisions likewise for the poor of the place who were suffering from maladies, providing buildings for them and all the means for the care and cure of their ailments, for men and women separately, and he made no less provision for strangers who might on occasion be staying in the city. (Dewing and Downey, 1940, pp.165-173)

B.5 : Description of the city by Mas'ūdī.

The tenth-century Arab historian Mas'ūdī provides a remarkable picture of the city during the Arab occupation based upon his visit to Antioch in 943:

> It is not denied by men of knowledge that there are certain regions of the earth, towns and villages, which no scorpions or serpents can enter. Such are Hims, Ma'arrah, Egypt and Antâkiyyah.
>
> The month of the later Kânûn [January] has thirty-one days. On the first day of the month is the day of the Kalandas (Kalends), which is a feast-day among the Syrians. At Antâkiyyah, on the eve, they make illuminations and exhibit the Eucharist (lâsîmâ). This takes place generally in the Church of Al-Kusiyân [Al-Qusiyân-Church of Cassianus], which is one of the most venerated churches of that city. The Christians of Antâkiyyah, both of great and low degree, take part in these rejoicings and diversions, and in the lighting of illuminations; for this city of Antâkiyyah is their Patriarch, and the day is held in much honour among them. The Christians call Antioch the City of God; also, the City of the King, and the Mother of Cities, for Christianity was first shown forth here.
>
> There is at Antâkiyyah the Church of Paul, which is known also by the name of Dair al-Barâghîth [the Convent of Bugs]; it stands adjoining the gate called Bab al-Fāris [the Knight's Gate]. There is also another church, which they call Ashmûnît [Saint Ashmunit], where the Christians keep a festival, held high in honour among them, and this church was originally in the hands of the Jews. There are also the Kanîsah Barbârâ [Church of Saint Barbara], and the Kanîsâh Maryam [Church of the Holy Virgin Mary], which the last is a round church, and one of the wonders of the world for the beauty of its construction and its height. The [Umayyad] Caliph Al Walîd, son of Abd al-Malik [reigned between 705 and 715], carried off from this church a number of marble and alabaster columns, of wonderous size, to place in the mosque in Damascus. The greater number of columns, however, still remains in the Church at Antioch, as may be seen at the present day.
>
> There is at Antâkiyyah a building called al-Dîmâs [the Crypt]. It stands on the right-hand side of the Great Mosque, and is built of huge blocks of stone, as though of 'Adite [Cyclopeian] days, and it is wonderful to see. On certain of the nights of summer, the moon's (beams) as the rises each night, shine in through a different window. It is said that this Ad Dîmâs is a Persian building of the time when the Persians [under Sapor, in 260] held Antâkiyyah, and that it was built to be their Fire Temple.
>
> At Antâkiyyah, on a hill within the city walls, is an ancient temple of the Greeks. At this place the Muslims have constructed a watchtower from whence guards, continually posted her, can spy out any who come by sea or by land from the Greek country. This temple of old the Greeks held in great veneration, and made their sacrifices therein. Constantine the Great, the son of Helena, who propagated the Christian religion, ruined it. The place was at that time filled with idols and statues of gold and jewels of all kinds. Others affirm that the temple in question stood in the city of Antâkiyyah to the right of the present Jâmi' Mosque (this must be the main mosque in the city). This was a great temple also, and the Sabaens report it to have been built by Saklâbiyûs. At the present day, in the year 332 [943], there is at this place the Sûk (or market) of the armourers and lance-makers. Thâbit ibn Kurrah ibn Karânî, the Sabaean of

Harran, who went to [the Caliphate] Al-Mu'tadhid in the year 289 [902], visited this temple and showed great veneration for the same, and what we have said above comes from him. (Le Strange, 1969, pp.367-369)

B.6 : Emperor Nikephoros II Phokas's motivational speech before the recapture of the city.

Before his attack in an attempt to recapture the city, Emperor Nikephoros II Phokas gave a motivational speech to his soldiers to encourage them in which he stated:

> My fellow soldiers, as you know, with the help of Providence and as a result of your experience, combined with your innate bravery, we have captured the fortresses located beyond this city, contrary to all expectation. I express my very great gratitude to you, because you looked to me as your leader, and did not slacken at the many unpleasant and disagreeable [labors] that war usually brings, but you fought with eagerness and calculated strength, so that none of the fortresses that we attacked was a match for your valor, and remained uncaptured. I am aware of your desire to destroy this city, how you, the army, are excited and eager to demolish it and ravage it with fire. But a kind of pity for this city has gradually come over me, that the city that is third in the world, on account of the beauty and size of its walls [for you see to what height they rise], and also because of the multitude of its people and the extraordinary construction of its buildings, should be reduced to rubble, like some poor fortress. To me it seems senseless to exhaust the Roman army in the sacking of this city, and to destroy and ravage again what we have subdued with warfare. For I would call that man a particularly provident general who ravaged and destroyed the land of the enemy with a combination of attacks and stalling tactics; but I would not hesitate to call foolish, or indeed criminally stupid, the man who destroyed and ravaged his own land with repeated raids and sallies by his army up and down the country. He is acting like the dogs ridiculed in the proverb, who ought to scare the wolves off from the sheep, to protect the flocks from attack, but, in addition to not scaring off [the wolves], they themselves tear apart [the sheep] and rend them in pieces even more than the wild animals. If then you are willing to listen to me, since this hill appears particularly secure, and is well-watered, as you see, it should be fortified immediately, and a squadron of cavalry and a cohort of infantry should be left on it, so that by daily attacks and raids, and by plundering of provisions, they may bring Antioch to its knees, reduce it to dire straits, and force it, albeit unwilling, to become tributary to the Romans. (Talbot and Sullivan, 2005, pp.123-124)

B.7 : Ibn Butlān's letter to his friend.

The eleventh-century Christian physician Ibn Butlān visited Antioch in 1051 and wrote a letter to his friend who lived in Baghdad. In this letter he provides valuable information about the city itself:

> We left Aleppo intent on journeying to Antâkiyyah, and the distance is a day and a night's march; and we found all the country between Aleppo and Antâkiyyah populous, nowhere ruined abodes of any description. On the contrary, the soil was everywhere sown with wheat and barley, which grew under the olive-trees; the villages ran continuous, their gardens full of flowers, and the waters flowing on every hand, so that the traveler makes his journey here in contentment of mind, and peace and quietness.
>
> Antâkiyyah is an immense city. It possesses a wall and an outer wall. The wall has three hundred and sixty towers, and these are patrolled in turn by four thousand guards, who are sent to Antâkiyyah every year from the presence of the king in Constantinople, as warrant for the safe-keeping of the city, and in the second year they are changed. The plan of the city is that of a semicircle; its diameter lying along the mountain [Mount Silpios], and the city wall climbs up over the mountain to its very summit; and further, the wall completes the semicircle. On the summit of the mountain, but within the wall, is a castle, which appears quite small from the city below, on account of its distance up; and this mountain shades the city from the sun, which only begins to shine over the town about the second hour of the day. In the wall surrounding [the city] and in the part not on the mountain, are five gates.
>
> In the center of the city is the Church of Al-Kusiyân [Al-Qusiyân-Church of Cassianus]. It was originally the palace of Kusiyân, the king, whose son, Futrus [Saint Peter], chief of the disciples, raised to life. It consists of a chapel, the length of which is hundred paces, and the breadth of it eighty, and over it is a church, supported on columns, in which the judges take their seat to give judgement, also those sit here who teach Grammar and Logic. At one of the gates of this church is clepsydra [watchtower] showing the hours. It works day and night continuously, twelve hours at a round, and it is one of the wonders of the world.
>
> In the upper portion of the city are five terraces, and on the fifth of these are the baths, and gardens, where beautiful points of view are obtained. You may hear in this spot the murmuring of waters, and the cause thereof is that the waters run down near this place from the mountain, which overhangs the city. There are in Antâkiyyah more churches than be counted; every one of them ornamented with gold and silver, and coloured glass, and they are paved in squares. In the town is a bîmâristan [hospital], where the patriarch himself tends the sick; and every year he causes the lepers to enter the bath, and he washes their hair with his own hands. Likewise, the king also does this service every year to the poor. The greatest of the lords and patricians vie in obtaining of him permission to wash these poor people, after the like fashion, and serve them. In this city there are hot baths, such as you can find the equal nowhere else in any other town for luxury and excellence; for they are heated with myrtle wood, and the water flows in torrents, and with no scant.
>
> In the Church of Al-Kusiyân are innumerable servants who all receive their daily rations, and there is an office for the expenditure and receipts of the church, in which office are some ten or more accountants. Some year and a

part ago a thunderbolt struck this church, and the manner of it doing so was most extraordinary. Now at the close of the year 1362 of Alexander, which coincides with the year 442 of the Hijrah [1050], the winter rains had been heavy, and some parts of the month April were already past, when, on the night whose morrow was Saturday, the 13th of April, there came thunder and lightning such as had never been known at the time, nor remembered, nor heard of in the past. The claps of thunder were oft repeated, and so terrible as to cause the people to cry out in fear. Then on a sudden, a thunderbolt fell and struck a mother-of-pearl screen which stood before the altar in the Church of Al-Kusiyân, and it split from off the face of this screen of the Christians, a piece like what might be struck off by an iron pickaxe with which stone is hewn. The iron cross, too, which was set on the summit of this mother-of-pearl screen, was thrown down, and remained on the place where it fell; and a small piece also was cut off from the mother-of-pearl. And the thunderbolt descended through the crevice in the mother-of-pearl, and travelled down to the altar along a massive silver chain, by which is suspended the censer; now the size of this crevice was of two finger breadths. A great piece of the chain was broken off, and part of it was melted, and what was melted of it was found dropped down on the ground below. A silver crown, which hung before the table of the altar, was also thrown down. Beyond the table, and to the west of it, stood three wooden stools, square and high, on which were usually set three large crosses of silver gilt, studded with precious stones. But the night before they had removed two of the crosses, those on either side, taking them up to the church treasury, and leaving only the middle cross in its usual place. Now the two stools on either side were smashed, and the pieces sent flying over and beyond the altar, though here there was seen no mark of fire, as had appeared in the case of the chain, but the stool in the middle remained untouched, nor did anything happen to the cross that was set thereon.

