Sasanian Urbanism and the Arab-Muslim Conquest

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Summary

The purpose of this dissertation is to present an updated and broader understanding of urbanism during the Sasanian Empire and how this evolved after the Arab-Muslim conquest. This will be achieved through an analysis of urban spaces and provides an additional perspective on the current state of knowledge. Thus, the focus of this study is on urban spaces and how they were affected by changes in religion and prevailing power. A functional approach is used to identify the specific urban features that may indicate such cultural change. Using case studies and through an integration of GIS technology with historical sources and archaeological data, the dissertation presents an analysis of some of the underlying processes that led to the visible changes in urbanism in the regions of the Sasanian Empire after the Arab-Muslim conquest. The achieved results add nuance to both our conception of Sasanian cities and the current understanding of historical and cultural changes in urban spaces.

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'L'uomo che viaggia e non conosce ancora la città che lo aspetta lungo la strada,
si domanda come sarà la reggia, la caserma, il mulino, il teatro, il bazar.
In ogni città dell'impero ogni edificio è differente e disposto in un diverso ordine:
ma appena il forestiero arriva alla città sconosciuta e getta lo sguardo
in mezzo a quella pigna di pagode e abbaini e fienili, seguendo il ghirigoro
di canali orti immondezzai, subito distingue quali sono i palazzi dei principi,
quali i templi dei grandi sacerdoti, la locanda, la prigione, la suburra.'

Italo Calvino, *Le Città Invisibili*

'The ideal Indian city is orientated in the direction of the cardinal points of the compass.
Each city is surrounded by a wall, inside of which a citadel is located. Outside
the wall there is a moat. Generally there are four city gates, one in the middle of
each of the four sides. Inside the walls and adjacent to them, wide streets circle the
city. In addition there are two broad streets, which connect the opposite gates of the
city. They cross each other in the centre of the city, where there is a temple or a hall
for the inhabitants to congregate. Thus the city is divided into four quarters each of
which is again further divided by lanes. Along the two main streets which cross in the
centre there are houses, on the ground floors of which are shops. The rest of the city
consists of living quarters.'

(*Manasara* [tr. Shukla 1938: vol.I, 247–8], cited from Gaube 2008: 177).

Acknowledgments

This dissertation represents the culmination of several years of dedicated work. At first, I thought that cities were a topic like any other. However, as years and personal reflections passed by, I realised that that was not the case. As I lived and visited different cities, I realised that I am a very much dedicated city dweller. Evidently, cities mean to me something personally, and I discovered myself being more and more fascinated by the urban phenomenon.

Since I embarked on this journey in September 2019, many aspects of the dissertation's concept, as well as various facets of my professional and personal life, have evolved significantly. Expressing gratitude to all the individuals who have contributed, directly or indirectly, to completing this seemingly endless endeavour would be an endeavour in itself.

However, I must extend my heartfelt appreciation to my invaluable supervisors: Eve and Steve. Their unwavering support and guidance have been immeasurable, and much of the credit for the positive aspects of my dissertation rightfully belongs to them (while any shortcomings remain solely my responsibility).

I also extend my thanks to Dr Simpson for his insightful comments and our conversations during the first periods of COVID. The pandemic coincided with the first year of the PhD, and I was able to use the lockdown period productively rather than abandon myself to Netflix binge-watching sessions also thanks to his support, of which I am very grateful. Drafts of chapters 1, 4.1, and 4 saw the light during these few months.

The field mission in Oman played a pivotal role in anchoring me to the academic dimension of my life and facilitating the rapid completion of chapter 3. I am deeply grateful to Seth, Eve, Dato, Tata, Vlad, Vlad, Mark, Ibrahim, and, last but certainly not least, Roz. Similarly, the panels at the International Medieval Congress organised with Sean, and the friendship it spurred from it, helped me to keep the needed discipline in writing this dissertation.

Explanatory Notes and Format:

During my academic (and professional) journey, I have cultivated a keen appreciation for precise definitions. In the realm of heritage professions, (although I believe this issue is pervasive across all fields), misunderstandings often arise, leading to uncomfortable situations. The challenge might be exacerbated in instances like this dissertation, where the cultural background of the author differs significantly from that of the majority of readers and is vastly distant from the subjects under discussion. To address and elucidate my terminology choices, I have included a Glossary at the end of this dissertation. The terms marked in italics within the text are provided with their definitions in the Glossary. Additionally, a concise explanatory text for key historical figures, dynasties, and events is mentioned. I have consciously avoided incorporating detailed explanations within the main text to prevent it from becoming overly didactic, opting to include such information in the Glossary instead.

The expression 'western Asia' was used within this dissertation to refer to the area of the modern countries of Iraq, Iran, Qatar, Turkey, Syria, Jordan, UAE, Saudi Arabia, Oman, Lebanon, Egypt, Yemen, Bahrein, Israel, and Palestine. This expression has been chosen over the expression 'Middle East' because this last one remains controversial and ultimately is founded in the twentieth-century western geopolitics. It is acknowledged that the expression 'western Asia' is similarly limited and flawed due to the flattening of so many cultures within the same geographical umbrella. However, I consider a flawed expression to be less biased and hence preferable compared to one bearing a colonialist nuance. I would like to take this space to point out that creating or choosing a better expression is necessary.

Capitalisation of 'western' and 'eastern', especially in relation to the Asian continent, would have been a continuation of that Orientalism which still affects us all. Language and expression of languages with 'hidden meanings' can be found not only in the choice of terms but also in capitalisation decisions. I decided to embrace the 'lowercase movement'[1] trending within the 'gen z' and choose to avoid capitalising 'east and west' to make these

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[1] However, this movement originated in the 1970s, with the feminist writer and thinker bell hooks, who decided to have her pen name in lowercase to turn away the feminist movement and collective's ideas from the individual.

words more, by default, neutral, and unmarked. However, this meant not capitalising 'north Africa', for the sake of coherence.

The term 'Jāhilīyah' is used by Muslims as a derogatory term to define the period preceding Muhammad's revelation. In chapter 3.2, this term is used to highlight the post-conquest narrative of an ignorant Arabian Peninsula. This narrative, based on religious ignorance, contributed to a biased perception of pre-Islamic people. This perception is reinforced by various stereotypes, such as the image of ignorant tent dwellers conquering the sophisticated marble cities of the Roman Empire. The main aim of that chapter, with its provocative name, is to reflect on these biases and the complexity of pre-Islamic Arabia.

This dissertation mainly focuses on urban spaces rather than on perception and identity matters. Although the inhabitants of these spaces undoubtedly had their own ideas and perceptions of identity, the administrative system they lived under was either of Roman or Sasanian influence. Therefore, these labels are used in this dissertation for practical purposes. For similar practical purposes, the territories under the Sasanian administration had been defined as 'Sasanian Empire' even though the central authority was not an emperor. The term 'Arab-Muslim army' was preferred over 'armies' as the details and debate related to the conquest and military matters were not subject to interest. *Bazaar* and *suq* define a 'marketplace' in different languages so their use depended on the source.

While adhering to UK English and ensuring consistent transliteration within the text, I maintained 'historical purity' by retaining US English and the original transliteration within the quotes. However, neither US nor UK English is my native tongue; and despite all my supervisors' efforts and help, I am confident that some Latin-fashioned and hence syntactically quirky sentences will hit the reader's eye. Cicero would be proud of me, but I do apologise to all the plain-English supporters.

I translated in English all the texts of Islamic authors provided by French translators. I used the IJMES standardised transliteration system for Arabic, Middle and New Persian, and Turkish terms throughout the text – hence diacritic signs are not added to personal names, place names, and titles of books. The format of citations, references, notes, and general formatting comply with the requirements and standards of the Archaeology PhD Programme

at Cardiff University.

The Dates

I would have liked to be as respectful as possible and to place Common Era (CE) first when the text centres on the Sasanians and opt for hijra (AH) as the primary choice when the focus was on Islam. However, that would have immensely distracted the reader – forcing me to choose between clarity and pedantry! Alas, clarity won. For clarity and practicality purposes, the hijra chronology will always place first from 1 AH onwards, while dates prior to that will be exclusively in CE. Precise dates related to archaeological investigations carried out in the last two centuries will be exclusively in CE, which will hence not be specified in the text. All the dates used in the text are as accurate as to the best of my knowledge.

1. Introduction

This dissertation aims to tackle a complex question: how did the cities of the former Sasanian Empire undergo change following the Arab-Muslim conquest? The key aim of this dissertation is to offer an enhanced perspective on the evolution of urbanism during the period of Sasanian rule (224 CE to 29-30 AH/650 CE) and how it changed after the Arab-Muslim conquest of 30 AH/650 CE. A significant objective of this dissertation is to explore the processes of change in urban landscapes in the Sasanian world. In order to achieve this, the introductory chapter outlines the current state of knowledge in the chronological time frame and geographical study area. The period between the fall of the Sasanian Empire and the peak of the Abbasid Caliphate constitutes the main timeframe under examination, focusing specifically on the years from 30 AH/650 CE to 390 AH/1000 CE. However, a discussion on issues related to the establishment of a timeframe will be provided below (chapter 2.6).

The theoretical approach and methodology employed in this research are described in chapter 2. They will serve as the primary dataset, while evidence from the wider region is brought into the discussion where relevant and useful. In chapter 3, the research framework is contextualised within a broad geographical and historical framework, while in chapter 4 eleven cities of the Sasanian Empire will be introduced and the dataset of information related to Sasanian urban spaces is presented. A comparison of urban spaces pre- and post-conquest is discussed in chapter 5. The consequent results were contextualised within the broader historical framework, which implements considerations on the new elements identifiable in the garrisons' foundations and will be exposed in the results chapter (6) of this dissertation. The data collected and the results derived from the analysis of urbanism and its evolutionary patterns serve as a contribution to the wider discourse surrounding the transition of Sasanian territories to the Caliphate.

1.1.   Contextualising the Sasanian Empire

Īrānshahr,[2] meaning the 'Land of Iran', is the term by which the Sasanian Empire is known from at least the reign of Narses (292-392 CE)[3] onwards (Christensen 1944; Wiesehöfer 2001; Pourshariati 2008; Canepa 2009; Daryaee 2009; Canepa 2010; Christensen 2016; Daryaee and Rezakhani 2016; Jackson-Bonner 2020). This empire encompassed a vast territory that can broadly be described as stretching from the Fertile Crescent in the west to the fringes of Central Asia in the east (Figure 1).
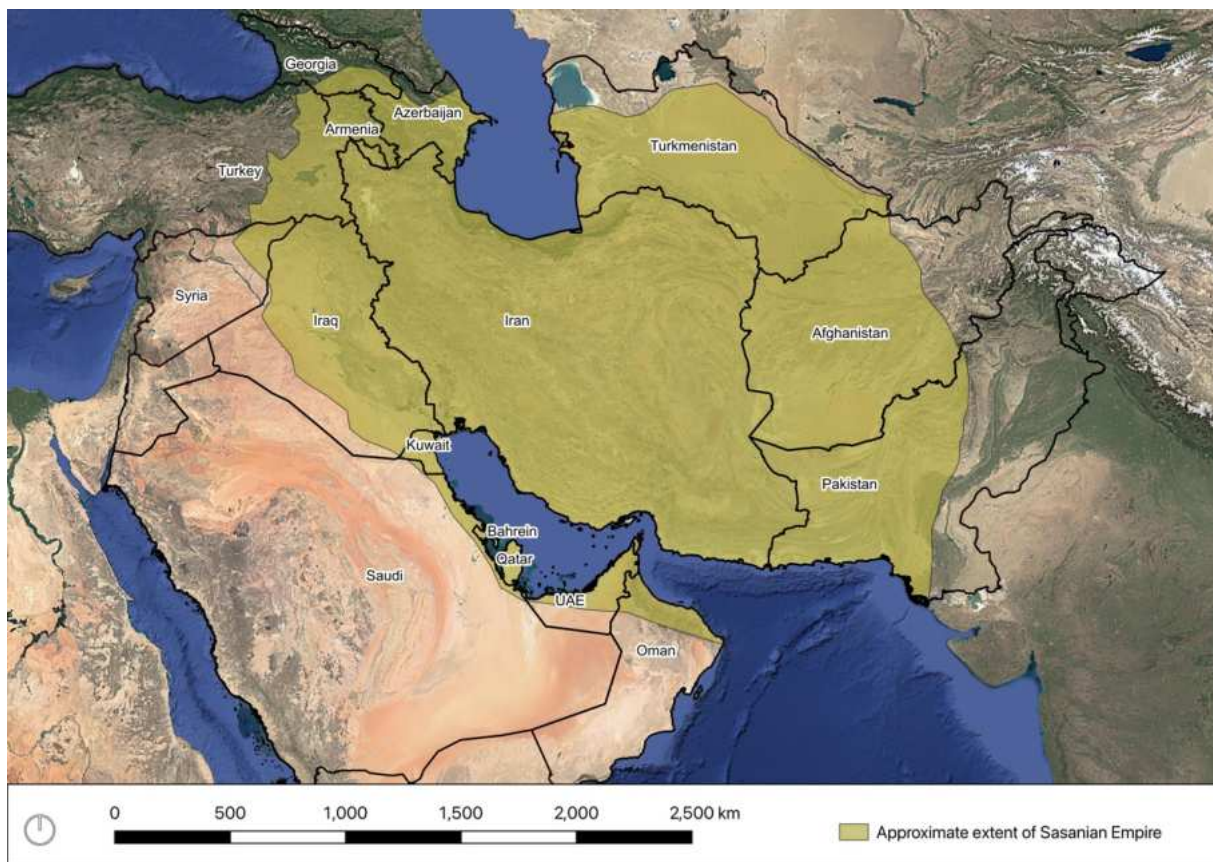
Figure 1. Annotated satellite image showing the approximate extent of Sasanian Īrānshahr around c. 270 CE.[4]

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[2] While the text provides explanations for terms from languages other than English upon their first occurrence, a comprehensive glossary, located at the end of the dissertation, includes explanations for these terms.

[3] In the Glossary, each historical figure is provided with a concise description comprehensive of contextual information.

[4] Unless otherwise stated, all the maps included as figures in this dissertation were created by the author and incorporate satellite imagery as background mapping made available by QGIS software.

The Sasanian kings ruled from c. 224 CE to 29-30 AH/650 CE over a religiously diverse population speaking many different languages.[5] The dynasty connected its origins to a man named Sasan, a (possibly) mythical ancestor whose name has come to represent the whole period of rule. What the features of the Sasanian Empire were and how to recognise which aspects made up a 'Sasanian identity' within a multi-cultural, multi-lingual empire is not straightforward. The problem of identity will be discussed throughout this dissertation specifically when connected to urban features and foundations. Another issue relates to wide gaps in the historical and archaeological evidence (chapter 2).

Moreover, disentangling the house of Sasan's history is particularly complex because of the way that the Sasanian Empire has been so often framed in comparison with the contemporary eastern Roman Empire. This approach tends to have a reductive impact on our understanding of the Sasanian Empire. From c. 500 CE to 9 AH/630 CE, the two powers were almost constantly at war. The mainly Greek-speaking authors who wrote the narrative history of the last two centuries of the Sasanians were largely concerned with these battles. These sources were deeply influenced by literary conventions that embraced the classical Greek narration post-5th century BCE Persian Wars, resulting in a contemporary narrative of never-ending dichotomic rivalry between the two empires. This agenda is discernible in Latin authors, like Ammianus Marcellinus (5.5), who associated Sasanians with Achaemenids, and the Greek authors Cassius Dio (LXXX) and Herodian (6.2).

This historical evidence, influenced by Roman historians, has been retrospectively used by some scholars to construct a Sasanian dynasty that was a monolithic entity. There has been a distinctive trend towards approaching Sasanian history as if it were static. Ever since Christensen published his *L'Iran sous les Sassanides* (1944), the Sasanian dynasty has been described as a centralised polity with no changes whatsoever except for the administrative reforms of the 6th century CE carried out by Khosrow Anushirvan. However, scholarship over the past two decades has shifted this trend, and the reconstruction of the Sasanian Empire's history now encompasses an analysis of a much wider array of sources, as it will be further

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[5] In this dissertation, the term 'kings' is occasionally used to refer to the Sasanian 'King of Kings' (*Shāhānshāh*) to maintain textual fluidity. However, it is important to note that not all Sasanian rulers adopted this specific title.

defined in the following paragraphs.

Figure 2. A fragment of the Bishapur mosaic, held at the National Museum of Iran, Tehran. Photo by the author.

The material evidence consists mainly of inscriptions (Cereti 2010: 289-92), coins (Göbl 1990; Schindel *et al.* 2014), seals (Gyselen 1989), and rock reliefs (Vanden Berghe 1983; Callieri 2014: 163-92). The narrative of the Sasanian Empire focusing only on this evidence is therefore mainly restricted in the first place to the royal house, with some glimpses of the broader elite, whether religious (Callieri 2014: 72-102), aristocratic (Callieri 2014: 39-72), or those involved in the military apparatus (Nemati *et al.* 2019). For this reason, the use of both archaeological and historical evidence is necessary to investigate the cultural, geographical, and religious backgrounds of the population of the Sasanian cities to broaden the understanding of the Sasanian Empire and its people. For example, coinage evidence shows that the mints connected to Ctesiphon and Veh-Ardashir are those that represent undisturbed continuity throughout the whole Empire. This underpins the interpretation of these places as part of a conurbation that functioned as an 'administrative capital' and

highlights the importance of the Asorestan region.[6] Another example extrapolated from more than one set of evidence is the settlement of Roman captives. This event is suggested by archaeological evidence, for instance, the mosaics of Bishapur (Figure 2), as well as historical accounts (*Acts of Pusai* [2, AMS II, 208-9], cited from Dodgeon and Lieu 1991: 163; Payne 2016: 64-72). The movement of people across the diverse populations who lived and died inside the vast empire was a constant throughout the Sasanian period and can be used to illustrate patterns and policies dictated by the elite classes of society.

Comparison of various sets of evidence highlights that different ethnic, linguistic, and religious communities co-existed in Sasanian settlements and cities. While in some regions, Zoroastrianism potentially dominated, there were also East Syriacs and Monophysite Christians, Manicheists, Buddhists, Mandeans, and significant Jewish communities (Duchesne-Guillemin 1962; Boyce 1984; Payne 2016). 'Nestorians', called after the patriarch of Constantinople Nestorius (d. c. 431 CE), were a Christian community following a doctrine that emphasised a distinction between the divine and human nature of Christ (Payne 2016: 14). On the contrary, the Monophysites, also known as 'Jacobites' after the missionary Jacob Baradaeus (d. 521 CE), believed in a single nature of Christ (Kennedy 2007: 8). The Monophysites belonged to the Church of the East, and many lived in the Roman and Sasanian territories presently within the boundaries of modern-day Syria, whereas 'Nestorians' resided in Iraq and the Persian Gulf region (Kennedy 2007: 9; Payne 2016). Ctesiphon was the seat of the east Christian Catholicos (Łazar P'arpec'i [tr. Thomson 1991: 166];[7] Wood 2013: 23), and numerous bishoprics, such as Gondeshapur and Karka-ye Ladan, were located throughout the territory. The acts of the synod, a meeting of 38 bishops who came together at Ctesiphon in 410 CE, also included references to many others who had not been recognised by the signed canons (*The Synod of Mar ʿIshaq* [tr. Birnie *nd*: 5]). The presence of at least 38 bishoprics within the empire's core suggests a fairly widespread tolerance of Christianity (Fiey 1975; Wood 2013: 24).

The persecution of Christians mentioned in Syriac sources such as the *Khuzestan Chronicles*

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[6] Thanks to Dr Nikolaus Schindel's talk 'Sasanian Numismatic' (*Ērān Research Forum. West & Central Asia in the First Millennium CE*. Université de Lille 15-19 July 2024).
[7] This translation has been used throughout the text. Therefore, only the page number of the translation edition will be provided in brackets.

and the *Chronicle of Seert* often shaped the present-day perception of religion during Sasanian times (Wood 2013; Payne 2016: 17-20; Herman 2018). However, Armenian (Eḷishē; Łazar Pʻarpecʻi; *Epic Histories*; Moses Khorenats; Sebeos), Jewish (*Talmud*; Secunda 2010; Elman 2014; Geller 2015; Gross 2024), Manichean sources (Gardner *et al.* 2015), Mandeans (*The Book of Kings and the Explanations of This World*), and the *mowbedān mowbed* (chief priest) Kerdir's bombastic words (Grenet 1990; Gignoux 1991: 17-32; Huyse 1998; Payne 2016: 23-58), reveal more subtle and complex interactions between religions. For instance, East Syrian martyrographic literature identified the *mowbedān* as instigators of persecution rather than nobility or the Sasanian king's authority (Payne 2016: 38). Underpinning these categories is an assumption that religion was the primary category of identity, and this is problematic. Understanding identity in the contemporary world can be nuanced and ephemeral, and the situation is even more blurred when dealing with past populations.

In his research on this 'state of mixture,' a notion related to the Sasanian Empire that had been explored by scholarship in the last twenty years, Payne (2016) argued for a more tolerant coexistence than had been previously appreciated. He offers, as an example, a Talmudic anecdote that implies that a person who paid a poll tax in a town acquired the right and status of a resident (Yev. 17a). Furthermore, the Sasanian monarchy was responsible for property law and criminal justice, while religious canons covered rituals, prohibitions, and daily habits (*Madigan-i Hazar Dadestan*; Payne 2014). Belonging to a particular religion did not necessarily require strict adherence to all its laws and prohibitions, suggesting that spiritual boundaries may have been flexible. For instance, a person identifying as Jewish was not necessarily prohibited from attending Zoroastrian festivals. Another example is provided by the incantation bowls, which served an apotropaic function and depicted a mixture of spiritual entities from diverse religions, languages, and name etymologies. Notably, four incantation bowls found in Nippur were all produced for a man with a Persian theophoric name, but two were inscribed in Jewish Babylonian Aramaic and two in Syriac (Gross 2024: 17-8). This suggests that religious canons were not strictly observed by the lay population, with substantial interactions likely occurring between different religious groups (Gross 2024: 152, 212-3). Tolerant coexistence might have been possible not because of the benevolent wisdom of the Sasanian administration but potentially because matters of identity were far more complex than simplistic religious categories allow (Gross 2024).