Upon each of the four marble columns which supported the silver dome covering the table of the altar was cloth of brocade wrapping round the column. Each one of these suffered a greater or fewer strokes; but the stroke fell in each case on a place where it had been already worm-eaten and worn to shreds; but there was no appearance as though flame had scorched it, nor as though it had been burnt. The table [of the altar] was not touched, nor was any damage done to the altar-cloths upon it; at least, no sign of any such damage was to be seen. Some of the marbles which were in front [on the pavement below] of the table of the altar were struck as though by the below of a pickaxe, and the mortar and lime setting thereof [was cracked]. Among the rest was a large slab of marble, which was torn from its bed and fractured, and thrown up on to the square top of the silver dome covering the table of the altar; and here it rested, the remaining pieces of the marble being torn from their bed, and scattered far and near. In the neighbourhood of the altar was a wooden pulley, in which was a hemp-rope -quite close to the silver chain which had been broken, and part of it melted- and [to this rope was] attached a large silver tray, on which stood the bowls for the glass lamps. This tray remained untouched -none of the lamps was overturned, nor aught else thereon; neither did any damage happen to a candle that stood near the two wooden stools. The greater part of these wondrous occurrences was witnesses by many who were in Antâkiyyah.

…Outside the city is a river called al-Maklûb [al-Maqlûb-The Overturned][89], because it takes its course from south to north. It is the size of the Nahr ‘Isâ (in Babylonia). There are along its banks many mills, and it waters the gardens and grounds of the city. (Le Strange, 1969, pp.370-375)

[89] In Arabic sources the river is called by different names, such as al-Ārbāt, al-‘Asī (the Rebel), or al-Urunt (Orontes) (Le Strange, 1969, p.59).

B.8 : Description of the earthquake of May 20/29, 526 by John Malalas.

The sixth-century chronicler and eyewitness to this earthquake, John Malalas, provides the most detailed description of the catastrophe:

> In the seventh year of the reign of Emperor Justin, in the month of May, Antioch the Great suffered its fifth calamity from the wrath of God, during the consulship of Olybrius. Great was the fear of God that occurred then, in that those caught in the earth beneath the buildings were incinerated and sparks of fire appeared out of the air and burned anyone they struck like lightning. The surface of the earth boiled and foundations of buildings were struck by thunderbolts thrown up by the earthquakes and were burned to ashes by fire, so that even those who fled were met by flames. It was a tremendous and incredible marvel with fire belching out rain, rain falling from tremendous furnaces, flame dissolving into showers, and showers kindling like flames consumed even those in the earth who were crying out. As a result, Antioch became desolate, for nothing remained apart from some buildings beside the mountain. No holy chapel or monastery nor any other holy place remained which had not been torn apart. Everything had been destroyed[90]. The Great Church[91] of Antioch, which had been built by the Emperor Constantine the Great, stood for seven days after this tremendous threat from God, when everything else had collapsed to the ground during the wrath of God. Then it too was overcome by fire and razed to the ground[92]. Likewise, other houses, which had not collapsed through the divine calamity, were destroyed to their foundations by fire. In this terror up to 250,000 people perished. For this was the great festival of the Ascension of Christ our God and a great throng of visitors had come to town[93]. During the wrath of God it became clear what a great number of citizens there was. Many of those who had been buried by earth survived to be brought up alive but then died. Some of the citizens who survived gathered whatever of their possessions they could and fled. Peasants attacked them, stole their goods and killed them. But, God's benevolent chastisement of man was revealed even in this, for all those robbers died violently, some by putrefaction, some were blinded and others died under the surgeon's knife, and after confessing their sins, they gave up their souls. One who plundered at that time was Thomas, a *silentiarius*, who had escaped in

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[90] Among our sources, for the destruction of the earthquake John Malalas provides the most specific information, but the sixth-century Latin chronicler Marcellinus Comes states specific damage on the buildings: "for an obelisk in the hippodrome was upturned and driven into the ground" (Croke, 1995, p.42).

[91] John Malalas does not name any buildings other than the Great Church in his eyewitness account. However, in the Slavic version of his work the names of the destroyed churches are given as follows: Likewise, the great Church of Archangel Michael and the Church of the Holy Virgin Mary collapsed to the ground. The Emperor Zeno had built the Church of the Archangel Michael. Both these sacred houses had remained standing, wholly undamaged by the earthquake. But through the wrath of God they suddenly caught fire, together with the Church of the Holy Prophets and the Church of Saint Zacharias, and then they collapsed to the ground. (Jeffreys and Scott, 1997, p.239) The seventh-century chronicler John of Nikiu also mentions the Great Church, but he says the damaged area extended from the Church of the Saint Stephen to the house of chief of the army, as far as the bath called Tainâdônhûs and to the bath of the Syrian nation (Charles, 1916, p.135). Among the sources available to us John of Nikiu is the only one to mention these baths. It is unfortunately not possible to locate the churches he mentioned.

[92] When he talks about the earthquake of October 31, 587/88, Evagrios Scholastikos states that only the dome of the Great Church survived which the bishop Euphrasius rebuilt with the timbers from Daphne. Please see the account of the earthquake of October 31, 587/88 (Whitby, 2000, p.298).

[93] Among our sources only the seventh-century chronicler John of Nikiu states that during the festival people were gathered at the Church of Kerateion (Charles, 1916, p.136), which according to Downey stood in the southern outskirts of the city (1961, p.523).

flight from the wrath of God and lives three miles out of the city at the place known as Saint Julian's Gate, and by means of his servants, stole everything from the fugitives. He did this for four days, and so as he was polluting everything he suddenly died though he had been in good health, and everyone glorified God. His property was stolen and lost. He was buried there, in the place where he died. Other mysteries of God's love for man were also revealed. For pregnant women who had been buried for twenty or thirty days were brought up from the rubble in good health. Many, who gave birth underground beneath the rubble, were brought up unharmed with their babies and survived together with the children to whom they had given birth. Equally other children were brought out alive after thirty days. Many even more tremendous things occurred. On the third day after the collapse, the Holy Cross appeared in the sky in the clouds above the northern district of the city, and all who saw it stayed weeping and praying for an hour. After the collapse of the city many other earthquakes occurred during the next eighteen months. Buildings collapsed too at Seleucia and Daphne over a distance of some twenty miles. The emperor provided much money for the cities that had suffered. When he heard of God's benevolent chastisement of man, he was afflicted with great sorrow, the games were not held in Byzantium and when the time of Holy Pentecost came, he entered the church without his crown, weeping and wearing a purple cloak along with all the senators who also were wearing purple. In that year the emperor sent out the *comes* Carinus with five *centenaria*[94]. With him he also sent Phokas the patrician and Asterios, learned men, giving them much money for the reconstruction of the city, its aqueducts and bridges over the river, since he knew the city. (Jeffreys and Scott, 1997, pp.238-242)

[94] Theophanes the Confessor provides essentially the same information with minor differences (Mango and Scott, 1997, p.264). However, the twelfth-century historian George Kedrenos writes, "The emperor sent fifty gold *centenaria* and skilled men for clearing up and rebuilding work, for he was anxious to rebuild the ruined city of Antioch" (Bekker, 1838-1839, vol.1, pp.640-641).

B.9 : Description of the earthquake of November 13, 1114 by Matthew of Edessa.

From the account of the twelfth-century Armenian chronicler Matthew of Edessa we do derive the idea how the community he lived in viewed earthquakes:

> In this same year the divine-rebuking wrath of God fell upon all living creatures. The Lord in all his omnipotence and wrathfulness looked down upon those whom he had created, for the sons of man had all strayed from the path of righteousness, according to the words of the prophet who said: 'In these times there will be no prince, prophet, or leader who will practice goodness, no not even one.' In like manner everyone delighted in the wicked path of sin and scorned all the prophets and laws of God; for none of the princes, soldiers, men of the people, leaders, priests, and monks stood fast in truly carrying out God's work, but rather sought after the fulfillment of fleshly and worldly desires. God considered all this the highest degree of sinfulness. Thus, were fulfilled the words of the prophet, who said: 'Lo, he looked at the earth and caused it to tremble.' Now, since God wrathfully looked askance at his creation, all living creatures gave up hope and succumbed to the terror of the Lord's might. In accordance with this, on Sunday the 12th of the month of Mareri [November], the day of the Feast of the Discovery of the Cross, a frightful phenomenon occurred on the earth; moreover, we have never heard of such a wrathful event having happened in the past or in the present, or having been mentioned in Scripture. Now, while we were in a deep sleep, a horrible, crackling, and reverberating sound was heard, and all of creation resounded from the noise. A severe concussion was felt, and the plains and mountains shook with a frightful echoing sound, while tremendous rocks were cleft and hills were split open.
>
> Because of the intensity of this frightful calamity, the mountains and hills resounded, just like the live animals who, when they are terrified, shrilly cry out; this resounding noise hit the ears like the sound of a large through in a camp. In this way, like a churned-up sea, all living creatures quaked and trembled from fear of the might of the Lord God; for all the plains and mountains resounded like the clanging of bronze, shaking and moving to and for like the trees struck by a high wind.
>
> In consequence of all this, those who already were plunged into the depths of despair now became horror-struck and frozen with fear as if they had just died. Now during this night many towns and districts were destroyed. However, all the areas destroyed were those of the Franks, while no harm or destruction came to other regions or peoples. So, on this night Samosata, Hisn-Mānsūr, Kesoun, and Raban were destroyed. On the other hand, Marash was destroyed in such a frightful manner that as many as forty thousand persons died; it was a populous city and yet not one person survived. The same things happened to the town of Mamistra, where a countless number of man and women perished. Moreover, many other villages and monasteries were destroyed, and thousands upon thousands of men, women, and children perished. An incident occurred in the Basilian Monastery located in the renowned Black Mountains, where the holy monks and Armenian vardapets had gathered for the consecration of a new church building; in the midst of the divine service the church collapsed on them, and thirty monks and two vardapets perished beneath the ruins, their bodies remaining in the rubble to this day. A similar mishap occurred near Marash in the great Monastery of the Jesuits, where the monastery was destroyed and all the monks perished. Now, when the tremors have ceased, snow began to fall and cover the entire land. The Armenian vardapet Gregory,

surnamed Mashkewor, perished in the same place. Thus, in this way many mishaps and frightful calamities befell the Christian faithful. All of these things happened because of their sins, for each of them abandoned the true path of the precepts of God and enthusiastically embraced the erroneous way; so, they separated themselves from the precepts of the holy books and became involved in foolish pursuits. (Dostourian, 1993, pp.216-217)

B.10 : Description of the earthquake of November 29, 1115 by Walter the Chancellor.

The account of the twelfth-century author Walter the Chancellor follows:

> And as a matter of fact, in that same unexpected earthquake men were horribly knocked around, and they felt, saw, heard the collapse of walls, towers and different buildings deeply threatening themselves and others, some thought to escape the collapse by running away, some to slide down from the walls, certain man gave themselves up and threw themselves down from high houses. More, indeed, were caught piecemeal in their sleep by the collapse, in such a way that even if a part of the wall remained intact, they were nowhere to be seen. Others, indeed, were terrified; they abandoned their homes, scorned their wealth, left everything, and behaved as if demented in the streets and squares of the town. They stretched their hands towards the heavens because of their manifold fear and powerlessness, and cried tearfully without ceasing in different languages: Spare us, Lord, spare your people!
>
> When morning came, and the vast scale of the wretched disaster was clear beneath the ruin both of men and of other things, everyone of one accord - Latins, Greeks, Syrians, Armenians, strangers and pilgrims- claimed the earthquake had happened because of their own sins. At once they took advantage of good advice and had recourse to the very Church of Saint Peter the Apostle, seeking protection of his eternal patronage. And so that very same saint whom they had failed to appreciate when things were going well, in bad times they recognized as omnipotent and merciful, his utter goodness performing with justice, and those same men confessed that they had grievously sinned and, renouncing their past and present pleasures to Lord Bernard, the first Latin Patriarch, they promised most devoutly to mend their ways, and by his faith, merits and prayers, with his own clergy and the rest of the faithful very humbly entreating God, so we truly believe, the Lord took pity on the rest of his Antiochene people.
>
> When the divine office had been celebrated, a sermon delivered and some instructions imposed as to how they should behave or what they ought to do, just as they were thinking nothing very serious had happened, they were suddenly frightened by terrible news. For certain people who had escaped by God's favour in the town of Marash (modern Maraş) testified that that same town had been entirely destroyed with its lord [Richard of Salerno] and bishop [name unknown], also clergy and all the people. And not long afterwards testimony from the town of Mamistra, previously ruined with its citizens and the greater part of the town on the feast of Saint Brice [November 13, 1114], increased their fear. What of al-Atharib? What of the other Antiochene lands? A comparable torment was imagined happening in quite disparate places. Therefore, fear was mingled with terror and thus redoubled for the wretched masses, because they absolutely did not know where they should stay or where they should flee. For each day, the earthquake threatened for hopeless hours; and for this reason, they said this to one another: "Oh the wretched necessity to live!" Although these people knew that the power of God could nowhere and never be escaped, yet they decided it was easier to cohabit with the animals outside than to live inside in constant fear of the impending collapse of the buildings. For this reason, they adopted tents for homes in the streets, in the squares, in gardens, in thickets, with other dwellings abandoned. More, indeed, left the towns and took their huts from place to place, staying on the plains.

And yet the patriarch, most experienced of all men of the place and time, drawing discursively on the necessary divisions of philosophical teaching, pacified the hearts of the desolate people, who were now almost despairing of life, by means of the encouraging sweetness of holy preaching. And then finally he proclaimed a three-day fast for all the people, with sighing and in a spirit of contrition, adding also that they should avoid evil works and pay attention to all good things. What, therefore, of the result? The people who had been brought back into the Lord's service were described in this manner: they flee feasting, they abhor drunkenness; they shun the baths; they curse immorality; having laid aside everything, even care of the body, they have changed their style of dress into sackcloth and ashes; they roam from street to street, from church to church, first the men, then the women, with bare feet, with loosened hair, beating their breasts, copiously watering their faces with tears; from day to day with all their heart they repeat litanies to God; even by night they have time for vehement prayers, in churches as well as in their bedrooms. They call back the scattered citizens, they reform those in error, and they are fully occupied bringing comfort to orphans and widows and remedying their need. Their hospitality also suffices: they strive with happy expressions to refresh the bodies of the poor, the needy and the destitute and to give them cheer by presenting them with gifts once they are refreshed. What more? Reformed by the benefit of penance, adorned by good works, they were kept safe from the danger of threatening earthquake for five months and more not because of their own merits but through God's grace, and they gladly gave thanks to the Almighty in His church.

Therefore, the aforementioned Prince Roger visited his own demolished buildings in his castles and elsewhere and, having carefully sought out necessary supplies, he hastened to repair and fortify those which he knew to be most useful for the defense of his land and nearest to the enemy, even if he could not do it fully, nevertheless he would do it sufficiently for immediate protection. When this was accomplished, as the summer weather returned, as is the custom of that region he made for the borderlands, where he would be able to move swiftly to hear of the approach of the Persians and whence he might more swiftly meet the hordes of the enemy. (Asbridge and Edgington, 1999, pp.80-84)

APPENDIX C : Figures

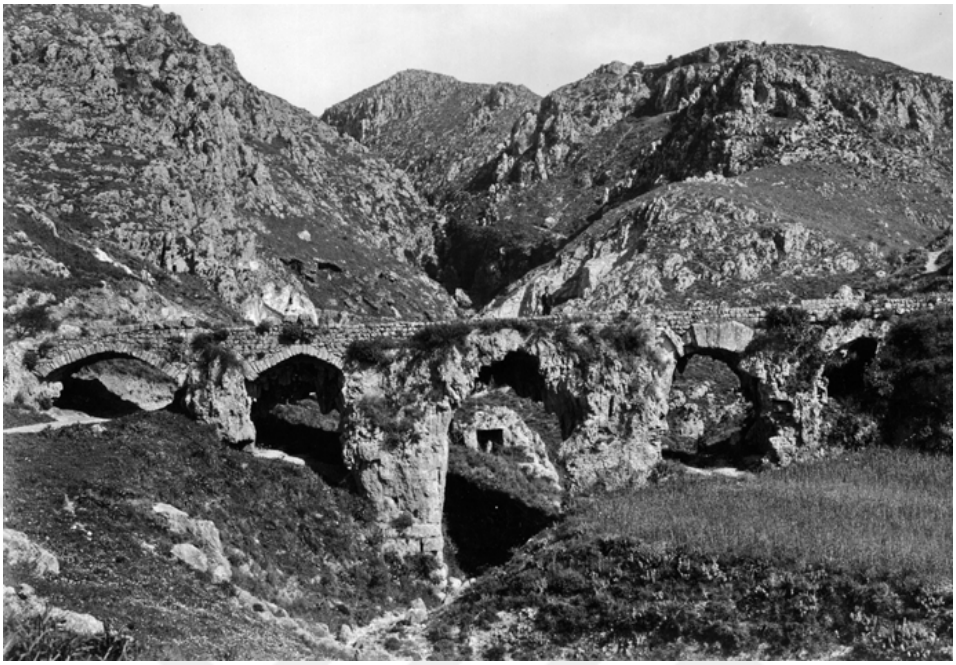

Figure 2.7a : The Aqueduct of Trajan in the late 1930s (URL-9).

Figure 2.7b : The Aqueduct of Trajan at the present time (Demir, 1996, p. 41).

Figure 4.1 : Remains of the hippodrome stairways at the present time (Photo credit Mevlüde Bakır).

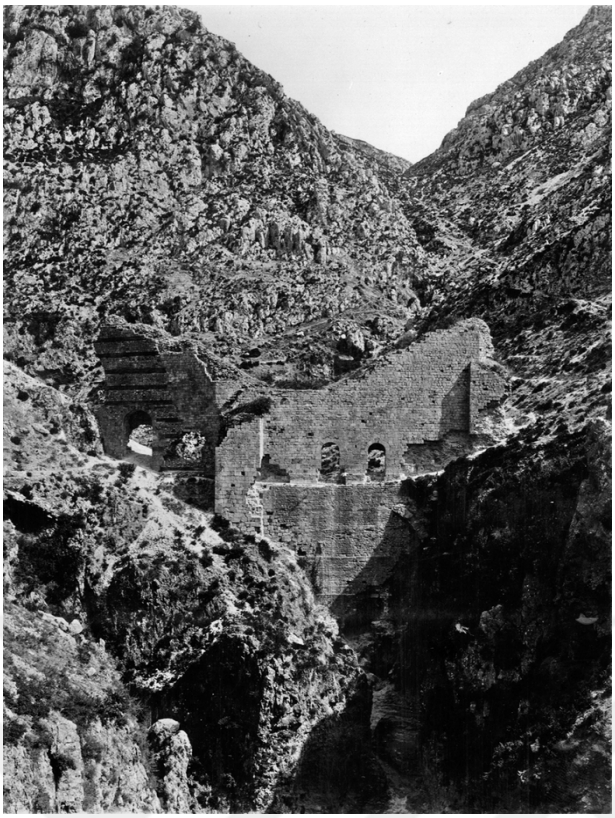

Figure 4.8a : General view of the Iron Gate in the 1930s (Url-20).

Figure 4.8b : General view of the Iron Gate at the present time, the left side of the gate with brick portion has collapsed over the years (Photo credit Mevlüde Bakır).

Figure 4.10a : L.F. Cassas's drawing of the exterior of the Gate of Saint Paul (Demir, 1996, p. 138).

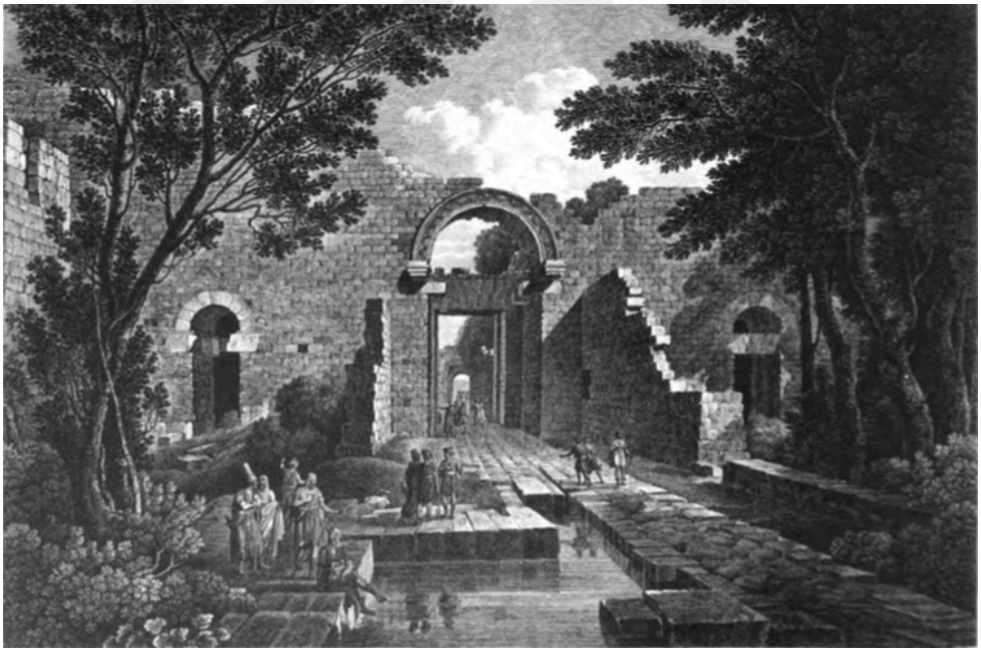

Figure 4.10b : L.F. Cassas's drawing of the interior of the Gate of Saint Paul (Demir, 1996, p. 138).