Alongside religious identities, Sasanian cities also offered a wide array of social classes. Daryaee (2009) provided a trenchant identification and description of the urban socio-economic groups. The main distinction was between who owned and who did not. Among the latter group are included the poor, the downtrodden, the 'mob,' and the enslaved (Daryaee 2009: 56-8). There is little information on the urban spaces inhabited by the poorer classes. It is assumed that, mostly, they tended not to own property. There are references to servants in a household from legal cases involving slave girls and comments on the status of the children their owners had from them (Daryaee 2009: 58). It can be inferred that slaves inhabited domestic spaces, although the details are impossible to pinpoint due to the limited archaeological and historical data. Historical sources typically focus on the wealthy and privileged social classes, neglecting the less affluent. Archaeological excavations provide scant information about these lower classes, often leaving their existence hidden or half-hidden. Due to the larger availability of information, the scholarship's trend has been that of focusing on privileged social classes. Similarly, the data presented in this dissertation primarily pertains to those who owned property, hence the elite and, to a lesser extent, the industrial and commercial urban classes. However, this does not mean that Sasanian cities were devoid of less privileged people. Reference on social classes and their evolution from Sasanian to Islamic times will be carefully analysed within the dissertation, as the final results are based on the theoretical framework that social forces shape urban spaces (chapter 2.3).

Additional introductory information on the elite is needed, to further contextualise some concepts that will be mentioned in the following chapters. The historical sources mention the *dehqān*, the gentry often owning rural estates known as *dastkart* (chapter 4.9; Tafazzoli 2000: 38-59), and the Parthian elite families, whose members are frequently related to the army. Pourshariati's *Decline and Fall of the Sasanian Empire: The Sasanian-Parthian Confederacy and the Arab Conquest of Iran* (2008) presents a contentious yet valuable study of these families, serving as a stepping stone for the last twenty years of scholarship that has increasingly focused on noble families beyond the Sasanian royal house. Pourshariati proposes that the Sasanian Empire may have assumed political and socio-economic characteristics akin to a confederacy, suggesting that prominent Parthian families (Suren, Karen, Mihran, Ispahbudhan, Spandiyad, and Waraz) granted the Sasanian family the right to rule, with this 'divine right' sustained only by their approval. Although the study's focus and

the question of confederacy lie beyond the scope of this research, these families are significant to urban environments, as each controlled a city that functioned as their main centre of residence and affairs. For instance, Rayy, one of the cities analysed in this dissertation, was potentially the Mihran family's stronghold, at least during the last years of the Sasanian dynasty (Pourshariati 2008). Therefore, the central agency behind some urban planning choices did not solely emanate from the central authority represented by the king; it could also potentially have been associated with members of these elite families. This is further investigated through the analysis of important nobles in relation to construction activities in chapter 4.

An essential facet of the multicultural nature of the Sasanian world and the resulting presence of a diverse array of sources means that these played a role in shaping perceptions of reality and urban spaces. This concept will be substantially elaborated upon and analysed in chapter 2.4. However, it needs to be premised that a certain level of judgment was employed to ensure a balance in addressing biases inherent in the sources. Behind every source, including this dissertation, lies the lens of perceived reality. While some sources have been historically disregarded due to concerns about their reliability, the concept of an 'objective source' stems from centuries of European philosophical thought, starting from Greek philosophy onwards, which aimed for the absolute elimination of the 'subject' to attain a semblance of 'pure truth.' It is essential to recognise the inherent impossibility of achieving absolute objectivity. The notion of perceived history acknowledges that the events documented in a historical source may not necessarily be accurate, but exploring the motivation behind the fabrication can serve as a valuable tool when attempting to reconstruct the reality of the past. This becomes especially evident in the context of urban spaces, as illustrated in instances mentioned within this dissertation. In some cases, the recorded event may not have happened as described, yet the details about the urban environment provided can be considered authentic and contribute significantly to the reconstruction of cityscapes.

In this study, the analysis of urban spaces is the framework for investigating social changes that resulted from the Arab-Muslim conquest. Once a detailed picture of the empire's population, from a diachronic perspective, is obtained, the resulting changes brought about

by the arrival of Islam can be fully assessed. Whenever it was possible to identify ethnic, social, linguistic, and religious differences from the historical and archaeological data, this would be stated in the text, analysed, and problematised accordingly. This will allow a clearer grasp of the modalities used by Sasanian urban society to shape its spaces within the cities and how those spaces shifted and were shaped by external forces.

1.2.   al-Fatūḥāt al-Islāmiyya

> *'And all Ērānšahr will fall into the hand of those enemies.*
> *And Anērān and Ērān will be confounded,*
> *so that the Iranianness will not be distinguished from non-Iranianness;*
> *those who are Iranians will turn back to foreign ways.'*
> *Jamasp-Namag* (tr. Bailey 1930: 56).

The Arab-Muslim conquest has been extensively researched and discussed by modern scholars (i.e., Donner 1981, 2010; Morony 1984, 2012, 2013; Crone and Hind 1986; Kennedy 1986, 2007; Noth 1994; Hoyland 2001, 2015; Yarshater 2009). The exact dates are still debated as it was an ongoing process varying in the different regions but partly coincided with the period known as the Rashidun Caliphate (11-40 AH/632-61 CE). This transitional period was marked by the leadership of the first four Caliphs, who were pivotal in the Islamic conquests and the initial establishment of social and cultural frameworks. The Caliphate was then held by the Umayyad dynasty (40–132 AH/661–750 CE), which advanced the Islamisation process further. Following the Umayyads, the Abbasid dynasty rose to power (132-656 AH/750-1258 CE), which, while beyond the chronological scope of this dissertation, were patrons of arts and literature and, hence, many of the available primary sources stem from this period.

A good, although possibly outdated, summary of earlier perspectives on the Arab-Muslim conquest is provided by Morony (1984: 5), who categorised them into two main approaches. The first explanation is the 'heterogenetic' approach, which implies that the reasons for the victory rested on multiple external influences and thus views the Arabs as submissive 'borrowers' from the conquered civilisations. On the other hand, the 'orthogenetic' approach

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consists of a single source evolution through the requirements of Islam. One of the main underlying causes that have been highlighted more recently in modern scholarship is the house of Sasan's loss of power, resulting in the factionalism and division which characterised the late Sasanian period and the Roman Empire (Pourshariati 2008; Rezakhani 2020). Other studies, such as Hoyland (2015) and Donner (2010) focused on the effectiveness of the conquest. The task of unravelling the events that unfolded during the conquest and identifying a fundamental cause amidst the variety of events reported by historical sources is beyond the scope of this dissertation. Nonetheless, the source material provides ample evidence on the premise presented and allows for some key observations on how these impact urban spaces, discussed in chapter 5.

The main sources on the Arab-Muslim conquest consist of the *futuh* narratives such as al-Baladhuri's *Kitab Futuh al-Buldan*, the Persian and Arabic sources influenced by the *Khudai Namah* tradition, like al-Tabari's *Taʾrikh al-Rusul waʾl-Muluk* and the *Khuzestan Chronicles*, and Armenian and Syriac sources (Shahbazi 1990; Noth 1994; Kennedy 2007: 12-33; Pourshariati 2008: 166ff; Donner 2010: 91-2; Cereti 2010: 294; Jalalipour 2014: 5). While the *futuh* narratives are mostly dated to the Abbasid period (132 to 656 AH/750 – 1258 CE), the earlier Armenian and Syriac historical texts offer a more contemporary, but non-Arab view (Hoyland 2015: 2). Given the religious differences, sources from Armenia and Syria described and interpreted the *umma* (Islamic community of Believers) and its actions in accordance with regional and religious biases. Although the conquerors were not perceived as substantially worse than the former rulers, they were not welcomed in all sources. For instance, the Armenian Sebeos writes negatively about the conquest:

> *'Now [the Arabs] took the entire treasury and returned to Ctesiphon, taking the inhabitants of the cities along too. And they pillaged the entire country.'* (tr. Thomson and Howard-Johnston 1999: 127-8).[8]

The Syrian sources are more complex. For instance, the Monophysites in Roman Syria welcomed the arrival of the Arabs as saviours from Roman persecution (Kennedy 2007: 66-8). An interesting and potentially ambiguous point of view is included in *A Short Chronicle*, which says,

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[8] This translation has been used throughout the text. Therefore, only the page number of the translation edition will be provided in brackets.

'Now the triumph of the sons of Ishmael, who prevailed over and subjected these two strong kingdoms, was from God. But God did not yet let them rule Constantinople, because victory is his.' (tr. al-Ka'bi 2016: 108).[9]

An exercise in balancing the drawbacks is necessary. By the time of the *futuh* narratives, the recollection of the conquest is more fixed and, as Hoyland (2015: 1-7) puts it, 'more idealized and one-sided.' On the other hand, the contemporary sources offer a clearly biased view. For this reason, a more detailed insight into the issues related to the different agendas of historical sources is provided in chapter 2.4. This also includes the Persian and Arabic sources' preconceptions and retrospections, which can be found in their narratives. Moreover, since many Iranian cities revolted after the first conquest, forcing the Arab-Muslim army to reconquer them, the events in the *futuh* narratives are not always recorded in a straightforward chronology (Jalalipour 2014). It is conventionally believed that the first wave of conquest occurred between 11 AH/632 CE and 13 AH/634 CE. Many revolts were reported in 30-1 AH/650-1 CE, when the last Sasanian king, Yazdegerd III, died. The death of Yazdegerd marked a watershed moment and is considered the final year of conquest (Donner 1981, 2010; Morony 1982, 2012, 2013; Kennedy 1986, 2007; Noth 1994; Yarshater 2009). The main strategy used here is to achieve a more rounded account of the conquest and its aftermath that consists of analysing the historical sources as well as archaeological evidence.

Key questions posed by scholars are how and why the conquest was so quick, permanent, and successful (Gabrieli 1968; Donner 1981; Kennedy 2007; Yarshater 2009; Daryaee 2010a; Donner 2010; Morony 2013a, 2013b; Rezakhani 2020). Several interrelated factors appear to have triggered the fall of the royal house of Sasan. Without referencing in detail that the Sasanian establishment's abuse of power led to dissatisfaction among the population, Yarshater (2009: 6-9) points to rivalry among the noble families and heavy taxes. However, he thinks that the main reason was related to the natural exhaustion of dynasties that rise and fall cyclically. Recent scholarship is growing the consideration of the rivalry between families and their involvement in the final wars of antiquity. It was recently pointed out how little information is available on the aristocratic houses of Suren, Karen, Mihran, Ispahbudhan, Spandiyad, and Waraz (Pourshariati 2008; Sárközy 2015). These elite families held enough

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[9] This translation has been used throughout the text. Therefore, only the page number of the translation edition will be provided in brackets.

power to threaten the ruling Sasan family, as suggested by the succession of usurpers and powerful generals from these families during the last years of the dynasty (Pourshariati 2008; Sárközy 2015).

Nevertheless, it is useful to emphasise that usurpations and rebellions involving members of these families, for instance, Bahram Chobin of the Mihran family and Vistahm Ispahbudhan, happened some years before the Arab-Muslim conquest. The analysis of coins suggests that some efforts were involved in the minting process as part of usurpations (Daryaee 2015). For instance, Vistahm Ispahbudhan minted in the territory under his control, which was the quarters of north and east – i.e., *kust-i ādurbādagān* and *kust-i khwarāsān* (Valentine 1921: 61; Christensen 1944: 447; Pourshariati 2008: 133). Although the usurpers and powerful generals born and raised in noble families were not the only reason for the end of the Sasanian dynasty, surely, they undermined the ruling house's power. According to some scholars, other yet unconfirmed features were added to this frame, such as the disintegration of the rural economy in the Diyala region after the Tigris shifted, an event which led to swamps and salinisation of fields (Adams 1965: 82). A different hypothesis is based on the disastrous effects of the Dhu Qar battle, which put an end to the long-standing Arab Nasrid alliance with the Sasanians in c. 603 CE (Munt 2015: 464). Scholars have been unable to agree because of the complexity of the situation, which means there might not be one explanation. A key factor contributing to this complexity is the length of time over which the Islamisation process unfolded, as well as the geographical variations involved. For instance, it took almost a century for the Arab-Muslim conquest to make a lasting impact on the Persianate culture and the Persian people. At first, it was in big cities like Rayy (Tehran) and Gayy (Isfahan) that the new Arab rulers consolidated power and influence, while throughout the rest of the country, the conversion process was slower (Minorsky 1938: 624).

Some sources described the Arab-Muslim conquest as a violent event. Noteworthy is the Armenian Sebeos' description quoting the biblical Daniel's prophecy on the four beasts representing the four kingdoms that would have arisen,

> *'Now the fourth beast was awesome and dreadful with teeth of iron, and claws of copper. It would eat and devour then stomped the residue with its feet. The fourth beast will come to possess a kingdom greater than any kingdom, and will devour the entire world.'* (tr. 136).

This fourth emerged from the 'south,' and Sebeos identifies it as representing the Ishmaelite kingdom.

Although described as a violent bloodshed also by Thomas the Presbyter, the archbishop of Jerusalem, Sophronius, and Anastasius of Sinai (Donner 2010: 106-7), the archaeological record has revealed little evidence of this destruction. Jalalipour (2014: 14) pointed out that Islamic sources never mention the unprompted killing of Christians, but the conquest appears to have descended into violence, especially whenever people refused to pay the *jizya*, a tax imposed on non-Muslims. Despite the mention in historical sources of plundering and raiding and the descriptions of great battles on open fields, Donner (2010: 116) argues that no major cities were involved. Furthermore, the 'violent conquest model' is hardly adequate for explaining the gradual process of assimilation. Perhaps this is because the conversion and evolution of Islamic institutions occurred at different times (Bulliet 1979: 3). Islamisation was the process occurring between the conquest and the existence of a unified Islamic society. Since there were cultural exchanges, this process can be appropriately described as a metamorphosis rather than a symbiosis or, even better, as acculturation (Bosworth 2009: 31). Acculturation is the term used to describe the 'process of change in beliefs or traditional practices that occurs when the cultural system of one group displaces that of another' (definition by Merriam-Webster Dictionary). However, a substrate of beliefs and traditional practices labelled as belonging to the broader 'Persianate world' survived and were the base of a 'Persianate renaissance,' and the Islamic society did not 'displace' the previous one.

The material evidence uncovered through archaeological excavations suggests that the cultural gap between the late Sasanian and early Islamic periods may not be as significant as previously assumed. Many ceramics and glass objects discovered during this transitional period belong to the same typological groups (Morony 2013a: 976). However, this observation holds true primarily for the 1st AH/7th CE century. By contrast, the pottery and glass styles from the 2nd AH/8th CE century exhibit notable differences from those of the Sasanian period (pers. comm. Dr. St John Simpson). Nonetheless, the survival of *Īrīh*, meaning 'Iranianness,' confirms that the conquest did not mean erasing a civilisation with the consequent rewriting of another. Kennedy (2009: 13) points out that Iranian elites' self-

conscious maintenance was responsible for their survival. There is reason for speculation, especially when considering the complete loss of identity among the Roman-Egyptian elite (Kennedy 2009: 19). It is worth noting that pre-Islamic history held no place in Syria, Egypt, or Spain, whereas in *Īrānshahr* it was even integrated into the classical Arabic tradition (Kennedy 2009: 22). There were some Syriac chroniclers who traced the roots of their churches back to pre-Islamic times, but not with the same intensity detectable in Iranian sources (Kennedy 2009: 27). Evidence suggests that, politically speaking, the Pahlavi domains and Parthian power over eastern and northern territories remained largely intact throughout the Rashidun Caliphate and the Umayyad period, despite the collapse of the kingship of the house of Sasan (Pourshariati 2008: 5).

After examining the context and limitations of the Sasanian Empire during and following the Arab-Muslim conquest, this dissertation will briefly assess the effectiveness of the conquest itself. The term itself highlights the two key components of the process: Arab identity and Islamic religion, which are considered as distinctive elements by Hoyland (2015). Donner (2010: 218) highlights that, at the time of the conquest, an 'Arab' identity is based on the common language more than on a political vision. However, this dissertation will merge these elements under the broad term of 'Islamisation', as the focus is on other themes, such as the significance of regionalism, which is evident in the process of Islamisation and its underlying reasons. For example, while a Zoroastrian stronghold was located in southwestern Iran— the same region that later witnessed the emergence of the Persianate Renaissance— areas such as Khorasan were marked by religious pluralism, where Islam became appealing due to its association with political power and the elite (Hoyland 2015: 208). Another key factor to consider is the significance of the Arab language as the administrative and elite lingua franca. In this regard, the key was the previous extent and nature of Arab immigration. In regions such as Iraq, Syria, and Egypt, there was already a degree of familiarity with Arabic (Hoyland 2015: 216).

Islam as a religion was undoubtedly a fundamental component of the Islamisation process and, by extension, of the success of the Arab-Muslim conquest. Another significant factor was the inter-confessional environment, which made the new faith appealing to diverse religious communities (Donner 2010: 111; Daryaee 2013: 94; Hoyland 2015: 220–21). This

was also possible thanks to the process of linking biblical monotheistic tradition to Arabia (Hoyland 2015: 225). Legal and judicial considerations also played a role: the legal traditions of the Roman and Sasanian empires remained influential and were subsequently adopted and reinterpreted by Muslim scholars (Hoyland 2015: 224). Nevertheless, the strength and effectiveness of the conquest were also tied to its nature as a *process*—one that unfolded gradually over several years, as will become evident under the Abbasid dynasty. This dissertation examines the process of Islamisation in relation to the long-term phenomenon of urbanisation. It is therefore situated within a historiographical approach that focuses on the perception and interpretation of historical processes.

Distinguishing the programme of the second Islamic dynasty, the Abbasids, from their predecessors, the Umayyads, is necessary. The Abbasids attempted to establish an Islamic state with all their efforts (Kennedy 1986: 205). Despite this, they ultimately failed to have a unified Caliphate, as evidenced by the rise of different dynasties throughout the Caliphate in the 3rd AH/9th CE century (Kennedy 1986: 148-57). Nonetheless, it must be mentioned that the societies ruled by these different dynasties had a broadly similar culture, to the point of being defined as 'an Islamic commonwealth' (Hoyland 2015: 209). At the Abbasid court, New Persian became the lingua franca, and many key features of Sasanian palatial architecture endured, such as the module open arch looking out on a courtyard (*ivān*) plus squared domed room (Callieri 2014: 43-4). Studies that focus primarily on architecture and art emphasise the continuity of Sasanian features during the Umayyad and Abbasid periods, as inferred by all the debates over the palatial architecture and how much the Sasanian tradition influenced the *dār al-Islam* (term used to describe the territories ruled by the Caliph) after the transition (Callieri 2014: 42-3).

To conclude, this dissertation will follow Donner's (2010: 71-3) interpretation, for which the *Qurʾran*'s use of the word for community, *umma,* meant something broader, which somehow included the other monotheistic faiths. Other monotheisms were easily incorporated because Islam did not initially emphasise Muhammad's role as a prophet (Donner 2010: 112). This tolerant, early period of Islam is reflected in much of the Zoroastrian canon, which sought to record and preserve traditions that were not persecuted (Donner 2010: 111; Daryaee 2013: 94; Hoyland 2015: 220-1). This indicates that the Arab-Muslim conquest of

Īrānshahr did not represent a blunt watershed as significant as previously thought. It was not until c. 235 AH/850 CE that Muslims became the dominant urban polity, and, as a result, the cities saw further shifts beyond changes that had already happened in late antiquity.

This dissertation aims to offer an enhanced perspective on this evolution. The data collected and derived from the analysis of urbanism and its evolutionary patterns will serve as a valuable contribution to the wider discourse surrounding the transition of Sasanian territories into the Caliphate. However, the presentation of the methodology and the comparison of the datasets need to be further introduced by a contextualisation of the territories examined here.

1.3.   Geographical context

> '*pad kust ī khwarāsān ... [pad kust ī xwarbarān] ...*
> *ad kust ī nemroz ... pad kust ī ādurbādagān'*[10]

A brief study of regional divisions will be carried out in the following paragraphs, defining the geographical regions of the Sasanian Empire first and the Caliphate later. At its peak, the *Īrānshahr* included modern Iran, Azerbaijan, Armenia, and, as well as parts of Syria, Turkmenistan, Turkey, Iraq, Egypt, Oman, Qatar, United Arab Emirates (UAE), Kuwait, Bahrein, Georgia, Afghanistan, and Pakistan (see Figure 1). The roles of these regions, their borders, and even their names have changed over the centuries. For clarity purposes, this section will first examine the historiography of the geography of the Sasanian Empire, followed by that of the Caliphate.

A factor to consider on the topic of Sasanian regionalisms is the concept of space itself, which was different in Middle Persian, as the word *kust* can refer to both regions and directions. An understanding of the *kust* and their provinces is derived and interpreted

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[10] In the quarter of the northeast... [In the quarter of the southwest] in the quarter of the southeast... in the quarter of the northwest. See introduction of the *Shahrenstaniha-i-Eranshahr* (tr. Daryaee 2002: 8).

thanks to the study of inscriptions and seals (Gyselen 19898, 2001, 2007; Miri 2013). Hence, the study of Sasanian geography is tightly correlated to the study of the administrative apparatus. Regionality is impossible to discern without considering administrative differences as well as consistency and how these have changed over the centuries. Each region had its administrative and geographical features that influenced urban spaces. As a result of the geographical position of, for example, Adiabene and other regions between the Roman and Sasanian Empires, people of different faiths cohabited in multi-cultural cities. Churches were more noticeable in these cities than in Media and Fars, suggesting that religious spaces differed between regions (see chapter 4.5). Another example is the evolution of Maisan cities over the centuries, potentially as a result of a growth in Indian maritime trade (Simpson 2019c). These specific geographical influences will be analysed throughout the dissertation, while this section is dedicated to a description of the baseline and historiographical analysis.
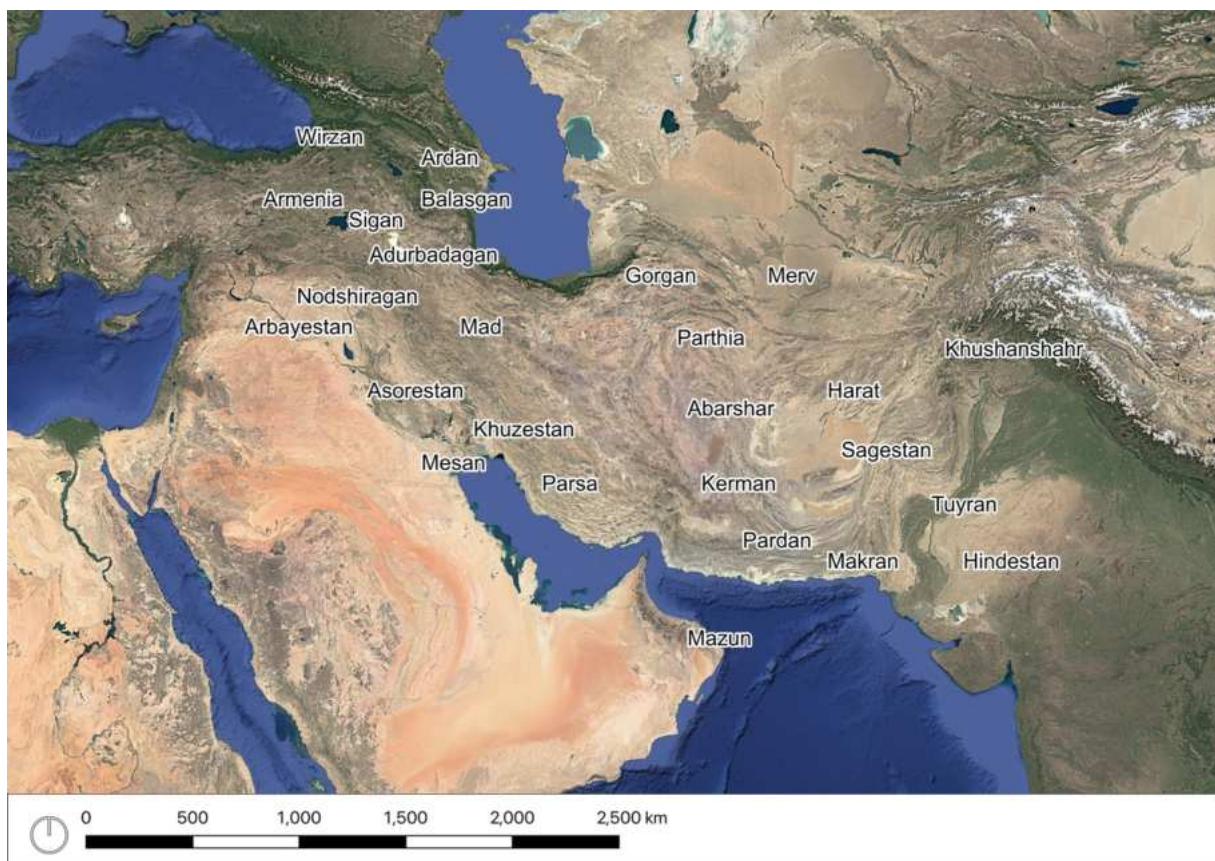
Figure 3. Annotated satellite image showing regions of the Sasanian territory as listed by Shapur I.