APPENDIX D : Maps

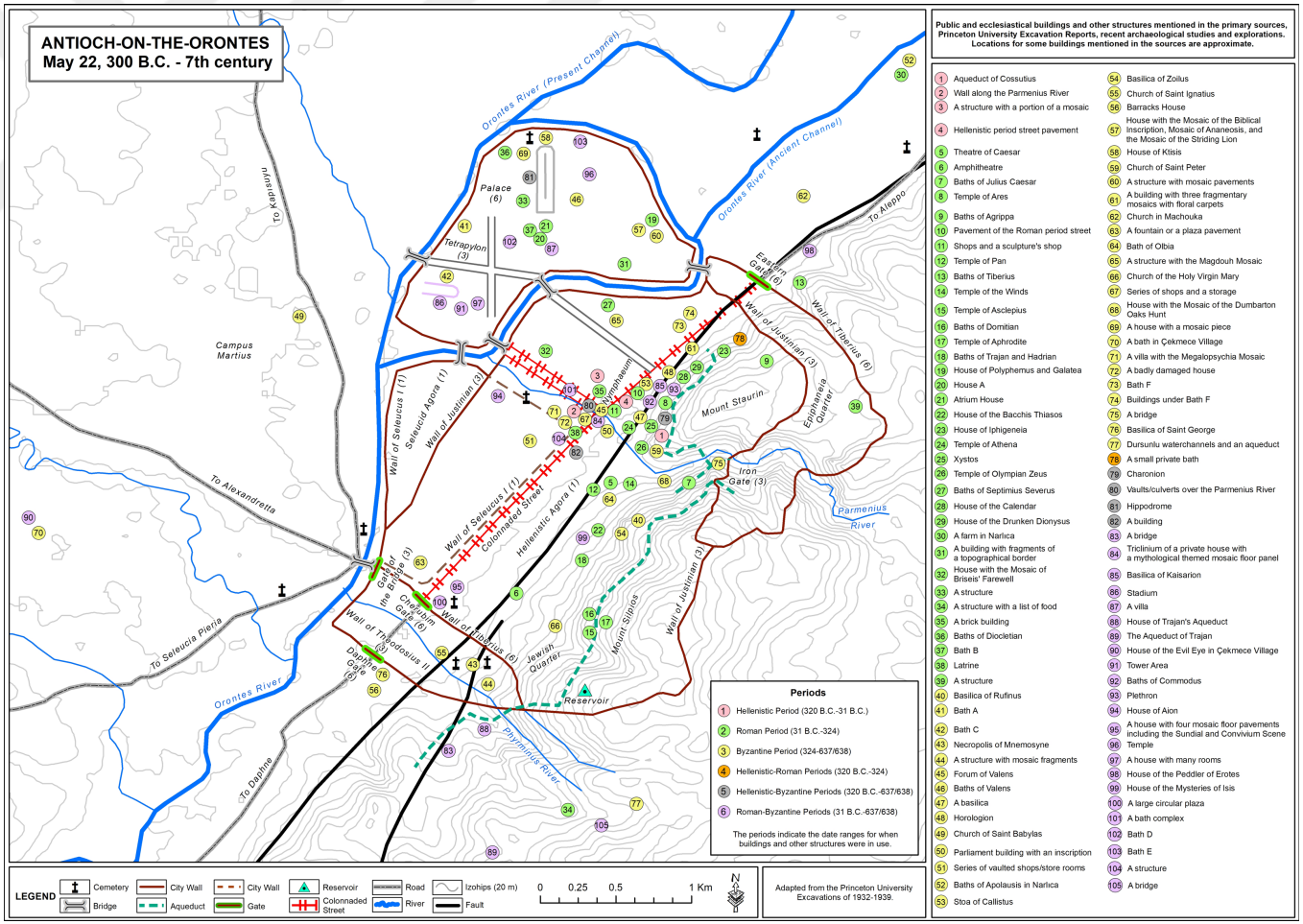

Figure D.1 : Antioch-on-the-Orontes, May 22, 300 B.C. - 7th century.

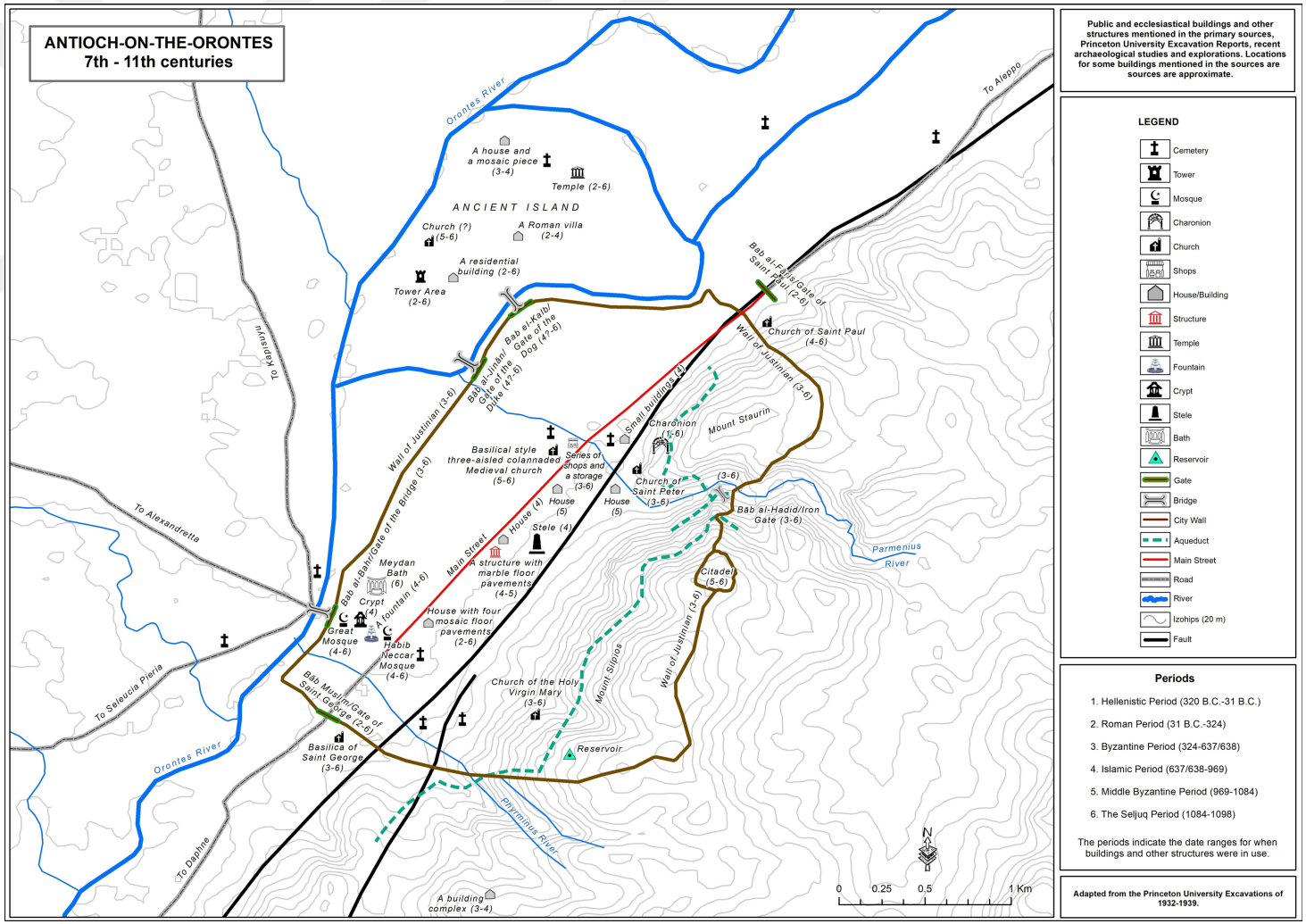

Figure D.2 : Antioch-on-the-Orontes, 7th - 11th centuries.

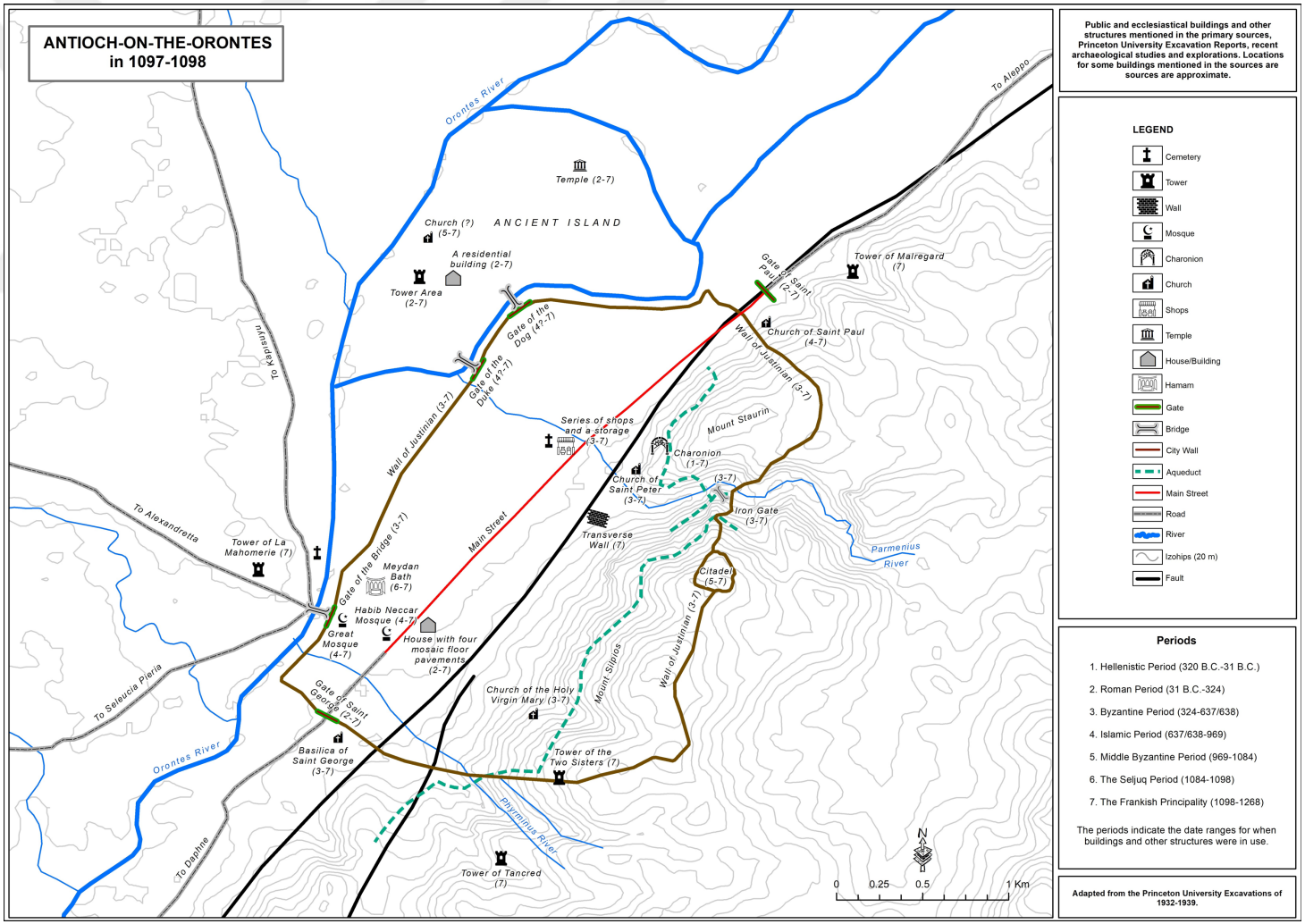

Figure D.3 : Antioch-on-the-Orontes in 1097-1098.

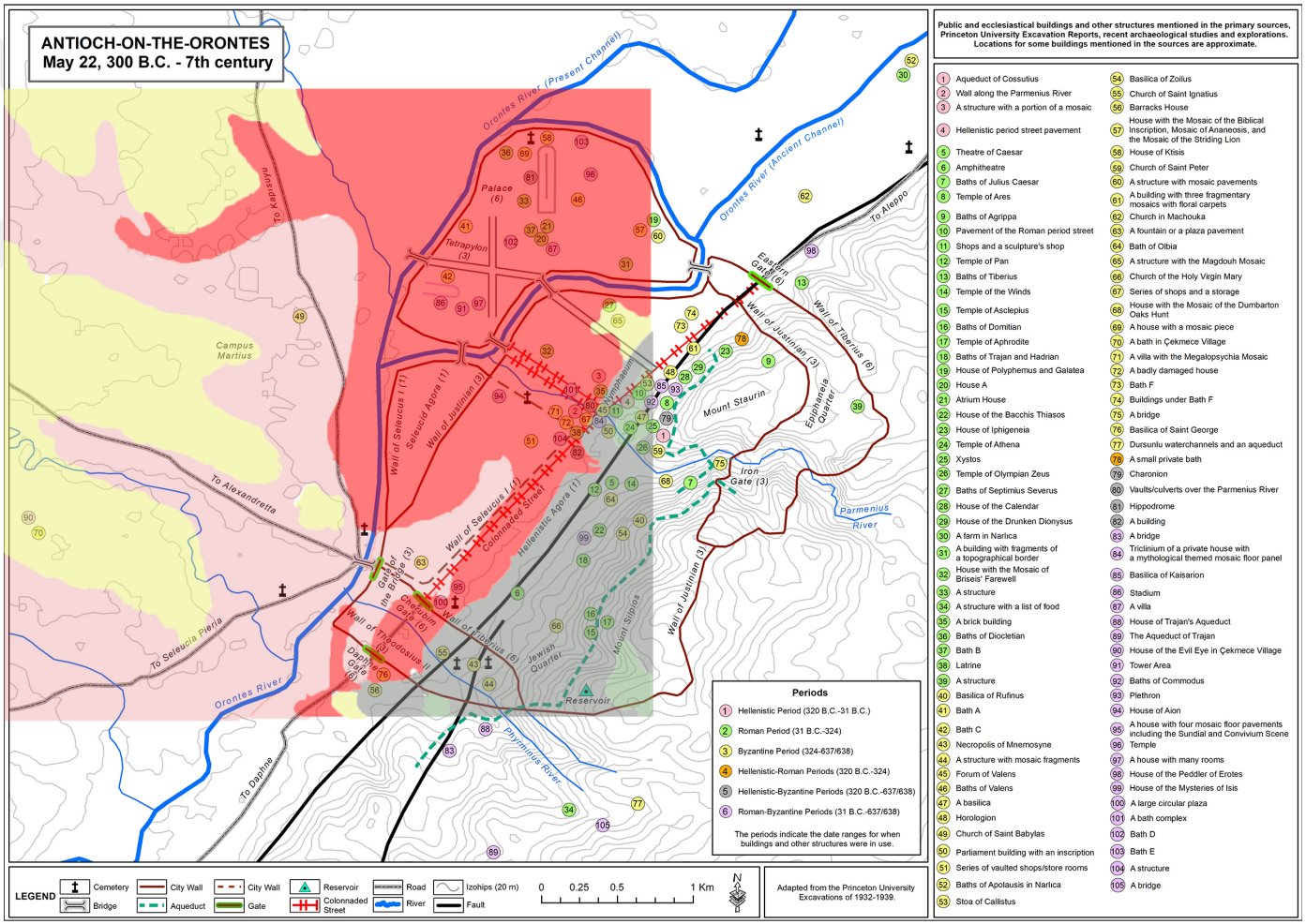

Figure D.4 : Antioch-on-the-Orontes, May 22, 300 B.C. - 7th century, with soil resistance areas through the present indicated.

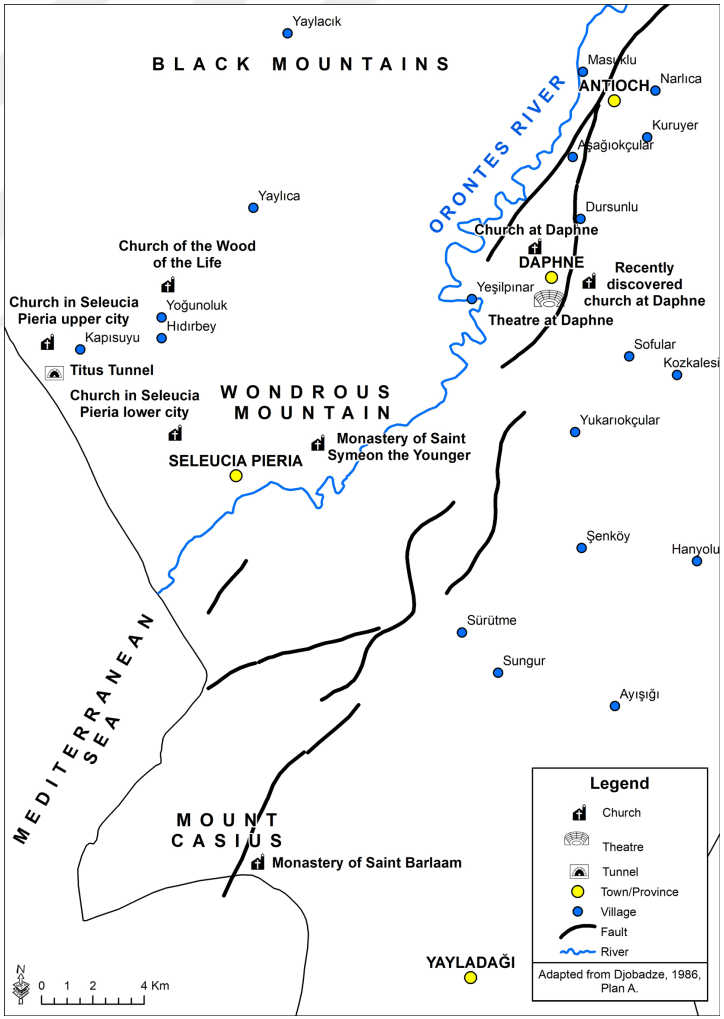

Figure D.5 : Map of main excavated buildings in Seleucia Pieria and Daphne.

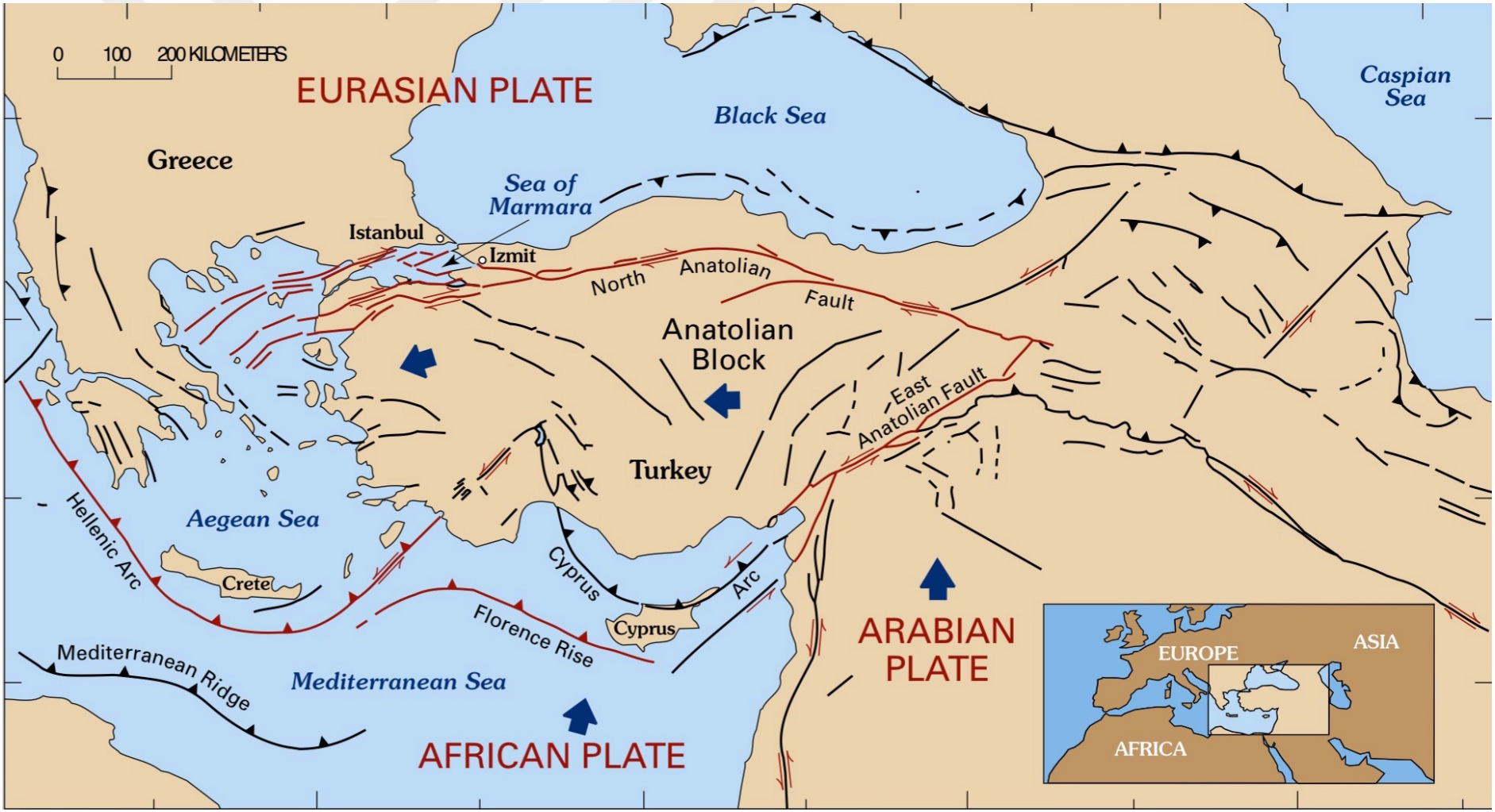

Figure D.6 : The tectonic map of Turkey, showing plates and their direction of movements (Gökkaya, 2016, p. 2).