Figure 4. Kaʿba-i Zartosht. Photo by the author, view looking southeast.

During the first years of the Sasanian dynasty, the extent of the territory was concisely stated by the dynasty's second ruler, Shapur I (see Figure 3), in his inscription at the Kaʿba-i Zartosht (Figure 4). At that time, c. 262 CE, the empire was distinguished between Iran and non-Iran, and included the regions of Parsa, Parthia, Khuzestan, Mesan, Asorestan, Nodshiragan, Arbayestan, Adurbadagan, Armenia, Wirzan, Sigan, Ardan, Balasagan until the Caucasus and the Alan gates and the whole Elburz (named as Parishxwar), Mad, Gorgan, Merv, Harat,

Abarshar, Kerman, Sagestan, Tuyran, Makran, Pardan, Hindestan, Kushanshahr, and over the sea, the land of Mazun (lines §2-3 [tr. Huyse 1999: vol.1, 22-4]).[11] The regions are referred to as *shahr*, utilising the term commonly employed for provinces.

Figure 5. Paikuli. Photo by Aila Santi.

Another inscription, dated 293 CE and found at the tower-like monument at Paikuli (Figure 5) called Piruz-Anahid-Narses (Cereti and Terribili 2014), was ordered by Narses after overthrowing his nephew Bahram III (Gignoux 1989: 693; Cereti and Terribili 2014). Here, the term *Īrānshahr* had been written for the first time (Lines 9§20, 10§21). Despite multiple references to Asorestan, Mesan, Armenia, Nodshiragan, and Khuzestan, there is no such list of regions as in previous inscriptions. Further, Narses did not underline the difference between Iran and non-Iran in this inscription. The kings who acknowledged Narses as *Shāhānshāh*, king of the kings, are listed, suggesting that regional governors and kings held

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[11] This translation has been used throughout the text. Therefore, only the page number of the translation edition will be provided in brackets.

more power during this period than under Shapur. However, this inscription does not give substantial information related to the geographical conception of the empire at the time.

The Middle-Persian *Shahrenstaniha-i-Eranshahr* was compiled during the late Sasanian period and redacted in the 2nd AH/8th CE century and is considered the main geographical text on Sasanian regions. More than a few clues point to the Avestan tradition's profound influence over the Sasanian view of geography. The division of the world into seven *kishwar* derives from Avestan tradition, as well as the cardinal points themselves. The text offers a snapshot of the regional divisions under the rule of Khosrow Parviz (590–628 CE/6 AH), and as such, it places less emphasis on specific regions and instead focuses on the four *kusts*—the cardinal divisions into which the empire was organised: *kust-ī khwarāsān* 'quarter of the northeast'; *kust-ī xwarbarān* 'quarter of the southwest'; *kust-ī nemroz* 'quarter of the southeast'; *kust-ī ādurbādagān* 'quarter of the northwest.'

The available, and limited, evidence suggests that conceptions of regions and geography were largely shaped by the administrative apparatus. This is particularly evident in the late Sasanian period, as reflected in the *Shahrenstaniha-i-Eranshahr*, which mirrors the regional divisions under the reign of Khosrow Parviz (590–628 CE/6 AH). In contrast, Shapur I's inscription presents a more nuanced perspective: while the enumeration of regions also serves to emphasise the authority of the king of kings, it is closely tied to the context of imperial conquests and the associated obligations of taxation and administration. The fact that Narseh places greater emphasis on the loyal kings may offer another indication of the administrative and fiscal obligations associated with regional governance.

Following the Arab-Muslim conquest, both regions and their perception changed. The aspects of geography and the geographers' perception of the world has been studied exhaustively (Brauer 1995; Miquel 2001; Silverstein 2010; Antrim 2012; Zadeh 2017). This, and the fact that more sources have survived, allows to draw a more up-to-date picture of the geographical perception than during Sasanian times. From the 3rd AH/9th CE to the 5th AH/11th CE century, geographers focused on 'human geography' by analysing the different regions of the Caliphate from an administrative and geographical point of view, as well as incorporating historical and cultural influences (Miquel 2001: 267-330; Antrim 2012: 89). Geographers divided the world either according to the *klimates* of Ptolemaic memory, or

according to the seven circular regions, or *kishwar*, as per the Indo-Persian tradition (Silverstein 2010: 274-6; Antrim 2012: 92). The authors who used this last method, such as al-Biruni, centred the world around the *Īrānshahr*, which consisted of 'Iraq, Fars, al-Jibal, and Khorasan' (Antrim 2012: 92). Silverstein (2010: 275–6) highlights the influence of the *Shahrenstaniha-i-Eranshahr* and other Middle Persian texts on later Islamic geographers. He also emphasises the role of Mesopotamian traditions in shaping Islamic geographical thought, particularly in the adoption of the quadripartite division of the world into four corners and the use of *barīds* as units of measurement (Silverstein 2010: 277-9). An important perspective on Islamic geographers is offered by Zadeh (2017), who highlights the role of the anecdotal as a vehicle for historical knowledge, noting that the geographers' world was one populated by wonders and monsters.
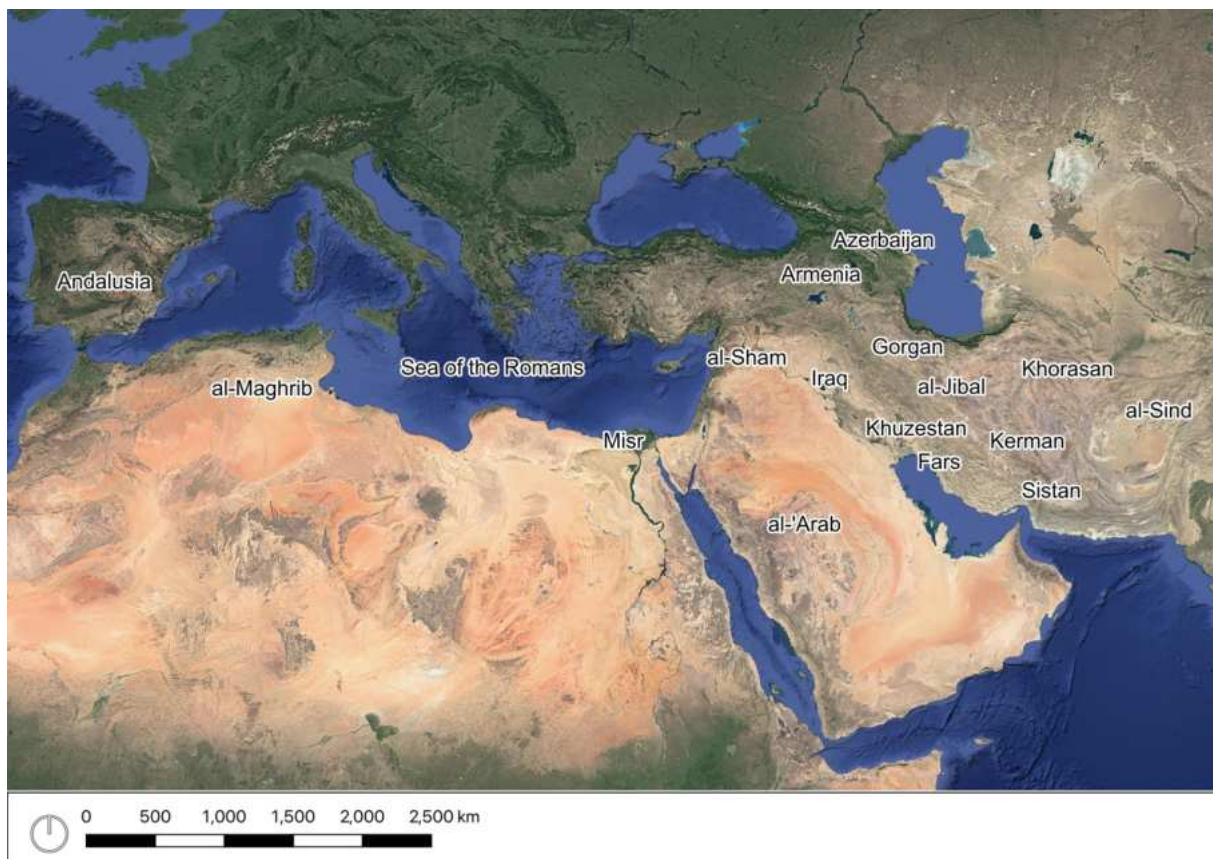
Figure 6. Annotated satellite image showing Abbasid territory (the Mamlakat al-Islam) and regions at its peak.

Moreover, it needs to be premised that a challenging factor in the reconstruction of regional boundaries is that they were likely self-evident to contemporaries. Regarding this topic, Brauer (1995) argues that the neglect of boundaries was a consequence of aspects of the

Arabo-Islamic culture (Brauer 1995: 67). Hence, the main division in the minds of the Muslim scholars was between internal (between two Muslim states) and external (between a Muslim and non-Muslim state) (Brauer 1995: 66). This concept was related to the experience of the travellers and the 'common trade zone' (Brauer 1995: 66).

The subdivision of the *Mamlakat al-Islam* (Figure 6) in this dissertation will follow as closely as possible the Sasanian regions and distinguish Fars, Khuzestan, Khorasan, al-ʿArab, al-Sham, Iraq, Kerman, al-Sind, al-Jibal, Armenia, Azerbaijan, Sistan, Gorgan (Antrim 2018: 22). The geographical characteristics relevant to the discussion of five of the main regions of the Sasanian Empire (Iraq, Khuzestan, Fars, al-Jibal, and Khorasan) will be briefly described as they are going to be recurringly examined through this dissertation and are the locations of the examined cities (Figure 7).
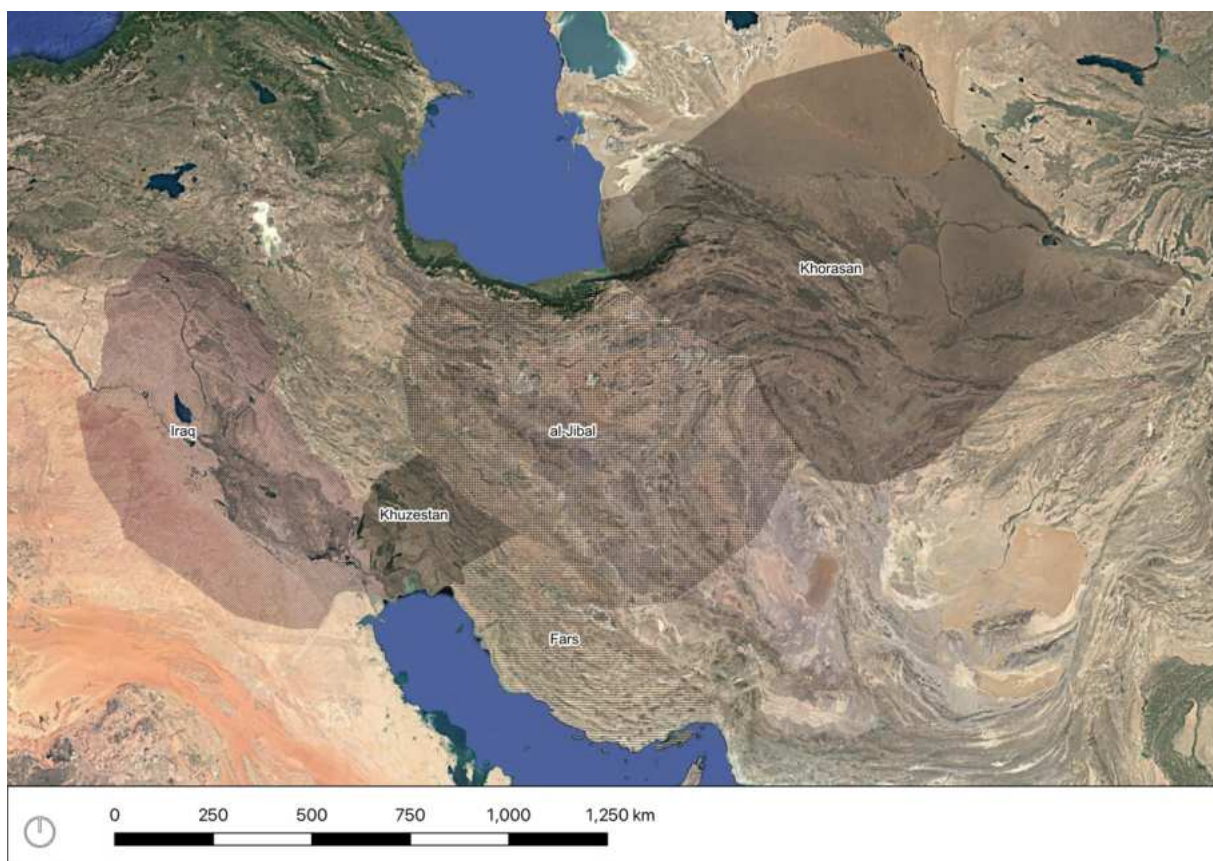
Figure 7. Annotated satellite image showing the approximate boundaries of Iraq, Khuzestan, Fars, al-Jibal, and Khorasan.

The core of the Empire was Mesopotamia, divided into Asorestan to the north and Maisan to the south. It consisted of today's modern Iraq and is part of the area known as the 'Fertile

Crescent' due to the agriculturally rich soil of the region nourished by the Tigris and Euphrates rivers. The geography includes marshlands in the south, fringes of the Syrian desert to the west, and the Zagros mountains to the north and northeast, forming the border with Iran. Although mudbrick was the primary building material, reeds, and other plants were also utilised. Temporary structures might have been plausibly constructed using entangled reeds covered with cloths. Iraq held great importance for the Sasanian Empire as it consisted of the empire's economic and political core. As an interesting aside relating to perceptions of space, al-Baladhuri refers to 'Mesopotamia' as the portion of territory formerly under Roman rule, and to 'al-Awad' and 'al-Iraq' for the areas under Sasanian power. The city of Veh-Ardashir, one of the case studies of this dissertation, is located in this region.

Moving east of Iraq, Khuzestan is historically known as Elam or Susiana. Geographically, this region can be divided into three main areas. Rolling hills and mountainous terrain are found north of the Ahwaz ridge, which slopes down to the plains irrigated by the Karun, Karka, Jarahi, and Maruan rivers. To the south, there are tidal marshes near the Persian Gulf. In terms of climate and topography, the plain south of the Ahwaz River can be considered an extension of Mesopotamia (Christensen 2016: 105). The navigability of the rivers all the way to the Persian Gulf, along with the fertility of the valleys, made cities in this region ideal for producing commodities for long-distance trade (Payne 2016: 41). Khuzestan played a key role during Sasanian times, as imperial investments significantly transformed settlements and subsistence in the area, particularly in the Deh Luran plain (Simpson 2017: 22). Among the case study, Gondeshapur is located in this region.

South of Khuzestan lies the historic Fars or Pars region, often considered the 'cradle of Persians.' Characterised by the presence of the Zagros range, most areas reach altitudes of around 2000 metres. This limestone mountain range has resulted in distinct relief zones. The first division is between the internal (western) and external (eastern) regions. The historical settlement area is in the eastern part, which comprises high basins with altitudes ranging between 1000 and 1800 metres (de Planhol 2000: 316). Due to the abundance of limestone, many monumental buildings were constructed using roughly squared stones held together with *sarawj* mortar. Domestic dwellings were likely made of mudbricks or, in a more

temporary fashion, cloth tents as the climatic variations in the region align well with a seasonal semi-nomadic lifestyle. Darabgerd, Bishapur, Ardashir-Xwarrah, Istakhr, and Qasr-I Abu Nasr are located in this region.

The al-Jibal or Mad province, situated in the northern part of the central Zagros region, is the last territory of this survey, which lies within modern-day Iran. This area is typified by mountainous terrain interspersed with wide valleys, including the foothills of the Elburz Mountain range (Wheatley 2001: 136). Gayy and Rayy are the case study cities located in this region.

Khorasan, the easternmost region, derived its name from 'the land of the sun.' In the Sasanian Empire, it was subdivided into Parthia, Merv, and Abarshar. This expansive territory encompassed a diverse range of geographical environments and climates, including the eastern extension of the Elburz Mountain range and the independent ridge known as Kopet-Dag. It featured the Dasht-i Kavir, a salt desert to the west, while to the south, the highlands known as Kohistan dominated the landscape. In the northern and northwestern regions, sufficient rainfall supported the growth of grasslands and scrub forests. Architecturally, the construction materials employed in this region varied, ranging from timber and wood to traditional mud-clay and mud-brick houses characterised by domed roofs on rectangular spaces (Kleiss 2015: 1). Merv and Nishapur are located in this region.

To summarise, this introductory chapter provided a brief outline of the current state of knowledge regarding the historical and geographical framework. This outline aimed to contextualise the research. It also highlighted the diversity and multiculturalism of the Sasanian territory and identified the overarching chronological and geographical context. The timeframe under examination focuses specifically on the years from 30 AH/650 CE to 390 AH/1000 CE, and the geographical focus regards urban spaces within the wider former Sasanian Empire. The methodology and theoretical framework will be presented in the following chapter (2). The case study cities were selected due to the availability of

archaeological and historical information but also because the inhabitation is mainly limited to Sasanian and Islamic periods (chapter 4.1). The degree of change will be analysed by exploring accessible details on urban features and spaces. The following chapters will hence further contextualise the background framework of the conquest and urban influences (chapter 3) and identify the features of the Sasanian urban landscape (chapter 4). Then, these features will be compared with those of the post-conquest urban landscape, principally but not limited to using a select number of cities after the Arab-Muslim conquest (chapter 5). The upcoming results consist of identifying and assessing the key variabilities and changes involved in the evolution of urban spaces (chapter 6). While seeking answers to the relevant research questions of this dissertation, the analysis encountered another core theoretical question, which will recur throughout these pages and be addressed in the final chapter: what was a Sasanian city?

2. How to identify Urbanism in the Long Term: **Methodological Reflections**

2.1.   What is a city?

Urbanisation in Sasanian times is described as either 'many cultural cities' (Simpson 2017: 43) or typically a 'country town (…) devoid of any pretensions to civic greatness or self-government.' (Kennedy 2007: 99). The problem of understanding Sasanian cities is adequately captured by these two incompatible definitions (Whitcomb 2014: 219-25; Simpson 2017: 1-50). This problem can be partly solved by demonstrating what archaeological and historical evidence suggests about what is a Sasanian city. According to existing archaeological evidence, what can be said about Sasanian cities is quite limited. Urban centres were usually built with mud bricks or rubble, reflecting the available resources and regional materials, using the same regional architectural techniques handed down for millennia (Kennedy 2007: 99). Archaeological and literary evidence documented that two cities were circular and one oval in shape, whereas the rest were rectilinear (Simpson 2017: 43). Most urban areas had fortifications, which explains why surrender negotiations were protracted during the conquest, and elaborate water systems (Simpson 2017: 43; Aubin 2018: 21-38; Rante 2018: 39-76). The main attributes are related to regionalism, and hence, it is challenging to establish the pattern of identifiable features across the diverse Sasanian cities. However, by identifying the elements of regionalism, it will be possible to assess some kind of consensus.

A similar problem is presented when attempting to establish criteria for identifying Islamic cities. Over the past century, scholars have tried to conceptualise some shared characteristics of the Arab-Muslim city. A mosque for Friday worship, a central market with its caravanserais, a plaza often filled with small traders, and a citadel to serve as a garrison (Neglia 2008; Mottahedeh 2018: 477). However, this simplistic view is outdated and fails to consider the historical and social factors that have shaped each city within its regional and

chronological context. For example, citadels are often not associated with an early Islamic date; Erk Kala in Merv, for instance, predates the Islamic period. This dissertation will challenge this perspective by examining whether and to what extent each city is a unique product of its historical and social influences, as well as its regional setting. For instance, although the presence of a garrison was common in Islamic cities, the origin and function of the garrison varied depending on factors such as geographical location, pre-existing settlements, and the era of foundation. A clear definition of urbanism is particularly difficult as in the literary sources *medina* is the basic Arabic word for city, often translated into Persian as *shahr*. However, *shahr* can also be translated as *bālad*, a town or district (Mottahedeh 2018: 468).

Numerous questions revolve around the requirements that define a settlement as a city, village, or town. A modern perception of the variation between rural and urban areas would be quite different from that of an inhabitant of Istakhr during the 5th CE or 2nd AH/8th CE century. Wheatley (2001) used al-Maqdisi to determine the rank of urban centres in a hierarchy. A list and ranking of all cities were carried out by al-Maqdisi based on the information collected during his travels during the 6th AH/12th CE century (Wheatley 2001: xiii). According to this model, settlements are classified by function in three categories based on the role they play:

- A settlement with scattered buildings and the main socio-economical centre more than 5 kilometres away. This is considered a village.
- A settlement where basic socioeconomic functions are provided, including local trade, infrastructure, a small religious focus, and productive centres. During the Islamic period, the religious centre was a key component of the economy and a key part of social life. A settlement is considered a town if it meets all these criteria.
- A city is a larger settlement where the main economic functions have been enlarged by a wide range of trades.

Another ranking of settlements, based on size, was used by Adams (1965) in his survey in Diyala:

- Cities are large, more than 1 square kilometre in size.
- Small urban centres are between thirty and a hundred hectares.