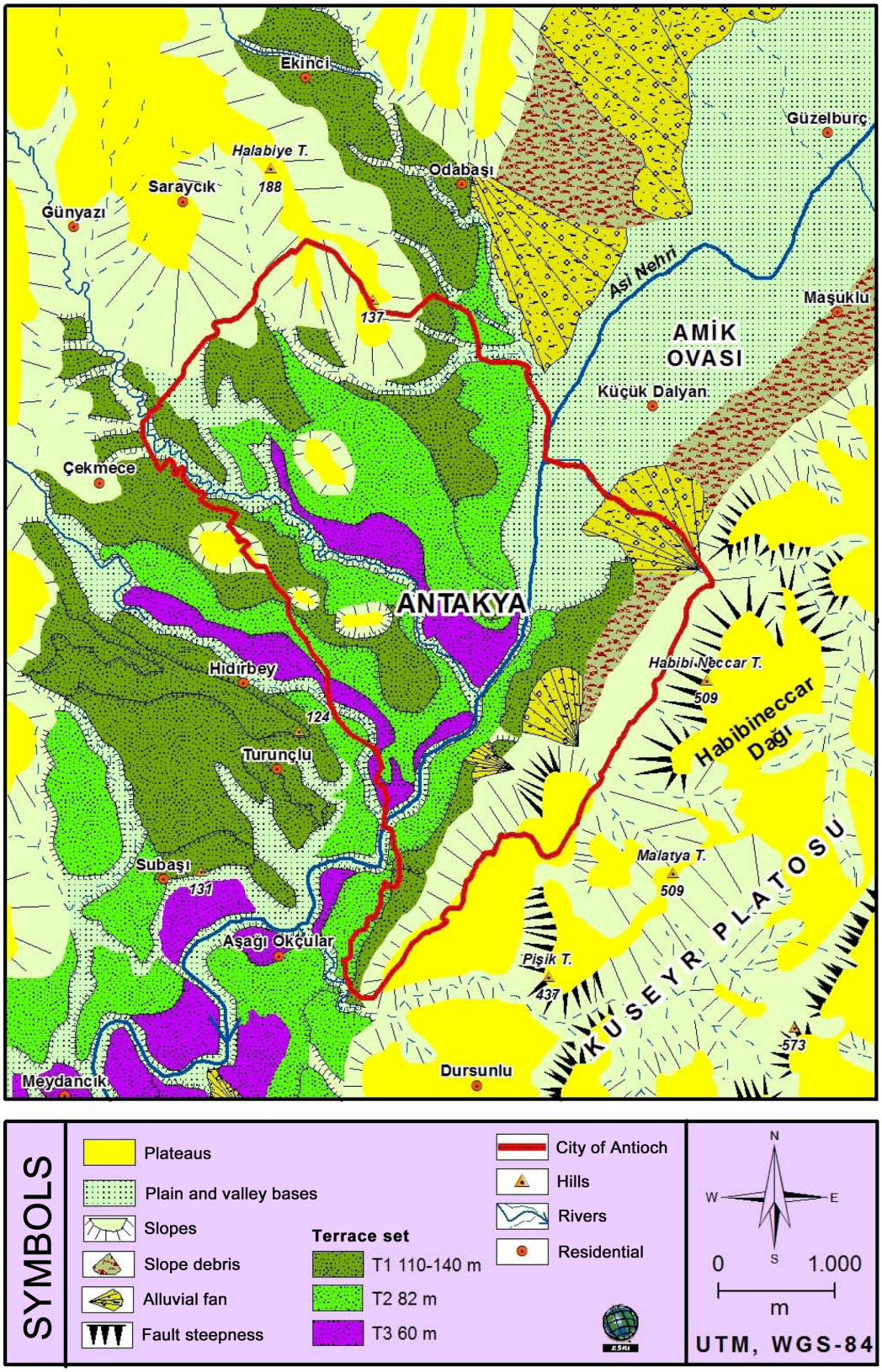

Figure D.7 : Geomorphological map of Antioch and its surrounding areas - Restored map based on the figure of (Özşahin and Özder, 2011, p. 665).

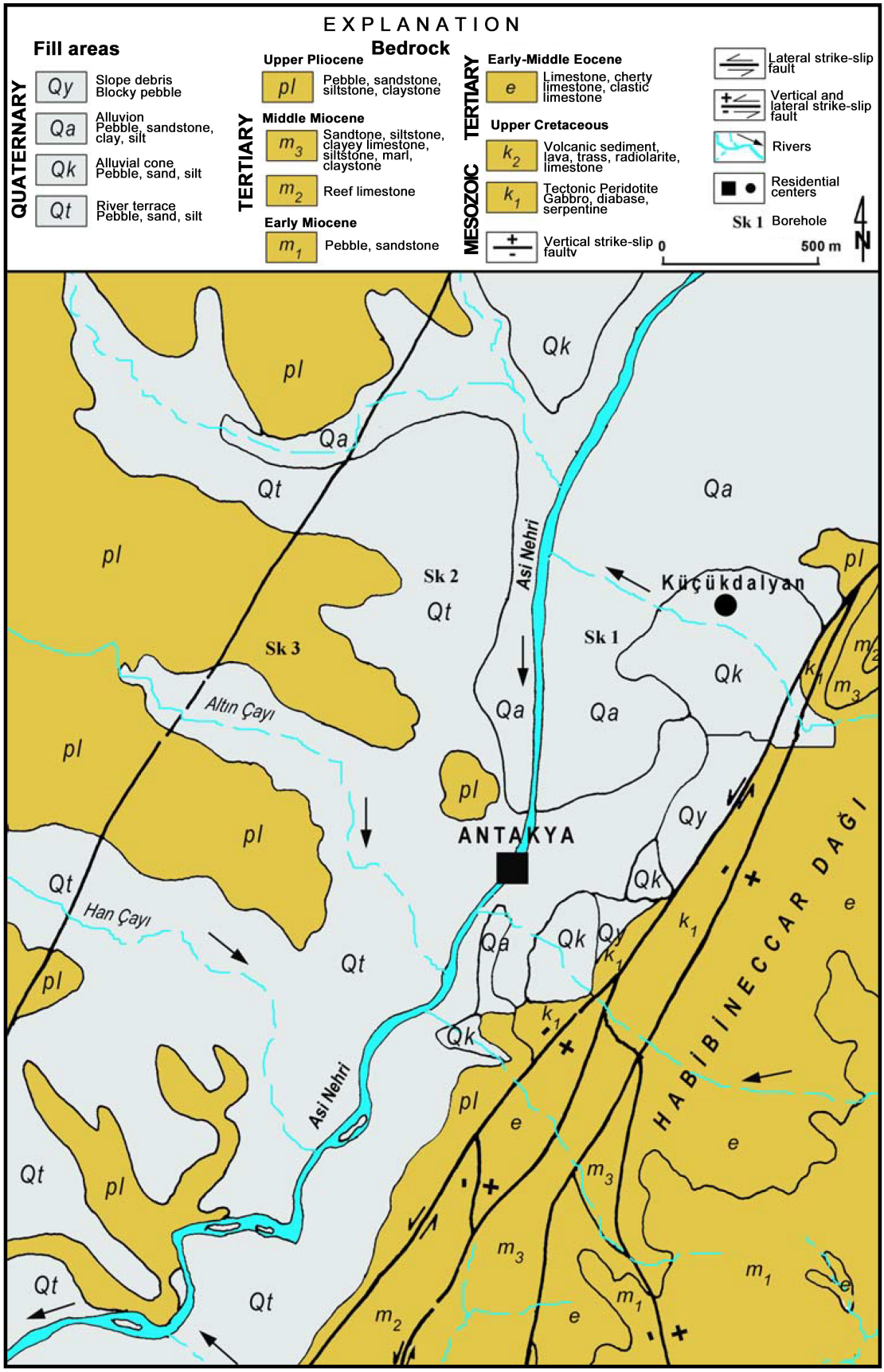

Figure D.8 : Geological and lithological map of Antioch and its vicinity
Restored map based on the figure of (Korkmaz, 2006, p. 55).

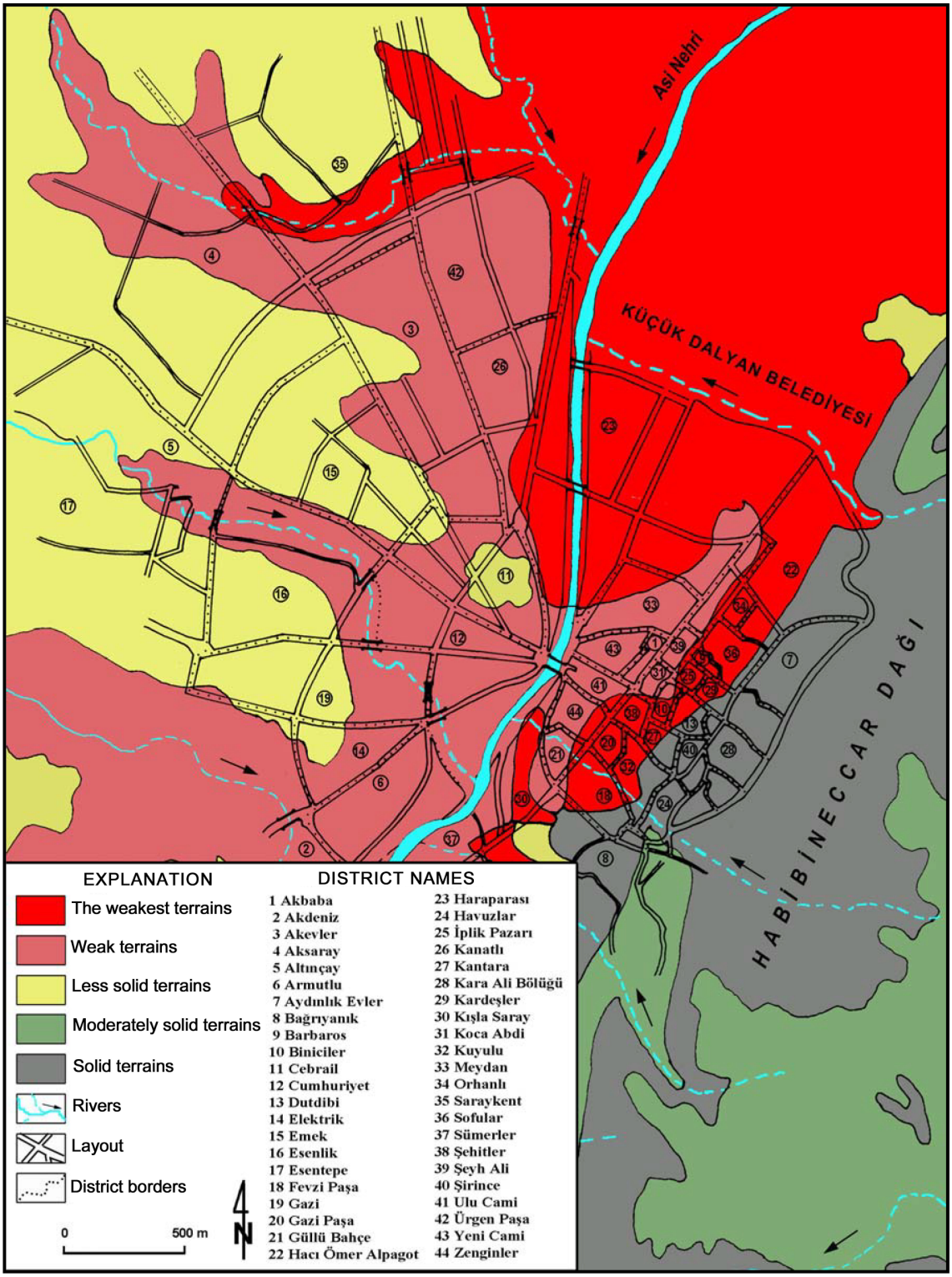

Figure D.9 : Soil resistance map of Antioch - Restored map based on the figure of (Korkmaz, 2006, p. 56).

APPENDIX E : List of authors and anonymous works.

al-Balādhurī, Ahmad B. Yahyā B. Djābir B. Dāwūd, ninth-century Arab historian, died ca.892. Two of his historical works *History of the Muslim Conquests* (*Futūh al-Buldān*) and *Ansāb al-Ashrāf* have survived (Gibb et al., 1986, pp. 971-972).

al-Tabarī, Abū Dja'far Muhammad B. Djarīr b. Yazīd, historian, born in 839 at Āmul and died in 923. Among his many works, he is known for the *History of the Prophets and Kings* which covers the period up to 915 (Bearman et al., 2000, pp. 11-15).

al-Dhahabī, Shams al-Dīn Abū 'Abd Allāh, Arab historian, born in Damascus or Mayyafarikun in 1274, and died in Damascus in 1348 or in 1352/1353. He authored around three hundred works and widely known for his expertise in Tradition and canon law (Lewis et al., 1991, pp. 214-216).

al-Idrīsī, Abū 'Abd Allāh Muhammad B. Muhammad 'Abd Allāh, Arab geographer and cartographer, died in 1165. He wrote his famous book *Kitāb Nuzhat al-mushtāk fi'khtirāk al-āfāk* (also called *Kitāb Rudjār - The Book of Roger*) under the patronage of King Roger II, the Norman king of Sicily, and created one of the most advanced maps of the geography of the world (Lewis et al., 1986, pp. 1032-1035).

al-Istakhrī, Abū Ishāk Ibrāhīm B. Muhammad al-Fārisī al-Karkhī, geographer, and little is known about his biography. He wrote the book *Kitāb al-Masālik wa'l mamālik* (*Routes and Kingdoms*). This work begins with a map of the world and continues with chapters on Islamic regions (van Donzel et al., 1997, pp. 222-223).

al-Mas'ūdī, Abu'l Hasan 'Alī B. al-Husayn, tenth-century Arab historian and traveler, born in Baghdad. Among his many works only two of them have survived: *The Meadows of Gold and Mines of Gems* and *Elucidation and Overview* (Bosworth et al., 1991, pp. 784-789).

al-Suyūtī, Abu'l Fadl 'Abd al-Rahmān B. Abī Bakr, born in Cairo in 1445, died in 1505. He is considered to be the most prolific amongst the Arab writers. Although there are different thoughts about the number of his works, it is assumed that the total number of his works are around 1194 (Bosworth et al., 1997, pp. 913-916).

Abū al-Makārim, Saʿdullāh ibn Jirjis ibn Masʿūd, thirteenth-century priest of the Coptic Orthodox Church of Alexandria. He makes special mention of Antioch in his work where he provides information on the churches and monasteries of twelfth-century Egypt (Hacken, 2006, pp. 190-191).

Agathias, born in Myrina in Asia Minor ca.531, and died ca.580. His *History* is a continuation of Prokopios of Caesarea's work and covers the years 552 to 559; due to his death his work is unfinished (ODB, *Vol. 1*, pp. 35-36).

Albert of Aachen, twelfth-century historian of the Crusades. Unlike other writers of the era of the Crusades, he never travelled to Jerusalem. However, his work *Historia Ierosolimitana* (*History of the Journey to Jerusalem*) appears to be the most detailed account for the Crusader kingdoms and the First Crusade (ODB, *Vol. 1*, p. 54).

Ammianus Marcellinus, Latin historian from Antioch**,** born ca.330, and died after 392. His *Res Gestae* consisted of 31 books and covered the period from 96 to 378. However, among those volumes, only the books 14-31 covering the years 353-378 have survived (ODB, *Vol. 1*, p. 78).

Anna Komnene, historian, born in 1083 and died in 1153/1154; the eldest daughter of the Emperor Alexius I Comnenus. She wrote her work *Alexiad* as an account of her father's reign and covered the years between 1083 and 1153 (ODB, *Vol. 1*, p. 1142).

Aristotle, ancient Greek philosopher, born in 384 B.C.; died in 322 B.C. (ODB, *Vol. 1*, p. 171).

al-Azīmī, Syrian historian, born in Aleppo in 1090/1091. Among his works, only *Târîhu'l-Azîmî* has reached today. It covers the period from the creation of the world until the year 1143/1144 (Gibb et al., 1986, p.823).

Chronica Byzantina Breviora (or *Short Chronicles*), is a collection of a series of unrelated brief notices including a precise date by indiction, year, month, and day. The texts cover the periods from the fourth century to the sixteenth/seventeenth centuries, and frequently contain information found elsewhere (ODB, *Vol. 1*, p. 447).

Chronicon Paschale, title for a Byzantine chronicle probably written in the 630s, and it is also called the Easter Chronicle. The work originally covered the period from Adam to 629/630, but the existing text stops in 628 (ODB, *Vol. 1*, p. 447).

Codex Theodosianus, Latin law book containing more than 2.500 entries in chronological order from the years 311-437. The Codex is named after the Emperor Theodosios II (408-450) and divided into sixteen books (ODB, *Vol. 1*, p. 475).

Dionysios of Tell Mahre, died in 845, and the Jacobite Patriarch of Antioch from 818 onwards. He was also known as an ecclesiastical chronicler whose work is now lost, but was given as a reference. He was mistakenly identified as the author of a universal chronicle which was in fact written by an anonymous monk in Amida. This work now called the *Chronicle of Pseudo-Dionysius of Tel Mahre*, is an important source for the eight-century Byzantine and Arab relations (ODB, *Vol. 1*, pp. 628-629).

Eusebios of Caesarea, churchman and scholar, born ca.260, and died in 339 or 340. He was elected as the bishop of Caesarea in 313 and became the historiographer of the Emperor Constantine I (306-337). *Chronicle*, the *Church History* and the *Vita Constantini* are among his historical works (ODB, *Vol. 2*, pp. 751-752).

Evagrios Scholastikos, ecclesiastical historian, born ca.536, and died after 594. He served in the Byzantine government as an advisor to the Patriarch Gregory (570-593). His *Ecclesiastical History* consists of six books and covers the years 431-594 (ODB, *Vol. 2*, p. 761).

George Kedrenos, twelfth-century historian, and little is known about his life. He is the compiler of a universal chronicle from the Creation of the world to 1057 (ODB, *Vol. 2*, p. 1118).

George the Monk (George Hamartolos -the sinner), wrote a universal chronicle between 842 and 867. It begins with the Creation of the world and covers up to the year 842 (ODB, *Vol. 1*, p. 836).

Gesta Francorum et aliorum Hierosolimitanorum, little is known about the anonymous author of this work. The work is the earliest history of the First Crusades covering the period 1095-1099 (ODB, *Vol. 2*, p. 849).

Gregory A'bul Faraj (Bar Hebraeus - Ibn al-'Ibrī), Syrian scholar, born in 1225/1226 in Malatya, died in 1286. His principal work is *Mukhtasar ta'rīkh al-duwal* (*Historia Compendiosa Dynastiarum*); it is a short version of his work *Chronography* covering the period from the Creation of the world until his own day. (Lewis et al., 1986, pp. 804-805).

Ibn al-Athir, 'Izz al-Dīn Abu'l-Hasan 'Alī, Arab writer, born in 1160 and died in 1233. Among his several works he is best known for his *al-Kāmil fi al-Tārīkh* (*The Complete History*). The work covers the period from the Creation of the world to the year 1231 (Lewis et al., 1986, pp. 723-725).

Ibn al-Kalānisī, Abū Ya'lā Hamza B. Asad, Arab historian, born in Damascus in 1073 and died in 1160. He is best known for his chronicle *Dhayl ta'rīkh Dimashk* (*Continuation of the Chronicle of Damascus*) and covered the period from the mid-tenth century to 1160 (Lewis et al., 1986, p. 815).

Ibn al-Jawzī, 'Abd al-Rahmān B. 'Alī B. Muhammad Abu'l-Farash, Arab jurist and historian, born in Baghdad in 1126 and died in 1200. His *Kitāb al-muntazam* covers the period from 871 to 1179 (Lewis et al., 1986, pp. 751-752).

Ibn Butlān, al-Mukhtār B. al-Hasan B. 'Abdūn B. Sa'dūn, Arab Christian physician, died in 1066. His book *Takwīm'al-şihha* (*The Maintenance of Health*) covered the issues of hygiene and dietetics (Lewis et al., 1986, pp. 740-742).

Ibn Hawkal, Abu'l-Kāsīm B. 'Alī al-Naşībī, Arab geographer, born in Nisibis. He travelled to Caspian Sea region, Egypt, Africa, Spain, and Sicily between the years 943 and 973. His famous book *Kitāb Şūrat al-ard* (*The Face of the Earth*) describes the Islamic countries (Lewis et al., 1986, pp. 786-788).

John Malalas, first Byzantine universal chronicler. His eighteen-book world history covered the periods from the Creation of the world until 565. As an employee in the imperial bureaucracy of Antioch, he spent most of his life in the city and therefore the city of Antioch appears significantly in his work. He moved to Constantinople sometime between 535 and 540 and continued his career in the capital until his death in 570 (ODB, *Vol. 2*, p. 1275).

John Skylitzes, we have very little information about his life. He was born ca.760, died in 817/818. His work *Synopsis Historiarum* covers the period from 811 to 1057, and is considered as a continuation of the historian Theophanes the Confessor's work (ODB, *Vol. 3*, p. 1914).