- Towns cover between thirty and a hundred hectares.

Size, however, cannot be used as a ranking factor when a site such as Qaleh Iraj (near Rayy, modern Tehran) is taken into consideration. This large, city-sized fortress measured 175 hectares without the wall and ditch (Nemati *et al.* 2019: 1). As a result, in this dissertation, the categorisation of urban centres will be based on their use and function, regardless of size. However, the third category, as defined by Wheatley (2001: xiii), poses a relative criterion that necessitates comparison with towns and presents challenges in the case of Sasanian cities. As further elaborated in chapter 4.5, religious centres in Sasanian cities often exhibited a rural dimension. To differentiate cities from towns and settlements and considering the emphasis on fortifying urban centres, cities will be defined based on the following features:

- Large, fortified centres. Although vague, the term 'large' is used because this dissertation will consider relative size compared to contemporaneous settlements in the same region.
- Economic functions not reliant on rural-based sustenance, meaning that they feature evidence of economic specialisation beyond agricultural production, i.e. on industrial and commercial activities. This does not suggest that cities do not depend on agricultural surplus but that their internal economy is not primarily agricultural.
- Possession of planned infrastructure in some form.

The definition of urbanism has been extensively studied in archaeological and anthropological literature, with notable recent contributions including Smith's functional approach to urbanism (2016). However, the Sasanian Empire presents challenges due to the limited archaeological data and historical evidence available for its urban centres. Given these constraints, this dissertation has purposefully constructed a broader, more flexible definition based on observable patterns in the available evidence. This intentionally inclusive framework serves as a necessary starting point and will inevitably require refinement —a methodological scaffold rather than a definitive classification. The criteria outlined represent identifiable features that can be reasonably assessed from our limited dataset, allowing for an initial categorisation of settlements while acknowledging the nuances that further research may reveal.

The increasing level of commercial activities can lead to the physical expansion of some

cities, which will be defined here as a 'metropolis.' The historical meaning of metropolis as the seat for Christian ecclesiastical seats will not be considered in this dissertation. A metropolis is characterised by larger and more densely populated urban areas, with economic functions closely connected to commercial activities and trade. Their economic power extends significantly over surrounding regions, impacting them economically, culturally, and politically. Additionally, metropolises also feature a concentration of administrative and cultural institutions. The cultural impact of a metropolis serves as a distinguishing criterion categorising it apart from the 'conurbations.' The term 'conurbation' is employed to describe the structural arrangement of various settlements located in close proximity to one another, as seen in the case of Veh-Ardashir, Seleucia, and Ctesiphon. Conurbations may or may not be metropolises, but all metropolises are conurbations. Instead, urban centres will be defined as 'metropolises' based on the following criteria:

- Large centres, often encompassing multiple cities and their surrounding suburbs.
- Economic functions heavily reliant on commercial activities.
- Exerting significant economic influence over surrounding regions.
- Featuring a concentration of administrative and cultural institutions.

2.2.   Shape the space – Urban patterns and spaces

> *'Space is fundamental in any form of communal life;*
> *space is fundamental in any exercise of power.'*
> Foucault [Crampton and Elden eds.] 2007: 157.

To define 'urban space' without any preconceived notions is challenging. It is important to note that urban space is the outcome of social and institutional forces. Since typologies of urban spaces are often based on institutional conceptions, how power developed after the conquest, institutionalisation, and change will be discussed. In studying cities, the agency plays a significant role. Is the construction of any given city the result of an organic and spontaneous process, or was it the decision of a specific political institution or individual? Baghdad is the most well-known made-to-order city of the early Islamic period. It was founded in 144 AH/762 CE by Abu Jaʿfar al-Mansur as his new capital, 30 kilometres

northwest of Ctesiphon, on the site of an ancient village. It stood in a fertile plain, close to the Khorasan trade route, and thus a strategic place from a military, economic, and climatic point of view (al Duri 1986: 895). Its location was strategic due to the proximity to the River Tigris and its navigable canal system, which provided an integrated transport network connecting the entire region to the coast (Simpson 2017: 20). The area's pivotal role from both economic and climatic perspectives was linked to the availability of resources in the form of agricultural supplies. For instance, Ammianus Marcellinus (XXIV.5) remarks on the richness of the Ctesiphon region, noting its abundance of orchards, vineyards, and green groves. The exploitation of the River Tigris' waters contributed to this richness and fertility (Adams 1981: 7).

The first Islamic cities, such as Basra and Kufa, were followed by numerous new Islamic cities and towns established by rulers to house their followers and generate income (Kennedy 1986: 136). Spontaneous urban spaces have different development patterns from consciously designed urban spaces, and different aspects of the urbanisation process will be reflected by assessing these variations. Societies shape their own urban spaces, so these spaces reflect the social organisation. In addition, they have an impact on society as spaces and society are mutually dependent (Ardener 1997: 2). The definition 'urban space' is used in this dissertation to reflect a manifestation of cultural identity that follows Bourdieu's theory based on *habitus*, 'a generative and structuring principle of both collective strategies and social practices; people use *habitus* to reproduce existing structures without being fully aware of how structures are in turn affected.' (Bourdieu 1977: 72; Lawrence and Low 1990: 469).

The Arab-Muslim conquest was an ongoing process that lasted for at least a century and gradually changed lifestyles, cultures, and institutions of power. Since urban spaces are dynamic and synergetic, and related to lifestyles, cultures, and institutions of power, a transition period - such as that brought on by the Arab-Muslim conquest- will demonstrate noticeably differentces. Historical and cultural transitions can be appropriately viewed as metamorphoses rather than as 'breakups' (Morin and Ramadan 2015). The argument developed here rests on the idea that historical transition can be seen both linguistically and spatially. A multilingual entity during the Sasanian period, Iran maintained a bilingual

structure post-conquest, with Arabic serving as the language of religion, administration, and power and Persian as the colloquial language for everyday communication (Bulliet 1979: 18). According to Kennedy (2009), Iran was distinct from other conquered territories as the 'Iranian value' managed to survive the conquest. This survival of 'Iranianness' can be observed through the use of languages, particularly with the emergence of New Persian as the administrative language in the 4th AH/10th CE century and its successful implementation in Ferdowsi's writing of the *Shahnama* (*The Book of the Kings*).In other areas of the former empire, such as those around the Tigris and Euphrates, the use of Persian, Syriac, Greek, and Jewish languages persisted for a time but were eventually completely replaced by Arabic. A key observation in this regard was made by Kennedy (2009: 20), who highlights the difference in perception of the pre-Islamic times in elite families of north Africa, Andalusia, and former Sasanian territories. In these families' narratives, the importance of Syrian and Spanish families began with the conquest. Tracing their ancestry to Roman Syria or Visigoth Spain did not carry any prestige or status, which is the opposite of what was happening in former Sasanian areas where a pre-Islamic past was considered prestigious. The questions related to contemporary concepts of identity and shedding light on the process of Islamisation are interconnected. A study involving urban evolution across the chronological and geographical range suggested here means that multiple methodologies have been employed to examine key issues.

2.3. Theoretical Approach

Spaces in cities define a particular identity that can be identifiable in both time and place. The following chapters will disentangle urban spaces and the cultural identity of the people living and shaping these spaces. However, a brief discussion of methodology, assumptions, and limitations is needed to contextualise this research's framework. The first set of difficulties encountered is epistemological. The narrative and research of the past should be shaped as little as possible by personal definitions, conceptions, or perceptions of today. Anachronism and retrospective interpretation are a danger lurking in every corner. Cultural context is crucial to the assessment of urban spaces, which are not intrinsic, autochthonous, or universally recognisable. A significant objective of this dissertation is to explore the

gradual changes in identities and societies over time. It is, hence, crucial to enhance the awareness of the multiple identities layered into the former Sasanian territories as a result of the Arab-Muslim conquest. According to scholarship, Persian sources are often dismissed because their self-narration is closely connected with the 'twilight world of myths and fantasy.' Bernard Lewis (1973: 60) wrote this expression in an orientalist style, evoking the typical opacity surrounding national history and identity in much of western Asia (Insoll 2005). Despite this, Persian self-narration was also intertwined with urban spaces and power structures that controlled them. The history of spaces and powers is examined through the logic contained in 'strategies' and 'tactics' of power - i.e., institutions that employ space for specific purposes. The concept of 'power' in Foucault's ([Crampton and Elden eds.] 2007: 194-5) work encompasses not only the central power's decisions regarding urban spaces but also the social, cultural, and economic factors that influence the choices made by populations. These powers had directly shaped cityscapes, while historical events had indirectly influenced them. As a result, the cities were characterised by a complexity necessitating a wide scope of inquiry and multifaceted questions. A diachronic approach is needed to understand how mutations, innovations, and developments affect the various aspects of urbanism. All these variables, options, and events can be compared to the components of a language. According to this metaphor, the urban spaces can be viewed as a set of written sentences. If the space is considered as a book, it might be possible to figure out why a specific statement is used rather than another. From a theoretical perspective that emphasises the intricate nature of urban spaces as products of societies, it is essential to deconstruct each contributing factor at a fundamental level. Consequently, a (de)structuralist approach will be employed to analyse the built environment. This analysis aims to categorise urban spaces based on their primary functions and organise the wealth of available data. Each urban space will be classified according to its predominant category. For example, a temple or mosque may contain market areas, but its primary function would be categorised as 'religious.' This functional categorisation of urban spaces serves as a foundational framework.

According to Lawrence and Low (1990: 454), the term 'built environment' encompasses any physical alteration of the natural environment, including open-air areas like squares and streets, landmarks, and the alteration or evolution of structures. By following this

(de)structuralist approach and dividing urban spaces into functional categories, two distinct datasets will be obtained: information on urban spaces before and after the conquest. The objective is to ensure comparisons as little unbiased as possible between the two datasets, operating under the assumption that there were no fixed 'Sasanian' or 'Islamic' models. As seen above, urban spaces are connected with social reasons, and thus, a comparison of the two datasets is based on Gerth and Mills' (1953: 377-9) proposal for treating social categories:

1- What changed;

2- How it changed;

3- The direction of change;

4- The rate of change;

5- Causes or conditions for change; and

6- The causal importance of individuals and ideas.

The two social psychologists proposed these categorisations in the chapter on 'Social-historical Change' in their book, *Character and Social Structure* (Gerth and Mills 1953). Their framework, which has been defined by sociologists as 'not overly analytical and complex' for sociological purposes (Braun 2015: 420), will be used as a 'framework' rather than a 'model' for historical purposes. It will thus provide the necessary tools for functional analysis at a satisfactory level in chapter 5, where the two datasets will be compared, and in chapter 6, where the broader discussion of the central themes of the dissertation will be discussed within the framework of addressing these questions.

The theoretical approach hereby described and used in this dissertation acknowledges the complexity of urban spaces and their multi-functions while providing a necessary analytical framework. The categorisation by 'predominant function' (like designating a religious building with commercial features as primarily 'religious') is intended as a heuristic device to make comparative analysis feasible across time periods with uneven evidence. These simplifications of more complex realities do not capture all the nuances of the subject; for this reason, instances of further functions or the change of these categories through time are discussed in the text whenever relevant. The necessity of simplification was behind the choice of using Gerth and Mills' framework focused on change itself. While their 1953 work

is old, it was selected specifically for its straightforward approach to categorising social change. This simplicity makes it particularly adaptable as a framework—not a comprehensive model—for examining historical transitions where evidence is limited.

2.4.   Assumptions and Limitations: Sources

> *'My knowledge of the evolution of the countries I reviewed,*
> *On the distance that separates them, On their wonders,*
> *On their respective merits and characteristics,*
> *Were acquired with the greatest difficulty,*
> *Just like this investigation would have been awkward*
> *For anyone who would have pursued the same goal,*
> *So no one can blame me.'*
>
> Ibn Rusta (tr.: 175).

The two datasets of information on Sasanian and early Islamic evidence will be extrapolated from two different sources: one consisting of information gathered from historical sources and the other comprising information from archaeological sources. Starting with historical sources, the information is extrapolated from primary and secondary sources, respectively historiographical sources and literature of modern historians who have studied these primary sources. Information about urban spaces in Sasanian cities was collected, with a particular focus on eleven selected cities: Veh-Ardashir, Merv, Nishapur, Gondeshapur, Bishapur, Ardashir-Xwarrah, Qasr-i Abu Nasr, Istakhr, Rayy, Gayy, and Darabgerd. As all these cities have undergone at least partial archaeological investigation, they were chosen as appropriate case studies.

Assessing the limitations of different kinds of sources is the first issue for historians and archaeologists. Historical events can be hidden between bards' lines in Iranian oral folk tales. Although orality was the main means of historical transmission within the territories of the former Sasanian Empire, some oral folk tales were also written down. Recent scholarship (Pourshariati 2008; Omidsalar 2011; Jackson-Bonner 2020) has turned to folk literature, e.g., Abolqasem Ferdowsi's 5th AH/11th CE century Persian epic, the *Shahnama*, as a source of

historical information. Although it must be remembered that the bards' stories often served as propaganda for monarchs, Ferdowsi had access to the lost, late Sasanian material such as the *Khudai Namah* and the *Bahram Chobin Namah*, or as Nöldeke (1930: 28, cited from Omidsalar 2011: 64) put it, potentially when the poet wrote that 'he had heard a certain tale,' he had actually read it.

Analysis of sources dated after the fall of the Sasanians must also take into consideration the *ubi sunt* motif. This motif can be defined as 'the nostalgic and moralising discussion of now gone but previously powerful people' (Munt 2015: 464). It has a strict relation to the folk literature issue and to the cultural ecumene the source refers to. Religious affiliation often influences the language used by authors. As the religious and linguistic backgrounds of the sources changed, so did the cultural perceptions of Sasanian. This category includes all issues pertaining to retrospection and the other as the mirror of the self.

The perspective of the authors were connected to their intentions and audience, which hence must be taken into consideration when using historical sources. For this reason, the sources have been catalogued, and the inherent limitations of each source are listed. Also, information on the author's background and agenda is included to contextualise the information further. A summary of this assessment is presented in Table 1.

Table 1. Assessment of the main historical sources used:

Author	Language/Background	Chronology	Limitations
Shapur I's inscriptions	Trilingual, Pahlavi as main language. Central authority	c. 262 CE	• Dynastic bias
Kerdir inscriptions	Trilingual, Pahlavi as main language. Zoroastrian authority	c. 270-90 CE	• Religious bias
Narses' inscription	Trilingual, Pahlavi as main language. Central authority	c. 293 CE	• Dynastic bias
Acts of Pusai	Anonymous Syriac narrative about the martyrdom of a Christian saint persecuted and crowned because of Zoroastrian persecutions	c. 4th century CE	• Zoroastrian and Sasanians are the 'Other', emphasis on religious persecution
Łazar P'arpec'i	Armenian historian. His *History* focuses on political situation in	b. 441-43 CE or 453 CE –	• Zoroastrian and Sasanians are the

	Armenia after its division between Persia and the Roman Empire	490 CE last year of the history	'Other', emphasis on religious persecution
Talmud	Anonymous Hebrew treaty. Topics of marriage, business ethics, capital punishment, property law or dietary regulations, examined from a religious perspective	Written down in c. 500 CE but edited for another two centuries	• Zoroastrian and Sasanians are the 'Other', emphasis on religious persecution
Sebeos	Armenian bishop and historian. His *Patmutʿiwn Sebeosi* focuses on Armenian history	1st AH/7th CE century	• Zoroastrian and Sasanians are the 'Other', emphasis on religious persecution
Shahrenstaniha-i-Eranshahr	Anonymous Middle Persian geographical treaty following the *Khudai Namah* tradition	Late 2nd or 3rd AH/8th or 9th CE century	• Old Iranian/Avestan/ Zoroastrian traditions are emphasised
Chronicle of Seert	Anonymous Arabic ecclesiastic Nestorian history of the Persian Christian Church	4th AH/10th CE century	• Zoroastrian and Sasanians are the 'Other', emphasis on religious persecution
al-Baladhuri	Arabic historian, his *Futuh al-Buldan* focuses on the wars and conquests of the Muslim Arabs from the time of the Prophet Muhammad. He drew on oral history and on the few earlier biographies and campaign accounts	d. c. 278 AH/892 CE	• *Futuh* narrative aiming to the consolidation of the Caliphate projecting a new version of their reality which uses the Arab-Muslim conquest for these purposes • Writes two centuries after the conquest - Retrospection
al-Tabari	Arabic historian, author of enormous compendium of early Islamic history, *Taʾrikh al-Rusul wa'l-Muluk,* following the *Khudai Namah* tradition	b. c. 224 AH/839 CE – d. 311 AH/923 CE	• *Futuh* narrative aiming to the consolidation of the Caliphate projecting a new version of their reality which uses the Arab-Muslim conquest for these purposes • Influence from Sasanian propaganda texts • Writes two centuries

			after the conquest - Retrospection
Hamza al-Isfahani	Persian historian, his *Siniyy Muluki ʿArdi al-Anbiyaʾ,* written in Arabic, shows his interest in Zoroastrianism and the *Khudai Namah* tradition	b. c. 280 AH/893 CE – d. after 350 AH/961 CE	• Influence from Sasanian dynastic texts • Writes two centuries after the conquest - Retrospection
Ibn al-Faqih	Persian historian and geographer, wrote, in Arabic, a geographical treaty titled the *Kitab Akhbar al-Buldan*	fl. 289 AH/902 CE	• Writes more than two centuries after the conquest - Retrospection
al-Masʿudhi	Arab historian, geographer, and traveller, wrote two Arabic treaties: *Muruj al-Dhahab wa Maʿadin al-Jawahir and al-Tanbih wa al-Ishraf*	b. c. 282 AH/896 CE – d. c. 345 AH/956 CE	• Writes more than two centuries after the conquest - Retrospection
Ibn Rusta	Explorer and Persian geographer, wrote, in Arabic, a geographical treaty titled the *Kitab al-Aʿlaq al-Nafisa*	d. after 290 AH/903 CE	• Writes more than two centuries after the conquest - Retrospection
Abolqasem Ferdowsi	Persian poet, wrote in New Persian an epic poem, the *Shahnama*, on the Persian mythological kings following the *Khudai Namah* tradition	b. 328 AH/940 CE – d. 410-6 AH/1019-25 CE	• Influence from Sasanian dynastic texts • Writes more than three centuries after the conquest - Retrospection
Hudud al-ʿAlam	Geography treaty written in Persian	c. 372 AH/ 982 CE	• Dated to three centuries after the conquest - Retrospection
al-Maqdisi	Arab traveller and geographer, wrote, in Arabic, a geographical treaty titled the *Ahsan al-Taqasim fi Maʿrifat al-Aqalim*	b. c. 334 AH/946 CE —d. c. 390 AH/1000 CE	• Writes more than three centuries after the conquest - Retrospection
Ibn al-Balkhi	Persian author, wrote in Persian the *Farsnamah*, devoted to the pre-Islamic rulers of Persia and the Arab conquest of Fars which includes a geographical account of the province	Writes before 510 AH/1116 CE	• Writes more than four centuries after the conquest - Retrospection
al-Mustawfi	Arab historian from Erbil, wrote in	b. 564	• Writes more than five

	Arabic the geographical treaty *Nuzhat al-Qulub*	AH/1169 CE – d. 636 AH/1239 CE	centuries after the conquest - Retrospection
Yaqut	Arabic geographer and biographer, wrote in Arabic the geographical treaty known as *Mu'jam al-Buldan*	b. 574 AH/1179–CE – d. 626 AH/1229 CE	• Writes more than five centuries after the conquest - Retrospection

The information generated from these sources considered their historical context. In the case of urban spaces, geographical sources conceal a different perspective than historical and dynastic reconstructions, such as the Sasanian dynastic propaganda or *futuh* narratives. Additionally, the issue of using translations has been identified as potentially limiting historical sources. It is premised that the consulted texts consisted of translations accessible to the author. Many Arabic and Persian translations of historical sources were carried out during the 19th and early 20th centuries. Numerous papers and commentaries analysing the meaning of some words (Huyse 1999; Cereti 2020) suggest that the understanding of certain nuances and meanings has improved, particularly those associated with architecture and urbanism. Unfortunately, many translations have not been updated. Some urbanistic terms used by sources are ambivalent. For instance, toponyms such as 'Isfahan' might indicate both a district and its administrative centre (Paul 2018: 30). There is a definite relationship between the agglomeration and its surroundings, i.e., the city walls and the surrounding suburbs, in Medieval Iran (Paul 2018: 31). To conclude with the issues related to historical sources, these are transmitted through manuscripts, which can lead to mistakes, typos, and oversights during the copying process. Unfortunately, there is no easy way to reassess and retranslate all the historical sources used in this dissertation. This is one of the reasons for combining historical information with archaeological information. This combination will provide more chances for assessing information reported by historical sources and allow for confirmations and analysis of the material evidence, where possible.

It was also necessary to identify problems related to secondary literature in order not to overlook them. As well as Said's (1987) theoretical considerations and critique of western perceptions of eastern topics, known as Orientalism, a distinctive 'Sasanianism' can also be discerned from past and contemporary scholarship. As discussed (chapter 1), Sasanians are

often depicted as a unique and stable entity, a 'monolithic' dynasty with little differentiation over time. Moreover, the Islamic sources have also been stereotyped and modelled based on the 'modern chain of *isnad,*' as explained by al-Sayyad (1991).[12] Historical scholarship is not the only field where biases can be identified, as archaeological fieldwork and excavations can be as well, as discussed in following section 2.5. The long centuries of western Asian excavations illustrated a tendency towards 'treasure fever' that caused excavators to focus their efforts in palatial areas. As a result, most excavations that took place in the 19th and early 20th centuries have no data about urban spaces and design.

2.5.   Assumptions and Limitations: Archaeological data

> *'Yet, to the great discredit of Orientalism*
> *and of an archaeological method which*
> *was more interested in the discovery of objects*
> *than in a scientifically valid documentation,*
> *none of these excavations was properly*
> *or fully published (...).'*
> Grabar 1967: 25-6.

The methodological approach combines archaeology with historiography using historical sources, prior excavation results, and satellite imagery. Information about urban spaces in Sasanian cities was collected, with a particular focus on the eleven selected cities: Veh-Ardashir, Merv, Nishapur, Gondeshapur, Bishapur, Ardashir-Xwarrah, Qasr-i Abu Nasr, Istakhr, Rayy, Gayy, and Darabgerd. All of these cities have undergone archaeological investigations (see chapter 4.1) except for Gayy. However, Gayy's transformation into the city of Isfahan following the Arab-Muslim conquest marked a significant step in the evolution of cities. Isfahan emerged as a prominent metropolis during medieval times, serving as a vibrant centre for trade and culture. This evolution is regarded as a crucial factor contributing to the changes observed in urban spaces following the conquest, and it will be further examined in

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[12] Besides al-Sayyad, see also Neglia (2008: 3) for a trenchant discussion on the Orientalist approach during the 20th century.

chapters 5 and 6. All these cities are characterised by substantial inhabitation during the Sasanian and the transition periods. For these reasons, they were considered the most appropriate sample to answer the research questions. The following Table 2 lists the archaeological interventions carried out in the sampled cities, in which year, and the availability of satellite imagery:

Table 2. Archaeological information on sampled cities:

City	State of knowledge accessible to non-Russian and non-Persian speakers	Archaeological excavations within Sasanian phase	Archaeological excavations within post-Sasanian phase	Satellite imagery
Veh-Ardashir	Excavated the 'Artisan quarter' dating to the Sasanian time and Tell Baruda, dated to early Islamic period	• Negro Ponzi Mancini, Venco Ricciardi *et al.* 1964-76	• Negro Ponzi Mancini, Venco Ricciardi *et al.* 1964-76	Yes, see Figure 22-Figure 24
Merv (Gyaur Kala)	Excavated the citadel Gyaur Kala, used from Parthian to early Islamic times. Residential Sasanian dwellings indagated, early Islamic industrial area excavated	• Herrmann, Kurbansakhatov, Simpson *et al.* 1993-99	• Herrmann, Kurbansakhatov, Simpson *et al.* 1993-99	Yes, see Figure 25-Figure 26
Nishapur	Archaeological information on later Islamic period. Umayyad and Sasanian phases not found		• Wilkinson 1935-40; 1947-8 • Rante and Collinet 2013	Yes, see Figure 28-Figure 29
Gondeshapur	Surveys carried out and published – no published archaeological information neither on before nor after transition	• Moradi 2017 (non-published, pers. comm. Dr. Yousef Moradi)		Yes, see Figure 30-Figure 31
Bishapur	The palace and religious areas had been excavated - attested presence of an early Islamic	• Ghirshman and Salles 1935-41 • Sarfaraz 1968-78		Yes, see Figure 32-Figure 33

	settlement	• Mehryar 1995 to 2004		
Ardashir-Xwarrah	The palace and religious areas had been excavated, various surveys – attested presence of a possible Islamic settlement. Survey and targeted geophysical analysis carried out	• Huff 1970s • Niakan and Huff 2005 (non-published)		Yes, see Figure 34-Figure 37
Qasr-i Abu Nasr	Excavated the residential area, both Sasanian and Islamic remains, no literary information	• Hauser 1933-45 (report published by Whitcomb in 1985, non-stratigraphic)	• Hauser 1933-45 (report published by Whitcomb in 1985, non-stratigraphic)	Yes, see Figure 42
Darabgerd	Survey and limited information from literary sources			Yes, see Figure 40-Figure 41
Gayy	Just literary information on Sasanian times is available			None available
Istakhr	Survey and limited information from literary sources, excavated partly the early Islamic settlement. Sasanian phase not found		• Herzfeld 1924, 1935 • Schmidt 1935 • Fontana *et al.* 2011-2	Yes, see Figure 43-Figure 44
Rayy	Survey and limited information from literary sources. Sasanian phase not found		• Schmidt 1935 (non-stratigraphic) • Keall 1970s	Yes, see Figure 46

It is striking how little archaeological evidence there is for these urban spaces. Several excavations (see Table 2) were conducted before technological advancements improved the archaeological approach and methodology. Since then, the use of stratigraphical sequences in excavations has become routine, so there is less data loss, resulting in a more comprehensive interpretation. The analysis of environmental samples adds further essential

information to the existing state of knowledge, but this data is published and available only from Merv. In the absence of new and more progressive excavations of cityscapes, the historical information extrapolated from sources becomes essential. Whenever possible, the approximate location of identified urban features and archaeological excavations were extrapolated from either historical or archaeological sources and plotted over satellite images.

Generally speaking, the current understanding of urban spaces from different chronologies and locations is based on extensive excavations and the availability of a substantial number of primary sources on cities and their architecture. For example, there is a significant amount of information on Roman urban spaces and how they evolved during various events and at different latitudes (Lelo 2014). Due to the limited amount of data, it was not possible to create a similar pattern of Sasanian cityscapes.

The satellite imagery available through ArcGIS OpenData (Source: ESRI, Maxar, Earthstar Geographics, and the GIS User Community) was used as a tool to visualise the archaeological information. In some cases, attempts were made to identify the approximate location and presence of city gates, e.g., in the case of Ardashir-Xwarrah and Darabgerd. The satellite imagery also allowed for a preliminary assessment of the degree of destruction due to agricultural and/or urban expansion and the identification of earthworks. Further analysis of freely available historical satellite imagery will be considered in future work. At the time of writing this dissertation, such analysis was considered beyond the scope of the study due to the lack of ground-truthing opportunities. Alongside the earthworks comprising the city walls, a few possible road systems and canal patterns were also identified. The identifications based on satellite imagery are not the most reliable of the investigations as satellite recognition without excavations or ground truthing cannot provide an answer to all the questions. A street grid or open-air *bazaar* might not always be visible and easily identifiable, and although there is no archaeological evidence of their existence, historiographical sources suggest that this was a well-known feature in Sasanian cities (as delineated in chapter 4.7). The closeness of city walls to canals or water sources suggests the presence of extramural suburban productive spaces, as well as some form of water supply reaching the city's interior.

One of the criteria used by scholars to classify cities is their extent. An assessment of the possible extension of Sasanian cities is provided in Table 3 (chapter 4.1), which includes the areas (in hectares) of the cities as inferred by satellite imagery. However, it should be noted that agricultural and urban expansion has partially destroyed some sites, which may affect the accuracy of the data. Despite these limitations, this table is a valuable preliminary tool for comparing Sasanian cities with the larger metropolis that emerged in the Caliphate after the conquest.

2.6.   Methodological Issues

Some contingencies constrain the above-mentioned approach. There has been controversy regarding the meaning of both *shahr* and *shahrestan*, both used in the sense of 'city.' Cereti (2020) demonstrates that *shahrestan* is used in Shapur I and Kerdir's inscriptions for conquered cities. As evidence, he mentions Narses' description of Bahram Shapur, a city otherwise unknown to historians, termed *shahrestan* (Cereti 2020: 141). *Shahrestan* is a term used for both provincial cities and more general purposes in Manichean texts. After comparing those and other texts, Cereti claims that *shahrestan* means 'a strongly fortified and populous town' (Cereti 2020: 146). Despite this, the composed typology of the term must not be overlooked. *Shahr* refers to the word city, and *stan* refers to the word land. An indissoluble link between the city and its rural environment might be implied by this, underlining the pre-modern ties between the city and its surroundings. Cities and their surrounding lands were so blurred in pre-modern times that many attempts had been made to define a city and a town. For a town to be considered such, Heighway (1972) stipulates that it must possess the following assets: a defence, a mint, a market, a street plan, and possibly a judicial centre. This definition in this dissertation is followed within the study area, i.e., the former Sasanian Empire. However, no mint nor judicial centre has been excavated so far. Evidence of mints in some cities (as delineated in chapter 4.6) was assessed thanks to mint marks, while the presence of judicial centres is attested in many historical sources (as delineated in chapter 4.8).

Defining a timeframe was an important concern of this dissertation. The Sasanian era may be

clearly defined according to the duration of the house of Sasan, from 224 CE to 650 CE/29-30 AH. Depending on the region, Islamisation's time frames can range from the beginning of Islam in the 1st AH/7th CE century to the present day. As a result of attempting to define a timeframe, the question arose: what characteristics can be identified as Sasanian or Islamic? Establishing criteria for dating archaeological evidence is challenging. Although the Arab-Muslim conquest played a pivotal role in marking the beginning of a new era, changes in material culture and architecture were not synchronous (Whitcomb 1999). Where should the line between the two periods be drawn? Upon building a mosque, does a city automatically become Islamic? This mindset can easily lead towards a monolithic concept of Islamisation as happening in an instant and, most importantly, towards dismissing the Caliphate, this huge cultural metamorphosis and enrichment, to a religious conquest. A religious agenda characterised the conquest. However, its effects should not be confined to the edification of the masjid, i.e., mosque. Building a masjid does not inherently make a city Islamic, but it does alter the urban landscape. This issue is further explored in chapters 5 and 6.

This leads to the minefield of how people perceive themselves. A hypothetical Christian artisan who lived in the Jewish part of the al-Madaʾin conurbation, attended Mass every Sunday, was judged by the Sasanian judicial centres, saw the conquest, and kept his faith during the Umayyad Caliphate. After relocating to Basra with other craftsmen to build a new city, he ended up living his last days there. Was he perceiving himself as Sasanian? Or Mesopotamian? Even though he would not recognise himself as a believer, he lived part of the early Islamic period and contributed to the creation of one of the most famous Islamic cities. What makes him different from other believers? Is there any way to know if he ultimately converted, and if so, why? It must be considered that archaeological data cannot provide reliable answers to questions about becoming Muslim. To recognise the degree of conversion, Bulliet (1979) used a quantitative method and analyse the heteronyms and names in some Muslim biographical dictionaries. The approach has some flaws as it cannot encompass the entire population, so it will not be applied in this dissertation. Nevertheless, this dissertation does not aim at analysing the converted population or identifying the lives of people from different ethnic and religious groups. Because of this, it was decided to use the standard chronology. Ardashir's coup d'état in 224 CE marked the beginning of the Sasanian period, and its end coincided with Yazdegerd III's death in 29-30 AH/650 CE.

Historically, 'the transition' timeframe includes the reigns of the four Caliphs and the Umayyad Caliphate (29-132 AH/650-750 CE). Since most of the sources are of a later date, this dissertation analyses cities' evolution until the 4th and 5th AH/10th and 11th CE centuries. Using the Arab-Muslim conquest as a reference point, the data collected and catalogued in the two datasets was further divided into two groups. Additionally, a (de)structuralist approach will be utilised (see chapter 2.3) to determine different functional areas within the cities, including residential, infrastructure, religious, industrial, commercial, administrative, and recreational zones. This approach was used to create a categorisation that will act as a 'foundational framework' for the sake of simplification and to 'reduce the fraction to its lowest terms,' and to allow an understanding of more complex phenomena.

This categorisation was influenced by western urban planning theory, which has advocated for the separation of industrial, residential, and agricultural areas since Ebenezer Howard's *Garden Cities of To-morrow* (1902, being the second edition of *To-morrow: a peaceful path to real reform* 1898). While categorising urban spaces based on their primary function was practical for the layout of this dissertation, it soon became apparent that people do not shape spaces with such rigid divisions and that a religious space can also serve administrative or commercial purposes. This issue will be fully explored in chapter 5.

3. Background Framework of the Conquest

3.1.   What is an 'Islamic city'?

'It appears that the stereotype (of Islamic cities) seems to have evolved, developed, and matured as a result of cumulative research done by both occidental or western, and oriental or eastern scholars writing mainly in English and French. Here again we are reminded by the practice of Isnad or the chain of authority in Islam that seems to continue in contemporary scholarship.'

al-Sayyad 1991: 33.
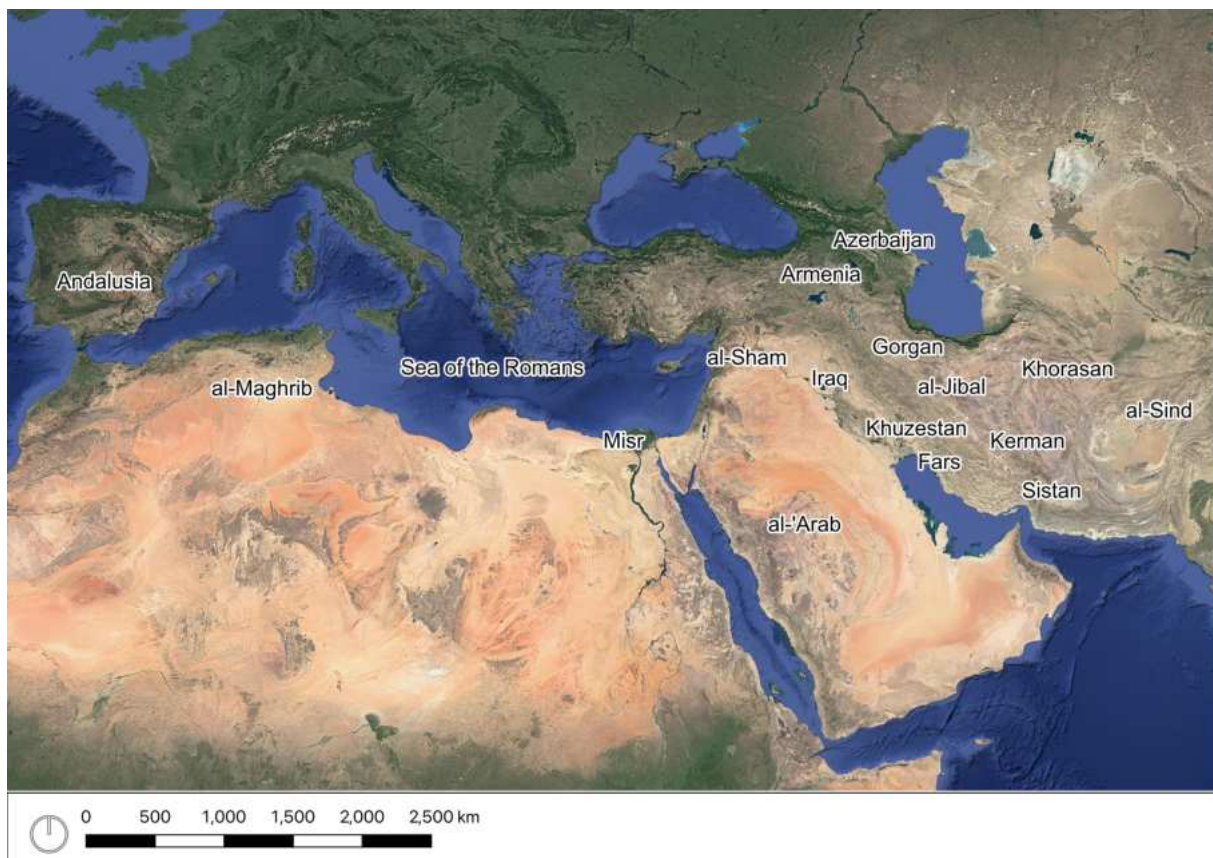
Figure 8. Annotated satellite image showing the regions under the maximum extension of the Umayyad Caliphate.

This dissertation aims to tackle a complex question: how did the cities of the former Sasanian Empire evolve during and after the Arab-Muslim conquest? To unravel this enquiry requires exploring other significant concepts, including the defining characteristics of an Islamic city and the factors that set it apart from the cultural traits of the previous rulers. The Islamic city has often been described by using the stereotypical and biased cityscape focusing on a mosque (masjid), a citadel (*shahrestan*), a palace (*dār al-ʿimāra*), segregated residential quarters, and a centralised bazaar. Nonetheless, this definition is outdated as some features typical of 'Islamic cities' were instead part of urban development and evolution persisting from the preceding Roman and Sasanian dynasties into the early Islamic era (al-Sayyad 1991: 11; Schick 1998: 88). This dissertation does not aim to examine all the complex debates surrounding Islamic cities. However, a concise summary of key perspectives will be presented in this section.

A substantial amount of literature has been devoted to the topic of urbanisation after the Arab-Muslim conquest and the examination of Umayyad urban spaces (Kennedy 1985; al-Sayyad 1991; Wheatley 2001; Arce 2008; Avni 2014; Kennedy 2018). An important factor is the repurposing process, which will be explored further in this dissertation (chapter 5).

The question remains: to what extent is this characterisation accurate? To disentangle this matter, numerous unanswered questions and multiple factors need to be considered. Urban spaces are created and shaped by people, adapting to societal changes and influenced by the geographical features of each location. The Umayyad Caliphate did not conquer and control homogeneous territories (Figure 8). It is not feasible to unite diverse regions solely based on sharing the same religion under a single 'universal' label like 'Islam' (al-Sayyad 1991: 3). First, the term 'Islamic' requires clarification. The usage of 'Islamic' has been criticised as a limited cultural response that undermines the rich cultural heritage of Muslim people (al-Sayyad 1991: 11). Nevertheless, the objective here is to examine the transformation of urban spaces in the former Sasanian territories, where people worshipped different deities, spoke diverse languages, and had distinct urban requirements. The advent of the new religion triggered a change in these regions, and for convenience, the term 'Islamic' will be used.

This chapter aims to gradually analyse the background framework of all these elements that define an 'Islamic city.' Three distinct urban typologies were identified by al-Sayyad (1991:

11) as garrison cities, transformed (inherited) cities with pre-Islamic origins, and new capitals. This study focuses on the first two categories (see chapter 4.1). The cities founded by rulers of the Umayyad and Abbasid dynasties will not be considered because the construction of a city from scratch primarily occurred when an individual aimed to consolidate their authority, establish a new language of power, and maintain a connection with previous rulers. One notable example is the planned city of *Madinat al-Salam*, commonly known as Baghdad, which was built by the Abbasid Caliph Abu Jaʿfar al-Mansur in 144 AH/762 CE as part of the religious and political consolidation of the Abbasid dynasty. The newly constructed cities, therefore, do not provide a clear illustration of the transitional processes, especially when compared to evidence drawn from inherited and garrison cities. This dissertation examines the socio-cultural forces introduced by the conquest through the study of urban centres. Garrison cities, in particular, demonstrate how urban spaces were shaped through compromises between regional governors and local inhabitants (al-Sayyad 1991: 12). As such, they fall within the scope of this dissertation, unlike newly planned cities.

The rationale for focusing on individual cities, rather than on newly planned cities founded by Umayyad and Abbasid rulers or broader systems of cities, lies in the dissertation's scope to examine the transformations undergone by pre-existing Sasanian urban centres and to identify the changes triggered by the conquest. This approach is best pursued by examining the origins of 'Islamic cities', with particular attention to the influence and contributions of garrison cities, which reflect the innovations introduced by the conquerors, as well as Roman cities, where inherited urban elements were adapted and reshaped across the wider *dār al-Islām.* The preference for examples of individual cities, rather than wider urban systems, stems from the fact that regional variations are more evident at this scale.

The architectural influences of residual Sasanian and Roman experiences, along with the availability of diverse building materials, evidently shaped the characteristics of the new 'Islamic city.' However, the definition of an Islamic city extends beyond these influences. Wheatley highlighted that,

> *'By the mid-eighth century [CE] the Muslim communities within this realm had been constituted as vehicles of the living Faith (…) [and] the duties and obligations laid upon the Muslim could be performed fully and correctly only within the ambience of an organised community of Believers.'* (2001: 39).

Following these studies, other key studies on Islamic cities include the various contributions to the 2008 volume *The City in the Islamic World*, edited by Jayyusi, Holod, Petruccioli, and Raymond, which offer not only snapshots of the historical urban fabric but also analyses of its transformation into modern and contemporary urban entities. Although the approaches differ, reflecting the perspectives of various authors, the overarching concept is to view the city as a living organism, in a state of continual transformation. The contributions have been consulted for this dissertation whenever relevant to their specific areas of focus (Kennedy 2008; Neglia 2008; Denoix 2008, Gaube 2008; Hakim 2008; and Montalbano 2008).

Substantial work on how Islamic cities evolved from the Roman Empire has been carried out by Avni's research (2011) which was further developed in his 2014 book, *The Byzantine-Islamic Transition in Palestine*. Here, Avni compares archaeological data with historical texts relating to cities in Palestine, including Caesarea, Beth Shean (Scythopolis), Tiberias, Jerash, and Ramla. He proposes three new paradigms for the Byzantine-Islamic transition: the 'thundering hordes' model, the 'decline and fall' model, and the 'intensification and abatement' model, suggesting that the gradual shift in residential, cultural, and religious affiliations led to different development of cities (Avni 2014: 13–14). The new archaeological evidence from Caesarea, Beth Shean, Tiberias, Jerash, and Ramla provides an additional layer of understanding of the conquest's impact on urban spaces and was later employed by Kennedy (2018) among others. Thirty-three years after *From Polis to Medina*, which will be explained and analysed in the following paragraphs, Kennedy (2018) published an updated version which not only assessed the evidence uncovered in the intervening period but also examined the fate of cities under Abbasid rule. Although his conclusions largely remain the same, the new archaeological findings from Caesarea, Beth Shean, Tiberias, Jerash, and Ramla presented by Avni (2014) offer a deeper insight into the processes of urban transformation following the conquest.

This chapter will address some of these questions by examining historical urban patterns in the Arabian Peninsula, which the conquerors may have been familiar with. Subsequently, it will examine the changes undergone by the conquered cities of the Roman Empire (the inherited cities), explore the newly developed garrison cities, and end with a presentation of the inherited cities of the Sasanian Empire. While not the sole contributor, introducing the

Islamic religion into a novel 'hybrid' state structure significantly influenced the urban landscape of the emerging Caliphate.

3.2.   Before the *umma*

> *'No, not for Paradise didst thou the nomad life forsake;*
> *Rather, I believe, it was thy yearning after bread and dates.'*
> Abu Tammam (cited from Wheatley 2001: 34).
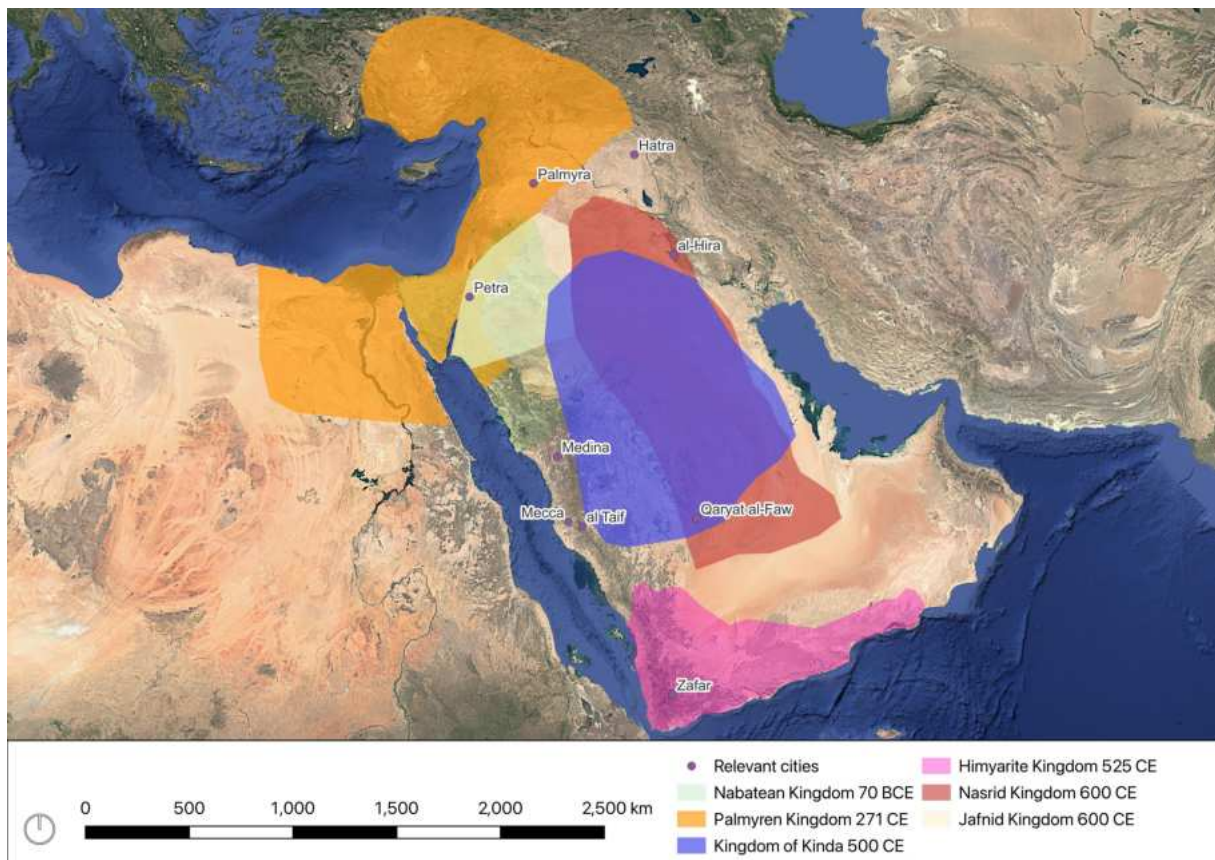
Figure 9. Annotated satellite image showing the Arabian Peninsula's kingdoms and the cities mentioned in the text.