James of Edessa, bishop of Edessa, born ca.633, died in 708. He mostly wrote in Syriac and his chronicle covers the events up to the year 692 (Guidoboni et al., 1994, p. 436).

John of Antioch, a name referring to two different authors. The first authored a world chronicle from the time of Adam to the first quarter of the seventh century; and the second lived and wrote in the tenth century (ODB, *Vol. 2*, p. 1062).

John of Ephesus, Syriac historian, born near Amida ca.507; died in Chalcedon in 586 or 588. Only the third part of his work *Ecclesiastical History* survives in its entirety and covers the period between 571 and 586 (ODB, *Vol. 2*, p. 1064).

John of Nikiu, seventh-century Egyptian bishop and chronicler. His chronicle covers the period from the Creation of the world until the immediate aftermath of the Arab conquest of Egypt in 684/685 (ODB, *Vol. 2*, p. 1066).

Leo the Deacon, born ca.950 in Kaloe at Tmolo in Asia Minor and died after 992 or 994. His *History* covers the period from the death of the Emperor Constantine VII in 959 to the last year of the Emperor John I Tzimiskes in 976 (ODB, *Vol. 2*, p. 1217).

Libanios, Greek orator and rhetorician, born in Antioch in 314 and died ca.393. His works provide useful information on different aspects of life in Antioch, especially his encomium *Antiochikos (Oration 11)* which was written sometime between 356-360 (ODB, *Vol. 2*, p. 1222).

Livy, Latin historian, born in 59 B.C., died ca.A.D. 17. He wrote a 142-volume monumental book, *Ab Urbe Condita (From the Founding of the City)*, on the origins of the Roman period and covers the period until 9 B.C. (according to some scholars A.D. 9) (Guidoboni et al., 1994, p. 438).

Marcellinus Comes, sixth-century Latin chronicler. His chronicle considered as the continuation of Saint Jerome's work and covers the period from 379 to 518, with a later addition down to 534 (ODB, *Vol. 2*, p. 1296).

Marcus Vitruvius Pollio, Roman architect, born ca.80-70 B.C., died after ca. B.C. 15 He is best known for his work entitled *De Architectura* (URL-41).

Matthew of Edessa, Armenian historian who lived in Edessa (modern Şanlıurfa). His *Chronicle* begins in 952 and extends to 1136. As an eyewitness, he provides valuable information on the events of the Crusades in early twelfth-century Edessa (ODB, *Vol. 2*, pp. 1316-1317).

Michael Glykas, served as an imperial secretary under the Emperor Manuel I Komnenos (1141-1180), involved in a conspiracy against the emperor in 1159, and blinded. In addition to his theological works, he is the author of a universal chronicle covering the period up to the death of Alexius I Comnenus in 1118 (ODB, *Vol. 2*, pp. 855-856).

Michael the Syrian, Syrian historian, born in Melitene (modern Malatya) in 1126 and died in 1199. He was the Jacobite patriarch from 1116 onwards. His twenty-one volume *Chronicle* covers the period from the Creation of the world to the year 1195 (ODB, *Vol. 2*. pp. 1362-1363).

Misopogon (or *Beard-Hater*), written by the Emperor Julian the Philosopher (361-363) during his stay in the Antioch; includes information on the events occurred in the city and his personal experiences (ODB, *Vol. 2*, p. 1079).

Notitia Annorum 712-716, short notices in Syriac, written following the narrative of a polemical debate held on May 9, 639 between the Jacobite Patriarch John I and the Muslim emir Umar ibn al-Khattab (Guidoboni et al., 1994, p. 440).

Plato, ancient Greek philosopher, born ca.429 B.C. and died in 347 B.C. (ODB, *Vol. 3*, pp.1683-1684).

Polybius, Greek historian, born ca.202/200 B.C., died ca.120/118 B.C. His forty volume work the *Histories* covers the period 264-146 B.C., and only first five volumes have survived (Guidoboni et al., 1994, pp. 442-443).

Prokopios (of Caesarea), sixth-century historian who was born at Caesarea in Palestine. Among his works; the *Wars* consists of eight books and celebrates Byzantine triumphs over the Persians, Vandals and the Ostrogoths; the *Buildings* praises Emperor Justinian's (527-565) building activities and contains essential information on the architectural and social history of the empire; and in the *Secret History* he reshapes his narratives against Justinian, the Empress Theodora and other principal figures of the emperor (ODB, *Vol. 3*, p. 1732).

Saint Jerome (Eusebius Hieronymus), saint, born in Stridon in Dalmatia in 331 or ca.348; and died in Bethlehem in 420. He translated the Bible into Latin as well as Eusebios of Caesarea's *Chronicle* from Greek up to the year 378 (ODB, *Vol. 2*, p. 1033).

Saint John Chrysostom (Golden Mouth), born in Antioch in the mid-300s and died in Komana in 404. He lived in Antioch until he was appointed as the Patriarch of Constantinople (398-404). His works provide critical information on the social and ecclesiastical life of Antioch, and on the topography of the city (ODB, *Vol. 2*, pp. 1057-1058).

Saint Symeon the Younger, saint, born in Antioch in 521, died in 592. At the age of seven he became a stylite, and in 541 he moved to the Wondrous Mountain where a

pilgrimage center grew up around his pillar and he stood on it until his death. The Lives of Symeon and his mother Martha have been translated into French in two volumes by P. Van den Ven, *La Vie Ancienne de S. Syméon Stylite le Jeune*, vol.1, (Brussels: Société des Bollandistes, 1962); vol.2, (Brussels: Société des Bollandistes, 1970) (ODB, *Vol. 3*, pp. 1986-1987).

Patria of Constantinople (or *Scriptores Originum Constantinopolitanarum*), tenth-century collection of written sources dedicated to the history and monuments of the city of Constantinople (ODB, *Vol. 3*, p. 1598).

Severos of Antioch, born in Pisidia ca.465, and died in Egypt in 538; Bishop of Antioch from 512 to 518. He wrote in Greek, but none of his works in Greek survived; his works were preserved in Syriac translation (ODB, *Vol. 3*, pp. 1884-1885).

Sokrates (Scholastikos), ecclesiastical historian, born in Constantinople ca.380, and died after 439. His seven-volume work *Church History* covers the period from the abdication of the Emperor Diocletian (284-305) in 305 up to the year 439 (ODB, *Vol. 3*, p. 1923).

Souda, is a lexicon probably from the mid-tenth century which includes a compilation of rare words, grammatical forms, proverbs, places, institutions and so on (ODB, *Vol. 3*, pp. 1930-1931).

Sozomenos, jurist and ecclesiastical historian, died ca.450. His work *Church History* covers the years between 324 and 425. Dedicated to the Emperor Theodosios II (408-450), Sozomenos's book is considered as the continuation of Eusebios of Caesarea's work (ODB, *Vol. 3*, pp. 1932-1933).

Strabo, Greek geographer, born in Amaseia ca.63 B.C. and died ca.A.D. 21 or 23 or 26. *Historical Notes* and *Geography* are his important works and the sixth century palimpsest copy of the latter contains books 8-17 (ODB, *Vol. 3*, p. 1961).

Synaxarium Ecclesiae Constantinopolitanae, probably compiled in the tenth century, it informs the reader about daily commemorations in the city of Constantinople, and the places where these commemorations took place (ODB, *Vol. 3*, p. 1991).

Tabula Peutingeriana (The Peutinger Table), which shows the ancient world from the east of England and the Pyrenees to China. It includes drawings of many types of different buildings (ODB, *Vol. 3*, pp. 2004-2005).

Theodoret of Cyrrhus, Christian writer, born in Antioch ca.393 and died ca.466. Among his many works *Religious History* is important for consisting biographies of thirty monks of the Syrian monasticism of the fourth and fifth centuries. He was the bishop of Cyrrhus from 423 onwards (ODB, *Vol. 3*, p. 2049).

Theophanes the Confessor, historian and saint, born in Constantinople ca.760 and died in Samothrace in 817/818. His chronicle covers the period 284 to 813 (ODB, *Vol. 3*, p. 2063).

Theophylaktos Simokattes, civil servant and writer, born in the late sixth century in Egypt. His eight-volume book *History* covers the reign of Emperor Maurice (582-602) (ODB, *Vol. 3*, pp. 1900-1901).

Typikon of the Great Church, is the liturgical ordinal of the rite of the Church of Saint Sophia in the city of Constantinople, and provides important data for the liturgical practice of the city in the late ninth and early tenth centuries. Being the earliest complete liturgical typikon of the Byzantine rite, it gives information on the church services held each day (ODB, *Vol. 3*, pp. 2132-2133).

Walter the Chancellor, Antiochene official, wrote a contemporary account for the period 1114-1122. His Latin work *Bella Antiochena* (*the Antiochene Wars*) is the most detailed work on the early Latin settlement in the region (Asbridge and Edgington, 1999, pp. 1-4).

William Archbishop of Tyre, born in Jerusalem in 1130 and died in 1186, Archbishop of Tyre for the period 1127-1135, native of the city of Jerusalem. His Latin work *Historia rerum in partibus transmarinis gestarum* (*History of the Deeds Done Beyond the Sea*) covers the history of the city until 1184 (ODB, *Vol. 3*, pp. 2197-2198).

Yahyā-Ibn-Sáïd al-Antākī (or Yahyā of Antioch), Arab Melchite author, died ca.1066. He immigrated to Antioch in 1015 as a result of the caliph al-Hakim's persecutions in Egypt. While he was living in Egypt, he started working on Eutychios's *History*. His work the *Continuation* began in 938 and covered the period until 1034. The work mostly concentrates on Byzantine Syria and Egypt, and provides social, ecclesiastical, economic and political information, and his perspective on the events (ODB, *Vol. 3*, p. 2213).

Yākūt al-Rūmī, Shihāb al-Dīn Abū 'Abd Allāh Ya'kūb B. 'Abd Allāh al-Hamawī, geographer and historian, born in Byzantine territory in 1179, and died in 1229. He was taken captive at the age of five/six and was sold to a merchant living in Baghdad. He traveled to various places while working for his master and after gaining his freedom he continued to do so. His work *Mud'jam al-buldān* (*Dictionary of Countries*) is an informative source for the toponymy of the Arab world (Bearman et al., 2002, pp. 264-266).

Zacharias of Mitylene (Zacharias Rhetor or Scholastikos), born in Gaza ca.465/466, and died after 536. His work *Church History* was composed in Greek and covers the period between 450 and 491; probably composed ca.492-495. The work survived in a Syriac epitome (ODB, *Vol. 3*, p. 2218).

Zosimos, fifth and sixth-century historian; his *Historia Nova* covers the events in the late Roman era down to 410 and was probably written ca.501 (ODB, *Vol. 3*, p. 2231).

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