After the conquest, two factors connected the diverse populations living in various urban landscapes, spanning from Andalusia to Khorasan, north Africa, Syria, Egypt, and the former Sasanian Empire: their worship of the same God and adherence to the same laws. The processes involved in the development underlying these factors need to begin with an assessment of the urban environment in the pre-Islamic Arabic cities. Prior to Muhammad and the Arab-Muslim conquest, a group of kingdoms with shifting allegiances existed in the

region (Figure 9). A preliminary exploration of the cultures of what was once regarded as desertic and largely inhabited by nomadic tent-dwelling Bedouin will reveal the biases inherent in the western-centric perspective. The Arabian Peninsula includes the modern countries of Saudi Arabia, Yemen, Bahrain, Kuwait, Qatar, United Arab Emirates, and Oman. Geographically, the peninsula extends as far as Jordan and southern Iraq. Contacts were quite frequent, with the so-called 'Syrian Route' from Damascus to Medina that was travelled for centuries, even before the establishment of the hajj pilgrimage. The 1000 kilometres distance between Damascus and Medina was covered in 40 grazing days by caravans, and settlements such as Alula and Bostra grew and thrived within this route. To confirm this potential frequency of contacts, alongside the analysis and contextualisation of the significant cities discussed in the following paragraphs, their distances from Mecca will also be included when possible.

Historically, Hellenistic and Roman influences from Syria had a substantial impact on the societies in the northern part of the peninsula, to the point of being defined as Hellenised-Aramaic cultures. One such kingdom, al-Anbat (see Figure 9) or Nabatean, controlled a territory that was known in Roman times as 'Arabia Petraea,' a name which referred to its capital, Petra (Wheatley 2001: 5). Its strategic location along trade routes made this kingdom an enticing target, leading to its conquest and establishment of the Arabia Petrae province by the Roman emperor Trajan in 105 CE (Wheatley 2001: 5). Several cities situated along these trade routes, including Petra, served as important trading hubs before and after their annexation to the Roman Empire (Graf 2021: 436). Petra, the remarkable rock-cut city, is located approximately 700 kilometres from Medina.

Another contender for controlling the northern Arabian trading routes was Palmyra (see Figure 9) or Tadmor. Although it was at times a Roman vassal state, evidence suggests that Palmyra had always maintained some level of autonomy in its relations between the two powers to the east and west. In 267 CE, Zenobia, regent of Palmyra and widow of the former king Odaynathus, proclaimed herself as the Augusta of the East (Wheatley 2001: 5-7). After a six-year conflict with the Roman emperor Aurelian, her army was ultimately defeated. Nevertheless, Palmyra continued to exist as a stronghold along the eastern frontier during late antiquity. While Palmyra continued to serve as an economic centre, it also fulfilled

military functions and underwent urban transformations to adapt to the changing needs of its urban population. The existing Roman cityscape underwent a noticeable shift from public spaces to private property during late antiquity and the early Islamic period (Intagliata 2018: 21). For instance, the Roman street layouts and the Great Colonnade largely retained their original form and structure but assumed a different, commercial function with the presence of shops first (from the 270s CE onwards) and the construction of a new suq (Arabic for marketplace) later (Intagliata 2018: 23-5). The construction of new religious spaces started with the arrival of Christians and was later continued by Muslim communities (Intagliata 2018: 28). Therefore, Palmyra's different urban landscapes reflected the everyday needs of the inhabitants, transitioning from Roman monumentality to more practical privatisation of public spaces (Intagliata 2018: 29). Intagliata (2018: 29) characterises this evolution as 'the transition from polis to medina,' a concept inspired by Kennedy's 1985 study that examined Roman urban landscapes post-conquest, which will be further explored in the following section. Kennedy (1985) challenged earlier academic perspectives that frequently interpreted shifts in functionality and urban changes during late antiquity as signs of decay.

Another significant player in the geopolitical landscape of the Arabian Peninsula was Hatra (Figure 10). During the 2nd and 3rd centuries CE, this city was ruled by Parthian overlords and may have faced destruction either at the hands of a Sasanian king, either Ardashir I (Hoyland 2001: 77) or Shapur (al-Tabari 829 [tr. Bosworth 1999: 34-6]). Hatra's influence endured for centuries, even after the Arab-Muslim conquest, as the hierarchy of streets in Hatra and other Islamic cities shared layout similarities. For instance, Hatra featured roads that were likely planned and publicly owned, as well as alleys and cul-de-sacs that were potentially privately owned (Foietta 2018: 216-7). However, Hatra's most remarkable feature was its sub-circular city wall, a layout that potentially influenced some Sasanian cities (see chapter 4.1) and was later associated with Abbasid Baghdad.
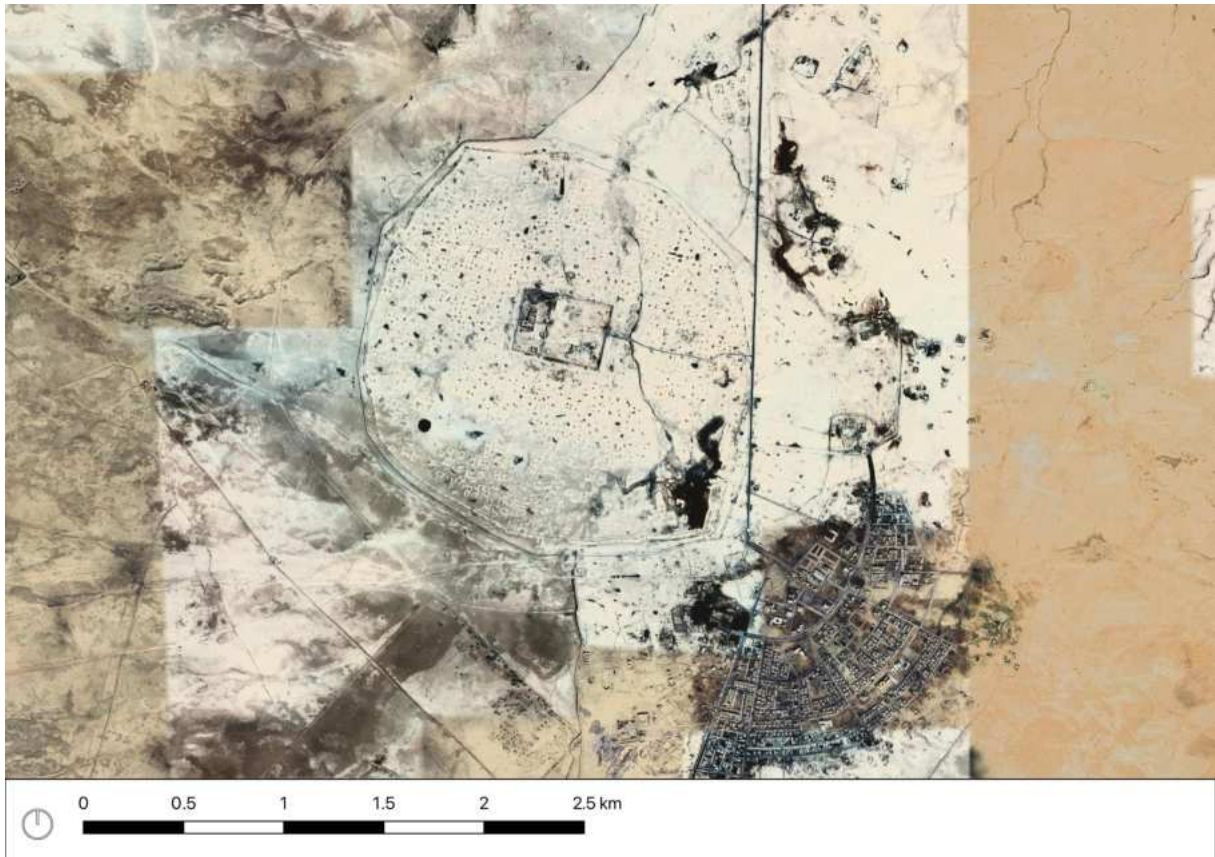
Figure 10. Satellite imagery showing Hatra.

In the late antique period, the two most relevant powers in northern Arabia were Ghassān and Nasrids (see Figure 9). The origins of the Ghassān chiefdom, also known as the Jafnids, remain somewhat obscure. Their authority was solidified by Roman approval towards the end of the 5th century CE, as they established themselves in two locations, al-Jabiyah and Jilliq, both of which are mentioned in multiple sources (Wheatley 2001: 7). The most likely hypothesis identifies al-Jabiyah's location atop the Jawlan hills (Genequand 2015: 274), while the exact location of Jilliq remains debated, as no archaeological investigations have yet confirmed it. On the other hand, the Nasrids controlled the eastern part of the Syrian desert, centred around the city of al-Hira (Hoyland 2001: 78-9). Excavations conducted by Rice (1931) in 1931-1932 revealed the presence of two churches and a residential structure (Genequand 2015: 209). Over time, a pattern of horizontal growth emerged, leading to further developments in the northeast toward the future city of Kufa (Genequand 2015: 209). Notably, al-Hira was characterised as a loosely organised settlement rather than a city with defined streets (Genequand 2015: 212).

Moving south, a dynasty known as the Ḥimyarites ruled over the southwestern corner of the Arabian Peninsula from the 2nd BCE century until 525 CE (see Figure 9). In the Latin-speaking world, this region renowned for trade and agriculture was called Arabia Felix (Wheatley 2001: 5). Fortifications seem to have been a crucial factor in urban settlement layout these years, as the nomadic and urbanised groups and their environments gradually became distinct (Wheatley 2001: 4). The Himyarite capital, Ẓafar, has been interpreted as one of the urban sites reflecting this growing distinction. Its considerable size, 110 hectares in the core area, contributed to this interpretation (Yule 2007: 23). Ẓafar is located approximately c. 925 kilometres away from Mecca. In addition to the Ḥimyarites, central Arabia was also home to the Kinda, who possibly held a client-patron relationship with them (Fisher 2008: 316; see Figure 9). The capital city of Kinda, Qaryat al-Faw, was situated at a geomorphological bottleneck c. 750 kilometres south of Mecca (Fisher 2008: 317). This location was ideal for imposing taxes and customs duties, which is why archaeological evidence reveals the presence of minted coins, frescoes, statues, and imported goods (Fisher 2008: 317).

The southernmost region of al-Hijaz (see Figure 9) was called after the mountainous range of the Hijaz, 'the barrier'. Here is where, according to Wheatley (2001: 3), 'the ideology of Islamic urbanism had its roots.' In pre-Islamic times, two primary types of settlements existed, with some intermediate patterns of habitation in between. These two extremes were the aʿrāb or nomadic tent dwellers, and the hadarī, or settled farmers living in permanent houses (Wheatley 2001: 8). Both categories were mutable and encompassed several subcategories, as 'models of ecological adaptation have been as inconstant as the desert sands to which they were a response' (Wheatley 2001: 8). The three primary settlements located in 'the cradle of Islam' consisted of Yathrib (nowadays known as Medina), Mecca, and al-Taʾif (see Figure 9). Subsidiary communities were established in several scattered oases, mainly located in the northern region (Wheatley 2001: 11). Unfortunately, there is limited archaeological data available for these three urban centres, and much of the following information has been extrapolated from historical sources.

Before the advent of Islam, Yathrib was a typical large date palm oasis. Its population, comprising both Arabs and Jews, depended on date and cereal cultivation, as well as goat and sheep breeding. With its mud-brick houses, Yathrib might be better described as a loose

cluster of adjoining villages (Donner 2010: 35). Each village featured a mud-brick tower called *utm* (plural *atam*), which served as a refuge in the event of raids by robbers (Donner 2010: 35). Due to the socio-political insecurity in the years leading up to Muhammad's arrival, these tower houses seemed to have been used as permanent residences (Wheatley 2001: 25). Medina was granted *ḥaram* status in 6-7 AH/628-9 CE, as established by Muhammad. This designation conferred a role of physical sanctity and security upon the city, akin to the status already held by Mecca (Wheatley 2001: 29).

Mecca differed significantly from Yathrib in terms of agricultural prominence. Its fresh water supply was primarily reliant on a single well, Zamzam, which limited extensive cultivation (Donner 2010: 35). However, Mecca's significance stemmed from its religious prominence and the commerce derived from pilgrimages at the point that Mecca later earned the title of 'the Mother of Settlements.' The etymology of its name itself reflects this religious sphere, as the Sabean word *mukabarah* meant sanctuary (Wheatley 2001: 11). At the heart of Mecca was a shrine called the Kaʿba, a large cubical structure containing idol statues and serving as the sanctuary of the pagan god Hubal (Donner 2010: 35). The shrine was surrounded by a territory called the *ḥaram*, whose sanctity no one dared to challenge (Wheatley 2001: 24). Most structures were constructed using palm fronds, and many were clustered near the Kaʿba and the well of Zamzam (Wheatley 2001: 24). Periodic markets were held outside Mecca, as confirmed by Muhammad's preaching there in 619 CE (Donner 2010: 42).

Located 70 kilometres southeast of Mecca, al-Taʾif had an environment that was much more favourable compared to Mecca, earning it the reputation of the 'corner of al-Yaman' or 'a piece of Syrian earth.' al-Taʾif featured gardens and orchards where watermelons, bananas, figs, grapes, almonds, peaches, roses, and pomegranates were cultivated. It was a natural progression from this agricultural paradise to becoming a proven trade rival to Mecca (Wheatley 2001: 31). The tradition mentions fortified dwellings similar to those in Medina, and it was the only settlement in southern Arabia to be surrounded by a wall (Wheatley 2001: 32).

To summarise, the pre-Islamic al-Hijaz region featured two distinct urban typologies:
- The palm date oasis characterised by scattered domestic spaces and garden plots among large groves of date palms.

- Urban centres were closely tied to religious spaces. The economic aspect was linked to pilgrimages and activities outside the primary focal point, as indicated by the positioning and periodicity of markets.

According to Wheatley (2001: 32), Mecca and al-Taʾif could be classified under the second category, while Medina belonged to the first.

This discussion addresses the deeply rooted bias concerning pre-Islamic Arabia. Over the past two centuries of scholarly work, a strong dichotomy has been established between 'sedentary' and 'nomadic' or 'urban' and 'temporary settlements,' with increasing emphasis on trade and commerce as the foundation for urbanisation and civilisation, contrasting with more temporary settlements deemed less 'civilised.' This bias, which often denies alternative forms of settlement the label of 'civilised,' and its socio-anthropological and historical reasons are not fully explored here. While it is true that many inhabitants of Arabia were perhaps less familiar with monumental buildings or imported goods from overseas routes, new archaeological evidence points to urban centres such as Thaj (Rohmer *et al*. 2019). Although the landscape and environment of most Arabian sites could not support large conurbations or metropolises, Thaj featured a substantial walled area of approximately 38 hectares, encircled by a massive fortification wall (Rohmer *et al*. 2019: 287). This example, alongside the other cities presented in this section, challenges the narrative that depicts the 'poor nomadic Islamic conquerors' as awestruck by cities like Damascus or Ctesiphon.

3.3.   The inherited cities – transition in the former Roman empire

> *'In the name of Allah, the Compassionate, the Merciful.*
> *This is what al-Khalid [ibn al-Walid] will grant*
> *to the inhabitants of Damascus if he enters therein.*
> *he promises to give them security for their lives,*
> *property, and churches. Their city wall shall not be demolished,*
> *nor shall any Muslims be quartered in their houses.*
> *thereunto we give them the pact of Allah and the protection of his*
> *Prophet, the caliphs and the believers.*
> *As long as they pay the jizyah, nothing but good shall befall them.'*
>
> (al-Baladhuri [tr. Hitti 1916: 187])
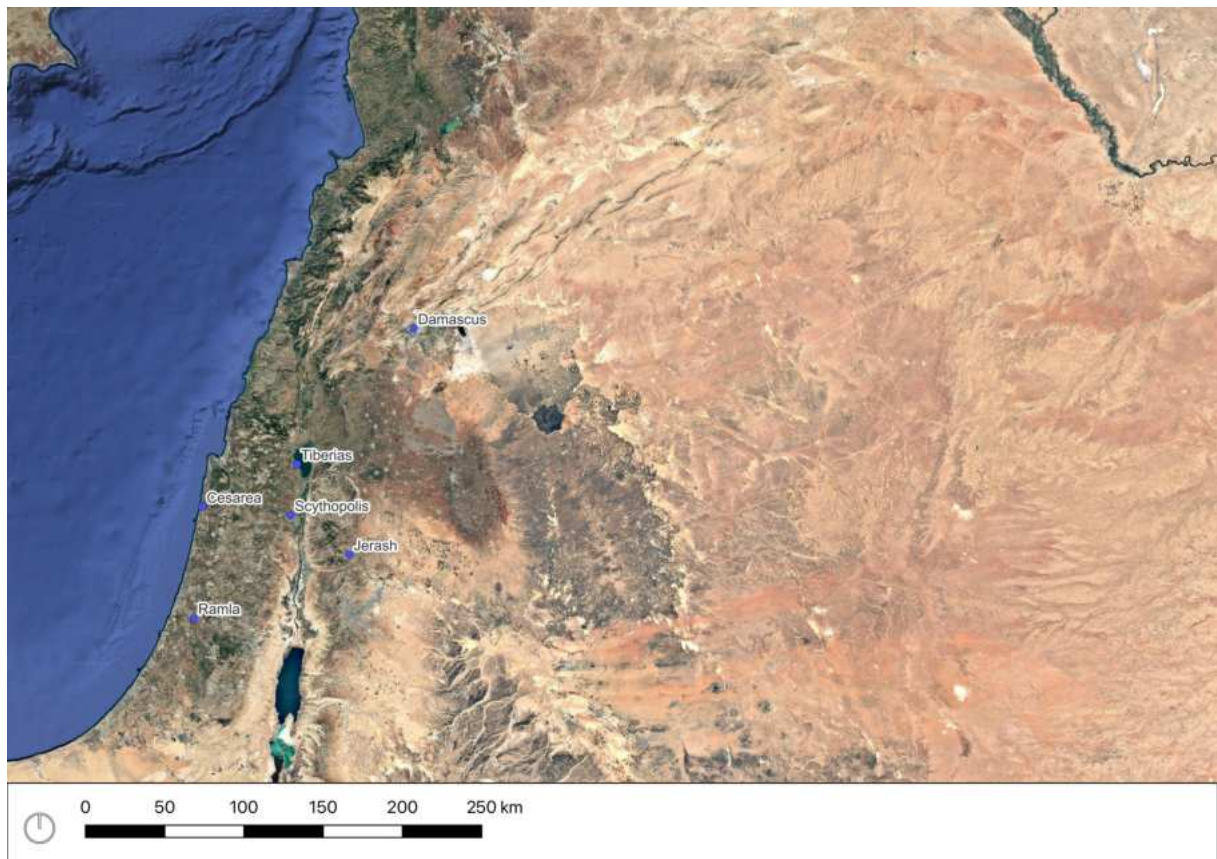
Figure 11. Annotated satellite image by the author showing the cities mentioned in the text.

The so-called 'inherited cities' played a crucial role within the Caliphate. These cities were deeply influenced by the cultural traditions pre-dating the arrival of Islam, yet they shared certain structural similarities due to common purposes and lifestyles (Wheatley 2001: 39). While this observation may seem obvious, it contributes significantly to the ongoing efforts

of scholars to challenge the western-centric perspective on Islamic cities. Urban spaces are shaped by the societies that inhabit them, according to their needs and habits. Regional factors and available resources can contribute to the unique 'texture' of urban spaces, but they have less control over the shaping processes than the purposes and requirements of the human communities living within them.

This section will briefly focus on the post-conquest transformation of existing Roman cities, hereafter called 'inherited' (Figure 11). For analytical purposes, inherited Roman cities in north Africa are excluded from this typology, as these Roman territories had a distinct historical background.[13] Similarly, Umayyad cities in the Iberian Peninsula are excluded here due to its significant geographical and cultural distance from the former Sasanian territory. While a thorough examination of Roman-inherited cities falls beyond the scope of this dissertation, it is necessary to briefly review the relevant literature and key conclusions on cities of Syria, Palestine, and Jordan, due to their geographical and cultural similarities which allow comparisons with Sasanian urban centres.

It is also important to emphasise that neither the former Sasanian Empire nor the Roman world were monolithic entities; regional processes varied significantly, as did the natural environments surrounding human settlements. For instance, at the time of the conquest, Roman cities had already undergone social and urban transformations due to the advent of Christianity. The term 'Roman cities evokes images of forums, marble porticoes, and people clad in togas strolling along well-paved, orthogonal streets. The urban landscape encountered by the Arab-Muslim army upon entering former Roman cities in Syria and north Africa was notably transformed, with churches replacing temples as focal points of urban spaces. Among other changes, theatres had already lost their central role in urban life, likely due to Christian moral influences (Kennedy 1985: 9). New buildings related to market activities were constructed within the peribolos of former temples (al-Sayyad 1991: 83). Additionally, a new style of the bathhouse had emerged, characterised by smaller structures and the omission of the *frigidarium*, the coldest room typical of Roman bathhouses (Kennedy 1985: 9).

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[13] For further information on new insights of Ifriqiyya, or north Africa, see Bockmann *et al*. 2019.

However, the most significant change in urban design during late antiquity and the early Islamic period involved the street layout. Numerous scholars have written about the gradual disintegration of the Hellenistic/Roman orthogonal grid, to the extent that this change was labelled as a 'decline.'[14] In most cases, the Hellenistic/Roman grid was supplanted by the development of autonomous quarters, each containing its own mosque, suq, public bath, bakery, and water supply. Notably, within this debate, Wheatley (2001: 58) proposed that certain quarters of these cities may have been influenced by the parochial organisation typical of Roman cities. In 1985, Kennedy published his ground-breaking paper titled 'From Polis to Medina,' which focused on urbanism pre and post-conquest in Antioch, Apamea, and Jerash (see Figure 11), as well as the cities and villages scattered throughout the limestone massif of northern Syria and Jordan. In his conclusions, Kennedy (1985) suggested that urban change began prior to the conquest and was not solely prompted by the introduction of a new religion. Following this paper, important studies on urban changes include al-Sayyad's (1991) examination of Damascus, Cordoba, and Jerusalem.

Avni's 2011 paper corroborated Kennedy's arguments by carrying out a systematic examination of updated archaeological evidence from Beth Shean (Scythopolis), Tiberias, Jerash, Caesarea, and Jerusalem (see Figure 11). Specifically, he confirmed that the central role of cities remained consistent from the Roman to the early Islamic periods, although the functions of certain spaces shifted. Avni (2011: 325) also suggests a re-evaluation of Kennedy's concept of a long-term decline starting in the 6th century CE, as,

> 'the process of urban change was more complex and involved a wide regional variability of both intensification and abatement of settlements' (2011: 328).

His research was further developed in his 2014 book, *The Byzantine-Islamic Transition in Palestine*, in which he adds a layer of understanding of the conquest's impact on urban spaces by looking up at archaeological and historical data of Caesarea, Beth Shean (Scythopolis), Tiberias, Jerash, and Ramla. The conclusions of Kennedy's paper (2018), based on, the new archaeological findings from Caesarea, Beth Shean, Tiberias, Jerash, and Ramla presented by Avni (2014), offer a deeper insight into the processes of urban transformation following the conquest.

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[14] On this debate and the bibliography of the scholarship, see Intagliata (2018: 29).

For instance, in the case of Caesarea, the archaeological data from the 2nd AH/8th CE century has been ambiguous, giving rise to two contrasting interpretations: one suggesting abandonment and another indicating mild urban growth (Kennedy 2018). This potential decline may be explained by the relocation of government functions to the newly founded city of Ramla (Avni 2014: 41-58; Kennedy 2018). This interpretation gains credibility when considering the subsequent increased prosperity associated with the Tulunid and Fatimid dynasties of Egypt, which attempted to extend control over Syria and Palestine (Kennedy 2018). It is important to note that, in this instance, the establishment of a new foundation and the relocation of the governor's seat there altered the trend of urbanisation – an element that will be observed in Sasanian cities as well. The directly proportional relationship between the government seat's location and urban growth is further confirmed by excavations at Tiberias, which experienced urban expansion during the first three centuries of Islamic rule (Avni 2014; Kennedy 2018).

Gerash's shows continued growth only up to the 2nd AH/8th CE century, in contrast to the more long-living Tiberias and Caesarea. This growth is evidenced by the construction of a mosque in the heart of a commercial area with adjacent shops, the conversion of the Artemis temple, theatre, and hippodrome into commercial and industrial spaces, and the continued use of churches (Avni 2014: 93-6; Kennedy 2018). At the contrary, excavations at Scythopolis reveal both the construction of the suq by the local governor and the subsequent reduction in activity, which appears connected to the destruction caused by the 749 CE earthquake (Avni 2014: 51-71; Kennedy 2018). This catastrophic event prompted the city's relocation from the valley to the plateau to the south (Avni 2014: 51-71; Kennedy 2018).

Damascus also provides an example of how urbanism can be employed to compare historical sources with archaeological evidence. All historical sources agree that the initial conquest brought minimal changes to daily life in Damascus, aside from several Greek-speaking individuals leaving the city, with their vacant properties subsequently occupied by the conquerors, and some instances of dispossession (al-Sayyad 1991: 86-8After initially residing in existing houses, the conquerors expressed interest in formally acquiring the land they occupied, marking the beginning of urban changes (al-Sayyad 1991: 88). Besides this, the first phase of transformation in Damascus focused mainly on religious spaces. According to

Ibn Jubair, corroborated by the Gallic Bishop Arculf, the Arabs divided the church of St. John (formerly a temple dedicated to Jupiter) into separate sections, occupying the eastern half in alignment with their entry through the city's eastern gate (al-Sayyad 1991: 88). al-Sayyad (1991: 90) suggests that the Arabs likely utilised this eastern area because it lay outside the church, supporting this hypothesis with the fact that it was referred to as the *musalla*—a space designated for prayer that did not require a dedicated building. When *musalla* were involved, there was no need for a structure to fulfil the religious function (al-Sayyad 1991: 90). The adaptation of existing elements by the Arabs to suit their needs and their integration into the city's environment is suggested by the fact that, although the perfectly orthogonal Hellenistic grid underwent gradual dismantlement during the Roman Empire, the long *decumanus*, known as *al-Mustaqim* ('the straight'), remained intact for almost ten centuries (al-Sayyad 1991: 86).

Therefore, Damascus experienced relatively few urban transformations immediately after the conquest. This trend began to change with the rise of the Umayyad dynasty. The founder of this dynasty was the former Governor of Syria, Muʿawiyah, who designated Damascus as its capital in 38 AH/659 CE (Wheatley 2001: 112). Muʿawiyah's urban planning decisions were substantial and focused on institutional spaces. During his tenure as governor, he may have resided in a Roman palace but commissioned the construction of a new palace (al-Sayyad 1991: 91). This marked a pivotal moment signifying a shift in the significance of institutional spaces. Prior to this, the residence of the orthodox Caliphs primarily served private and residential purposes, as the first four Caliphs preferred to hold their court, known as *majlis*, in the mosque, and hence the masjid served as both religious and administrative urban space (Santi 2018:312), as it will be further explored (chapter 5.4). Muʿawiyah departed from this tradition by introducing a building that served as both his family residence and the administrative centre for state affairs.

The administrative and political changes initiated by Muʿawiyah had cultural and architectural manifestations within Damascus' cityscape during the reign of his successors. ʿAbd al-Malik (r. 65-86 AH/685-705 CE) replaced Christian administrators with Muslim Arab-speaking officials. This administrative change coincided with the introduction of a new Arab currency to replace Roman coins, along with the construction of the Dome of the Rock in

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Jerusalem and the city wall around Damascus (al-Sayyad 1991: 98). More religious changes were put in motion during the reign of al-Walid (r. 86-96 AH/705-15 CE). Reports mention Muslims taking over St. John's church, although it remains unclear whether they demolished the church or made additions to the mosque (al-Sayyad 1991: 98-9). During ʿUmar II's reign (r. 99-101 AH/717-20 CE), Christians were offered an interesting proposition. They could either have St. John's church returned to them while relinquishing their rights to all other churches or regain access to all the old churches while giving up their claims on St. John's (al-Sayyad 1991: 100-1). Needless to say, they chose the second option.

Damascus' case illustrates how the primary changes immediately after the conquest were pragmatic, focused on finding a place to pray. However, with the rise of a new dynasty, the founder's efforts shifted toward making his power emblematic. Propaganda then seemed to concentrate on constructing a residential and administrative palace and transferring administrative functions away from the mosque. While the leader's power still required religious legitimisation, as a Caliph held religious authority, a new narrative of power began to emerge. His descendants pursued a broader process of 'Arabisation,' involving changes in coins and administrative language, thus aiming for a cultural shift. The alterations in the street grid of Damascus had already begun in the late Roman era as both private residences and properties controlled by the churches were built within former public spaces such as streets. This process was widespread within the territories of the Roman empire, as it is evident across north Africa as well (Leone 2007, 2013). As previously mentioned, religious morals contributed to the decline of theatres in Damascus and other cities, and their role within urban life was replaced by churches. This evidence suggested that privatisation and the Hellenistic grid's dismantling progressed in parallel with the rise of monotheistic religions.

Drawing conclusions in a vast and diverse region like Roman Syria is a complex task, considering the numerous historical and cultural variables at play. When examining the former scholarship, it becomes evident that the urban changes brought about by the conquest primarily involved disruptions to the urban grid, along with the religious function of the mosque increasingly tied to the economic role of the suq. However, Kennedy (1985: 13; 2018) demonstrated that these patterns had already emerged pre-conquest in other cities

such as Jerash and Ephesus (see Figure 11). Likewise, Avni (2011: 318; 2014) highlighted that decline and urban changes in certain cities, like Caesarea, were influenced by local circumstances. Nevertheless, the transformations observed in the three cities reveal a clear pattern. Roman urban spaces were repurposed and adapted to meet the practical needs of the Arab-Muslim population without causing significant disruptions to daily life until the reign of al-Walid. This Caliph, renowned for his grand construction projects, employed the construction of new monuments to symbolise the power of the Caliphate. Consequently, the role of patronage within the cityscapes becomes paramount.

However, this process had begun earlier on. In the imperial Roman and pre-Christian eras, patronage or subsidies from municipal revenues were invested in secular monuments, resulting in the development of baths, colonnades, *agora*, and paved streets in Syrian cities. By the 6th century CE, imperial patronage had shifted toward religious buildings (Kennedy 1985: 19). The weakening of municipal authorities and their diminishing interest in maintaining public buildings were observed in Syriac cities; for instance, Beth Shean/Baisan (see Figure 11) (Avni 2011: 308). This trend persisted with the conquest until caliphal patronage altered the course, as exemplified by al-Walid. The infrastructure provided by the early Islamic state was limited to city walls, mosques, and a water supply —this last one essential for ablutions in worship (Kennedy 1985: 20). However, Avni (2011: 315) highlighted that the decline of several large public buildings in a city should not be taken as a sign of an overall decline in the urban landscape but rather as a conceptual shift in the focus of activities and the growth of vibrant local commercial networks. Public and political functions formerly occurring in theatres, *agora*, or hippodromes were now held in mosques (Kennedy 1985: 15-6).

Similarly, the alteration of the classical street plan was not a deliberate choice by urban planners. Rather, it resulted from increased urban and commercial vitality.

> *'The changing aspect of the city was determined by long-term social, economic, and cultural forces, not by administrative incompetence or aesthetic insensitivity.'* (Kennedy 1985: 17).

Islamic law does not require permissions for buildings' extensions or changes, even in cases where the urban street grid was affected (Kennedy 1985: 21). The privatisation of public

spaces began in late antiquity and continued after the conquest, as observed in Palmyra, in Syria (Kennedy 1985, 2018; Avni 2011, 2014), and north Africa (Bockmann *et al*. 2019: 3). An emblematic example of privatisation is the construction of a densely populated residential area over the Tiberias' theatre during the early Islamic period (Avni 2011: 309). Crucially, within Islamic society, honest commerce was considered even more meritorious than government service, and commercial spaces held greater significance than monumental buildings (Kennedy 1985: 25). In many cities of Syria, Palestine, and Jordan, commercial and industrial facilities expanded into the wide-colonnaded streets and the areas surrounding mosques.

The inhabitants of the Arabian Peninsula came from a region characterised by various types of settlements, even though there were not many metropolises. The fact that large cities were often considered a paradigm of 'civilisation' did not necessarily mean that the Arab-Muslim army entering Roman cities was awestruck, nor that monumentality and Hellenistic-Roman spaces must be considered as the epitome of 'order.' Urban spaces are shaped by the needs of the people living within them. As this army advanced, they required new urban spaces for their conquests, and they were more than capable of organising and planning accordingly.

3.4. The garrison cities

'The Arabs are like camels, what is good for camels is good for them too.
So, move them out of the infested place and settle them in a desert site
where no water can separate me from them.'

al-Baladhuri (276 [tr. Hitti 1916: 435])
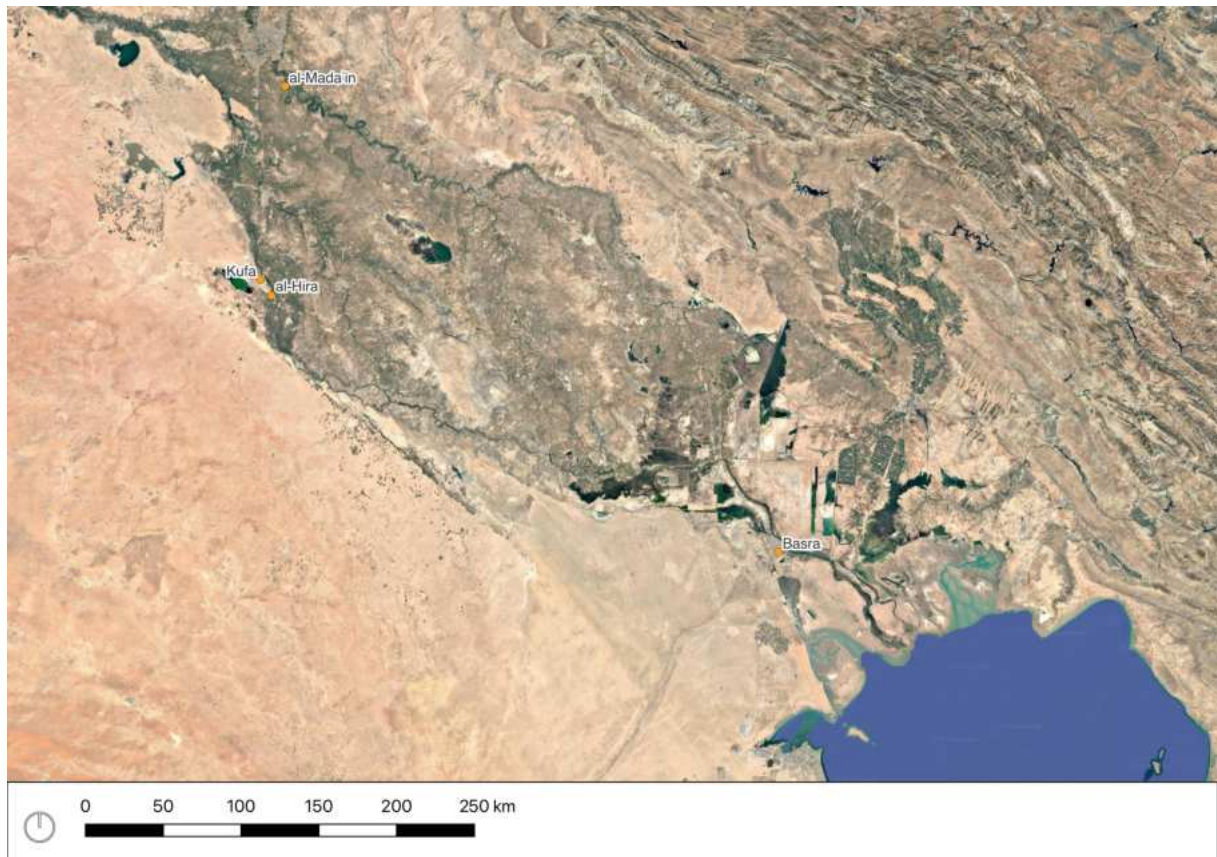
Figure 12. Annotated satellite image showing the location of Kufa and Basra.

The urban typology often regarded as distinctively Islamic was the garrison city. During the conquest, the army required a more secure and permanent encampment than simple tents could provide. There is some debate regarding the terms used for garrison cities. According to (al-Sayyad 1991: 45), there were three different typologies of garrisons: *fusṭaṭ, miṣr,* and *ribat*. According to this scholar, *fusṭaṭ* was a mass encampment that eventually evolved into a city, as seen in the case of Fustat in Egypt; *ribats* referred to border garrison that grew into fortified cities such as Rabat in Morocco and Monastir in Tunisia, were particularly common in Ifriqiyah (modern days Morocco and Tunisia) and were established before the conquest of Sicily (Wheatley 2001: 53); and *miṣr* (plural *amṣar*) was the word used at the time of the

65

Caliph ʿUmar (r. 13 AH/634 CE-23 AH/644 CE) to designate the centres selected as bases for further military campaigns, practice that might be associated with Basra and Kufa in Iraq (al-Sayyad 1991: 45-6) (Figure 12). Substantial work on *amṣar* was undertaken by Whitcomb (1994), who started a reinterpretation of the garrison cities by examining the archaeological evidence from Syrian cities. According to Whitcomb, the term *amṣar* did not fall out of use with the decline of the military role of such cities; instead, it came to refer to any large or significant city. A distinction was made between early *amṣar*, such as Basra, and important newly founded towns, such as al-Ramla (Whitcomb 1994: 23-4). In his conclusions, Whitcomb interprets *amṣar* as an urban imposition and a new phase in the processes of urbanisation following conquest (Whitcomb 1994: 28)*.* In his summary of early Islamic urbanism, Northedge (2017) identified as *amṣar* all the centres designated to settle troops in the conquered territories, and mentions Basra, Kufa, and Fustat as main examples (Northedge 2017: 157-9). al-Sayyad (1991: 78) suggests that one motivation behind the building of garrison cities might have been the desire to isolate themselves from the local population they engaged in battle. This idea gains support from the fact that they inhabited Syrian cities, which were much smaller than their counterparts, and surrendered with no riots (al-Sayyad 1991: 78). According to Wheatley (2001: 40), the Arab tribesmen needed places to garrison the conquered provinces without despoiling them, so they settled in military camps along the desert fringes.

Regardless of the specific reasons for these new foundations, garrison cities and their development played a crucial role in the Islamic urbanisation process. This section will adopt Northedge's definition of *amṣar* as a garrison city built by and for tribal groups, which subsequently evolved into an urban entity, rather than being the product of a patron's design. Hence the focus of this section will be on Kufa and Basra, which were founded within the Sasanian territories during the conquest and were key in the evolution of the Caliphate's urbanism.

The settlement process of these cities was a combination of centralised planning and the inhabitants' preferences. Different residential quarters, *khutat*, were assigned to each tribe, and these tribes arranged the residential spaces as they saw fit. In Kufa, the overall layout was more organised and planned on-site compared to Basra (al-Sayyad 1991: 65). At the

same time, the urban dimension was denied by ʿUmar's anti-urban sentiments, and thus, 'During ʿUmar's reign, the form of garrison cities embodied the puritanical ideals of Islam' (al-Sayyad 1991: 69). Another interesting mention of ʿUmar's feelings for the built environment is reported by al-Tabari:

> *'ʿUmar had enjoined the delegation to carry out what he had said, and he ordered the people (in Iraq) not to construct buildings that were higher than the "norm." "But what is this 'norm'?" they had asked. "The 'norm,'" ʿUmar said, "is that which keeps you well away from wastefulness but, at the same time, won't make you lose sight of what you are aiming at".'* (2488 [tr. Juynboll 1989: 68]).

Kufa and Basra evolved into what are considered by al-Sayyad (1991: 72-3) prototypes of planned Islamic cities, characterised by several key features summarised:

- The mosque was not intended to be a permanent structure.

- The *dār al-ʿimāra* was meant to serve as a government seat.

- The *khutat* were geometric planning units, although not necessarily orthogonal, used as land subdivisions along ethnic and tribal lines, but not they did not consist of stereotypical, socially bound units.

- As they were army bases, there was no need for walls, gates, moats, or citadels.

- The *dār al-ʿimāra* and mosque were intended to be part of a single architectural unit.

- A suq generally sprung outside the mosque, but there were several decentralised markets; and

- There were cases of a main square at the centre of the garrison city, called *sahn*, *sahah*, or *rahbah*.

Considering Kufa in greater detail reveals a multifaceted genesis, as various historical accounts contribute to its foundation. After the victory at Qadisiyya (15 AH/637 CE) and the subsequent settlement in al-Madaʾin, the governor al-Saʿd was instructed by Caliph ʿUmar to locate a new site, as

> *'The Arabs are like camels, what is good for camels is good for them too. So, move them out of the infested place and settle them in a desert site where no water can separate me from them.'* (al-Baladhuri 276 [tr. Hitti 1916: 435]; al-Tabari 2487 [tr. Juynboll 1989: 63]).

Other versions attribute the foundation of Kufa to the unsanitary conditions in al-Madaʾin (al-Baladhuri 275 [tr. Hitti 1916: 435]; al-Tabari 2484 [tr. Juynboll 1989: 64]). According to an

earlier account dated prior to the battle, ʿUmar instructed al-Saʿd to advance toward al-Madaʾin while leaving the women and children in al-ʿAtiq under the protection of a stationed army contingent (al-Tabari 2419 [tr. Juynboll 1989: 1]). If the mentioned al-ʿAtiq will be confirmed to be the Euphrates Canal near the site where Kufa was built, this area may have served as a base and possibly existed longer than previously thought. In another foundation narrative, scouts discovered three Christian monasteries made of reeds in the same location where Kufa was established (al-Tabari 2483-4 [tr. Juynboll 1989: 63]). Interestingly, al-Baladhuri (241 [tr. Hitti 1916: 388]) states that Kufa was formerly called al-Hira, suggesting a possible connection between the two nearby cities. al-Dinawari (tr.: 132) states that al-Saʿd chose the site of Kufa's foundation after conducting thorough research throughout Iraq.

Figure 13. Euphrates, in the proximity of Kufa. Photo by Aila Santi.

Once the site was chosen due to one or more of the reasons mentioned, the chroniclers suggest a temporary nature of the settlement, as the initial structures in this new encampment were constructed using reeds (al-Tabari 2487 [tr. Juynboll 1989: 67]). Over time, Kufa gradually transformed into a more permanent settlement built in mudbricks. The shift in building materials was not only due to the need for permanent dwellings but also because fires occasionally occurred and destroyed roofs (al-Tabari 2487 [tr. Juynboll 1989:

67]). It is reported that an architect from Hamadan assisted al-Saʿd in constructing parts of the mosque and the *dār al-ʿimāra* using fired bricks from al-Hira (al-Tabari 2491-2 [tr. Juynboll 1989: 72]). Possibly coeval with this change in building materials is the replacement of the tribal *khutat*, which aimed to preserve the spatial allocation of each tribe, with a more coherent urban plan by the first known Islamic urban planner, Abu al-Hayyaj. He is attributed to organising the various quarters around a centrally located mosque (al-Sayyad 1991: 56; Wheatley 2001: 45). However, much of the planning and building activity was carried out by Ziyad 's agents (al-Baladhuri 276 [tr. Hitti 1916: 436]). Other features of the urban evolution of the newly founded Kufa were related to water. Initially, Kufa lacked potable well water during the first hundred years of life, requiring supplies to be transported from the nearby Euphrates (Wheatley 2001: 48; Figure 13). The importance of Kufa growth after twenty years from his foundation as after the Battle of the Camel (c. 35 AH/656 CE), Caliph ʿAli relocated here the capital from Medina and reorganised the tribal groupings and their placement (Wheatley 2001: 46).

Basra's foundation has multiple accounts, with different sources offering varying explanations. One theory links its construction to the Sasanian city of Ubulla, which may have had connections to the Indian Ocean trade port near the Tigris channel, possibly located at present-day Ashar, near Apologos (Simpson 2019c: 38). However, Denoix (2008: 119) suggests that it was situated near an abandoned site called al-Khurayba, which translates to 'the small ruin' in Arabic. According to al-Baladhuri,

> '*al-Basra was built sometime between the battle of an-Nukhailah[15] and Qadisiyah (15 H/637 CE) by ʿUtbah ibn Ghazwan.*' (256 [tr. Hitti 1916: 410]).

al-Dinawari (tr.: 124-5) reports that Basra was founded by Abu Musa on ʿUmar's orders, with land distributed among the tribes, along with the construction of dwellings and the establishment of a Friday Mosque. The contradictory narratives surrounding the chronology of Basra's foundation can be attributed to the rivalry between Basra and Kufa, both cities vying for the distinction of being the oldest (Wheatley 2001: 42). Another plausible explanation arises from al-Masʿudi's account, which suggests that the city was founded where Arab camps had already been established two years prior (Wheatley 2001: 42),

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[15] It was not possible to find the date of this battle. Considering that al-Baladhuri mentioned one after the other, likely these were some months apart.

implying that the city was 'founded' twice. Little is known about the details of the initial settlement, but records indicate the presence of a prayer area and the residence of the army chief, around which the various tribes pitched their tents (al-Sayyad 1991: 48). As described by al-Baladhuri,

> *'They put up there booths and tents of leather and of coarse cloth and did not have any real buildings.'* (342 [tr. Murgotten 1924: 54]).

These temporary structures, constructed of reeds and canes, were dismantled before the army departed for conquests. Over time, tents were gradually replaced by mudbrick construction, indicating a shift towards permanence (al-Baladhuri 346 [tr. Murgotten 1924: 61]; al-Sayyad 1991: 48). Similar to what happens in Kufa, in 17 AH/638 CE, Governor Abu Musa was required to undertake a fair land distribution among the tribes (al-Sayyad 1991: 49). However, the subsequent arrangements of the masjid, *dār al-ʿimāra*, and bazaar appeared scattered, indicating the absence of a specific layout planning strategy (al-Sayyad 1991: 50). According to historical sources but not archaeologically confirmed, the use of fired bricks became common during the governorship of Ziyad (Wheatley 2001: 43). Wheatley (2001: 44-5) reconstructed the cultural elements present in Basra at the time. According to historical sources, in addition to the Arab tribes, there were likely speakers of Aramaic who had been 'Iranicised' to varying degrees, local people of Iranian origins, Sindhis and Indians who had defected from the Persian army, Sumatrans employed by the former empire to combat piracy, and slaves from the east African coast (Wheatley 2001: 44). The city's rapid growth may have been influenced by this multicultural milieu, along with its strategic position along the trade routes of the Persian Gulf (Wheatley 2001: 47).

The rivalry between Basra and Kufa became pronounced after ʿAli's election as Caliph following ʿUthman's death, which occurred around 35 AH/656 CE. ʿAli received support from the residents of Kufa, while Aisha managed to turn Basra against them (al-Tabari 3099ff [tr. Brockett 1997: 40ff.]). These two garrison cities continued to play pivotal roles during Muʿawiyah's revolt against ʿAli, as reported by al-Tabari (3256-476 [tr. Hawting: 1996]). The conquest and stabilisation of the new power were heavily influenced by the region of modern Iraq, as indicated by the *futuh* sources. However, the central focus shifted to Damascus and, hence, Syria and the northern part of the Caliphate with the rise of the Umayyad dynasty.

The significance of garrison cities in the future Caliphate should not be underestimated, as they played a crucial role in shaping the evolution of Islamic cityscapes from their inception. Two distinct post-conquest effects of 'sedentarisation' on the structure of Arab society were connected to these cities (Wheatley 2001: 52-3). Firstly, it gradually undermined tribal autonomy over the long term. Secondly, it bolstered the power of prominent and influential families, who maintained law and order within their quarters and actively participated in informal councils with tribal Shaykhs. As a result, they became *de facto* intermediaries between the governor and the tribesmen, leading to the emergence of an aristocratic governing class.

This period of conquest in which the garrison cities were the main protagonists marked the need to maintain a connection with Arabia (Denoix 2008: 118). al-Baladhuri (275 [tr. Hitti 1916: 434]) offered a straightforward explanation for 'Umar's foundation of Kufa, attributing it to the need for a garrison where people could migrate and have a meeting place, as long as no sea separated them from the Muslims, and hence, Arabia. Although the strategic significance of Kufa and Basra was related to their proximity to the homeland, the importance of the Euphrates and Tigris River valleys cannot be underestimated. This region was the site of key battles between the Sasanian and Arab armies, enhancing its symbolic importance. Moreover, the region's millennial importance was due to its agricultural richness and fertility and its access to the Indian Ocean and other trade routes. Besides other archaeological and historical evidence, pivotal is the fact that the mints in Asorestan were these showing the most undisturbed continuity of use.[16] Although Asorestan was closer to the frontiers than other regions, such as Fars, it was considered the best and most appropriate place to locate mints. This decision was because due to the fact that this region was well-connected and featured an efficient infrastructure network.

However, over time, Kufa and Basra adapted to accommodate the needs of their growing populations and the evolving socio-cultural dynamics, as will be further explored in chapters 5 and 6. The initial military planning often gave way to a more organic development shaped by the inhabitants themselves. In many cases, the limited urban planning or central

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[16] Thanks to Dr Nikolaus Schindel's talk 'Sasanian Numismatic' (*Ērān Research Forum. West & Central Asia in the First Millennium CE*. Université de Lille 15-19 July 2024).

authority's control was challenged and modified by the natural processes of habitation and the diverse communities that settled in those cities.

3.5.   The inherited cities – transition in the former Sasanian Empire

'He left al-Madā'in empty, and the Muslims entered it.
They came upon much booty there. They encountered much camphor,
They thought it salt and put it in their bread, but it was bitter for them.'

al-Dinawari (tr.: 134)
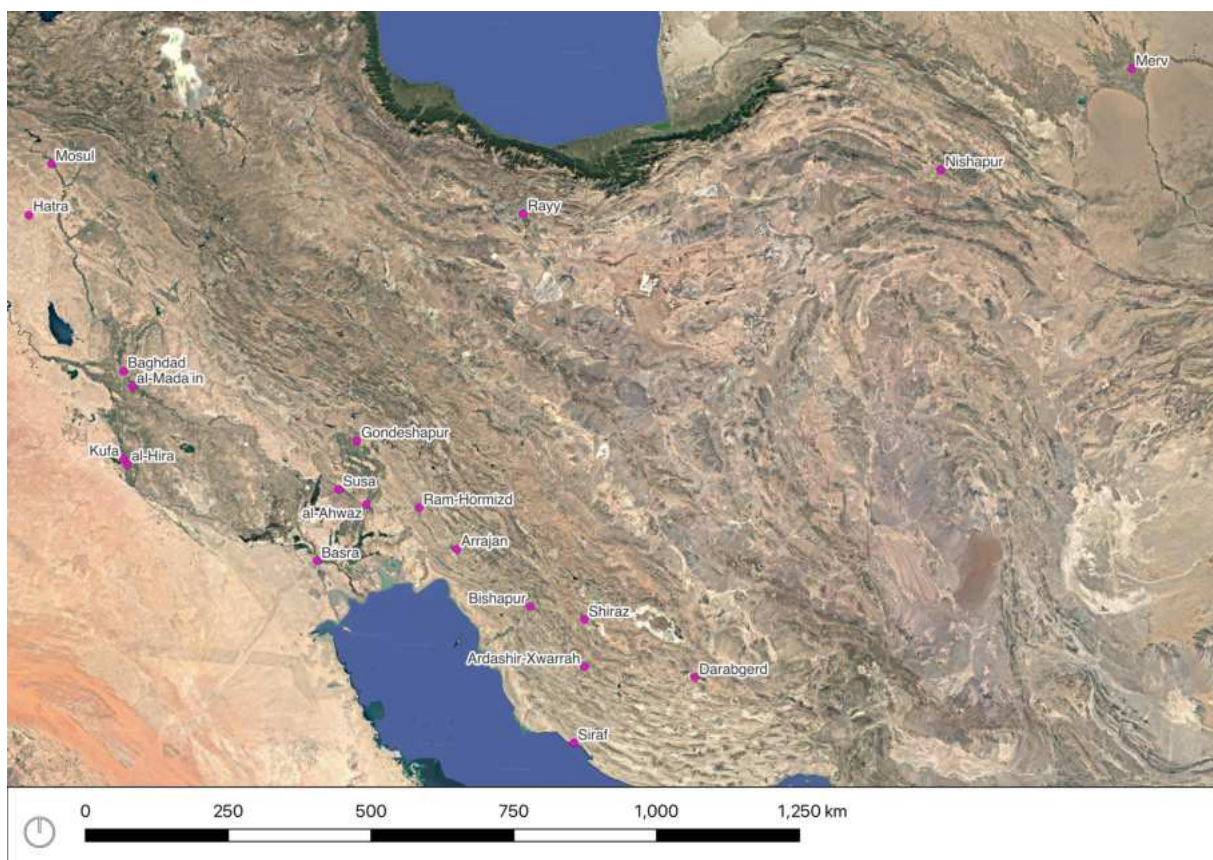
Figure 14. Annotated satellite image showing the location of the cities mentioned in the text.

The study of inherited cities is essential for understanding the dynamics between new elites and emerging powers and how they influenced and impacted urban spaces (Kennedy 2008: 93). However, as Kennedy (2008: 93) points out, finding archaeological evidence in cities that are still inhabited and thriving today can be challenging. Changes in cities abandoned during the Abbasid period or gradually depopulated after the 4th AH/10th CE century are easier to

observe. An instance is Ardashir Xwarrah (Figure 14), known after the fall of the Sasanian Empire as Firuzabad. These 'abandoned cities' have preserved archaeological data that allows us to distinguish between Sasanian and Early Islamic chronologies. In cities like Isfahan, Rayy, and Nishapur (see Figure 14), the former settlements are difficult to identify, and there is very little archaeological evidence of Sasanian phases. Another significant challenge is the regional context. Each region that became part of the new Caliphate had a unique historical background, different influences, and varying availability of building materials. Therefore, this brief overview of inherited cities from the former Sasanian Empire will follow a regional order.

Iraq
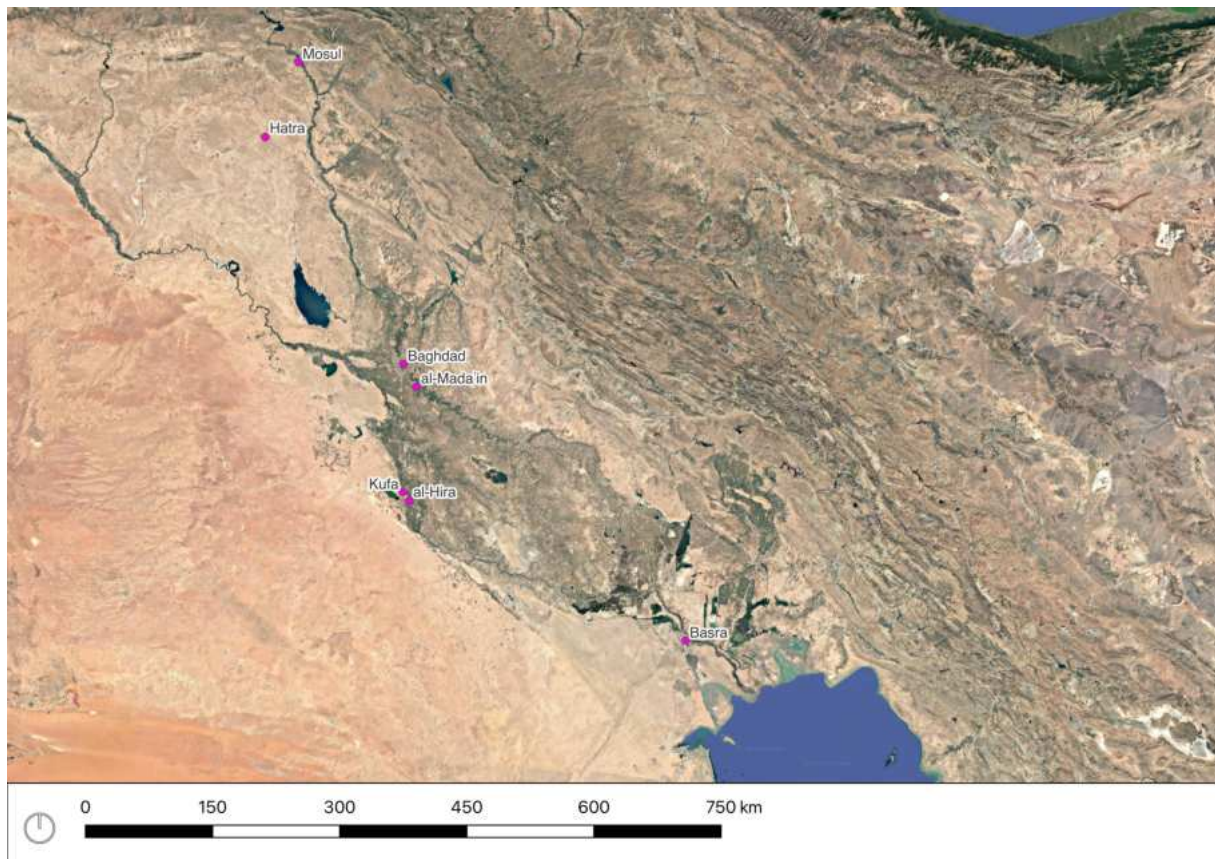
Figure 15. Annotated satellite image showing the location of the cities mentioned in the text.

Starting from the core, in Iraq, an example of the urbanisation process can be seen in the settlement which became known as the city of Mosul (Figure 15), described by al-Baladhuri:

> *'ʿUmar ibn al-Khattab removed ʿUtbah from al-Mausil and appointed thereover Harthamah ibn ʿArfajah al-Bariki. In the place [at this time] was the castle, churches*

of the Christians, a few dwellings of theirs near these churches, and the Jews' quarter. Harthamah made a chief city of it, settled the Arabs in their own dwellings, apportioning holdings for them, and later built the cathedral mosque.' (332 [tr. Murgotten 1924: 32]).

Mosul was taken into consideration here as it was a small settlement during the Sasanian era, which experienced significant development after the conquest, particularly with the unification of the Mesopotamian region of two empires under the Caliphate. Mosul's expansion is emblematic of the increased urbanscape of the region brought by the regional peace and intensified trade of such an extended territory.

Given Iraq's pivotal role within the Sasanian Empire and its strategic location (see chapter 1.3), the conquest of this region was of great importance. The significance of the Diyala River basin during this transitional period is confirmed by the presence of the settlement known as Uskaf Bani Junayd, inhabited from Sasanian times to the early Islamic period (Kennedy 2008: 101). However, the key event of the conquest was the capture of the Sasanian administrative capital in 16 AH/637 CE (see Figure 15), After a monumental battle fought in the waters of the Tigris River, the Arab-Muslim army offered protection to the inhabitants in exchange for *jizya* (see chapter 1.2; al-Tabari 2440 [tr. Juynboll 1989: 20]). According to several versions, al-Saʿd established his headquarters in the White Palace and designated the Great Hall as a prayer site (al-Tabari 2441, 2443 [tr. Juynboll 1989: 21, 23]). This symbolic act of occupation creates a moment when the Sasanian dynasty's places were physically taken over by a new power and a different religion. Although leaving no physical evidence on the administrative space, this act reverberated across the population to the point that it was still considered a focal point of the narrative of the conquest by an author writing two hundred years later. After the foundation of Kufa (c. 140 kilometres south of Ctesiphon), much of the army migrated there, leaving only a small garrison in al-Madaʾin (al-Tabari 2487 [tr. Juynboll 1989: 67]). One significant change occurring in the al-Madaʾin conurbation after the conquest was the transformation of its eastern half into the provincial capital of Ard Jukha (Morony 1984: 140). al-Madaʾin continued to exist as a small city, or possibly as a conurbation of small cities, given the archaeological evidence of settlement in Veh-Ardashir, but two of its focal points were Kufa and Basra (chapter 4.1; see Figure 22). The prominence of the Iraq region arose again during the Abbasid period, highlighted by the foundation of the new Abbasid capital, *Madinat al-Salam* (later Baghdad), by Abu Jaʿfar al-Mansur in 144 AH/762 CE (chapter 3.1).

The pivotal act of founding Baghdad ultimately marked the abandonment of al-Madaʾin, signifying its end (Morony 1984: 201). The city planning of Baghdad was entirely designed by a central agency, i.e., the Caliph, with minimal social forces involved. The circular layout and the subdivisions into quarters were determined predominantly by ideological considerations, although elements of potential seclusion of the Caliphal power dictated by strategic defensive considerations also played a role. The central location was the seat of the Caliph's palace, a metaphor for being at the centre of the universe. However, this positioning also ensured that the palace was equidistant from different sections of the city walls, facilitating ease of control and defence (al Duri 1986: 894-5). The potential role of Sasanian cities as prototypes of Baghdad's circular configuration will be explored (chapter 4.1).

Khuzestan

During the initial phase of the conquest of Khuzestan in 17 AH/638 CE, garrisons were established in al-Ahwaz, al-Sus, Gondeshapur, Tustar, and Ram-Hormizd (Figure 16) (al-Tabari 2550 [tr. Juynboll 1989: 131-2]). Some of these cities were ancient and had multiple names, making it challenging to identify changes in urban spaces. Cities like Hormizd-Ardashir/Ahwaz and Gondeshapur/Veh Antioch Shapur (see Figure 16) were primarily inhabited during the Sasanian era and continued to thrive after the transition. This is noteworthy because, despite the shift of power to Syria during the Umayyad period and a greater focus on trade centres like Basra and Siraf, these cities in the Khuzestan region managed to maintain their significance and vitality. Gondeshapur gradually lost its vitality and significance later, but it remained inhabited until the 3rd AH/9th CE century. Indeed, Yaqut al-Rumi (tr.: 169) described Gondeshapur as a large, fortified city and the residence of the Safavid Yaqub ibn Leiss (sultan of Khuzestan in 262-3 AH/883-4 CE). The excavations precedingly analysed (chapter 4.1; see Figure 31) highlighted the continuity of settlement. Although the degree of importance of Gondeshapur after the conquest is not clear, data found so far suggests that its loss of significance was gradual, so perhaps unintentional. Routes of transport and commerce were possibly directed through Basra instead. This commerce was not only relegated to food items and artefacts. An important part of it consisted of a 'hidden' part of the population, the slaves (Richardson forthcoming). Among the historical mentions of slaves is the meeting of ʿUmar, before his assassination, with the young Christian slave who is 'a carpenter, stone

mason, and smith' (al-Tabari 2722 [tr. Rex Smith 1994: 90]). These passing mentions of slaves and the development of maritime ports like Basra, which also traded slaves, suggest that this part of the population was a social force, albeit 'passive,' when compared to the elite or merchants. A key focal point of future discussion on the transition should focus on slaves and their role within the post-conquest.
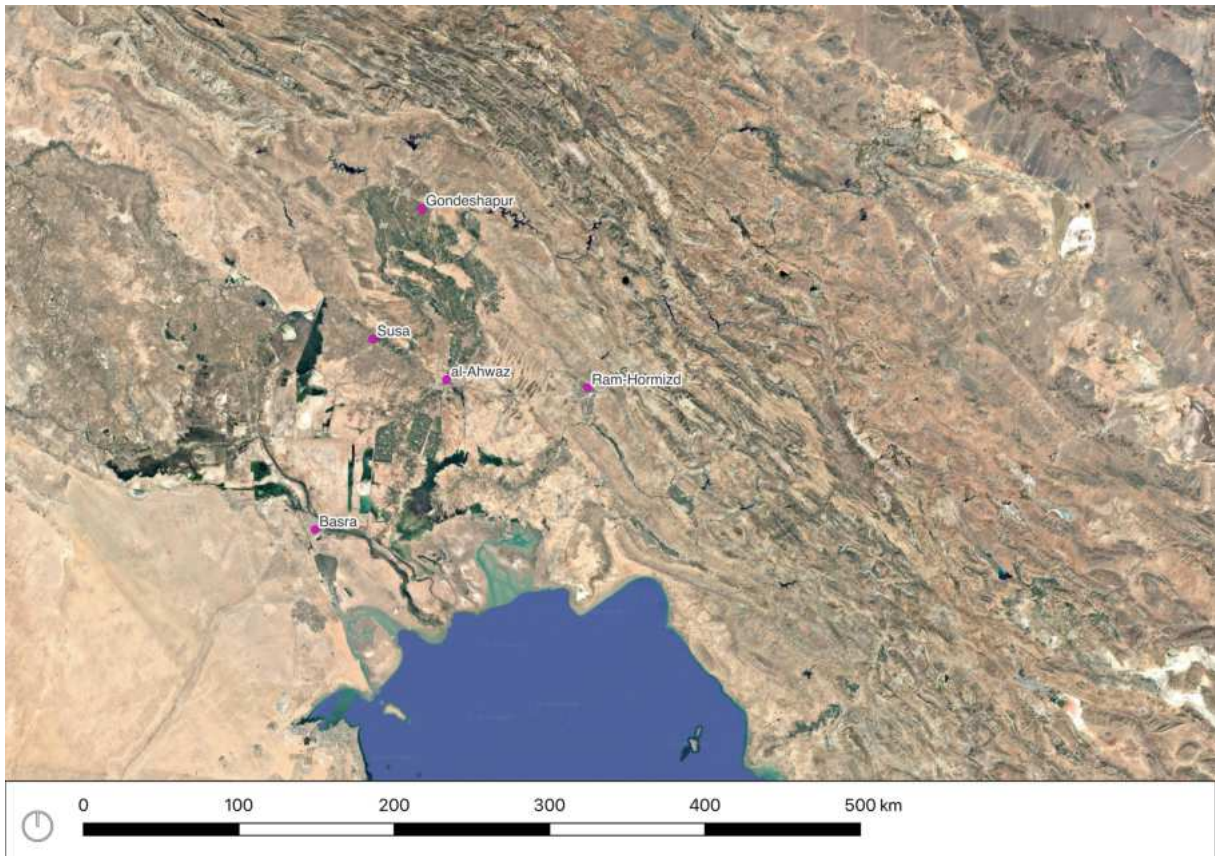
Figure 16. Annotated satellite image showing the location of the cities mentioned in the text.

As mentioned (see chapter 1.3), Fars' historical inhabitation was located in the eastern part, referred to as 'cold lands' or *sardsīr*, where rain-watered agriculture thrives, as shown in Figure 17. In contrast, the coastal regions of the Persian Gulf, known as *garmsīr*, are the 'warm lands' requiring irrigation-based agriculture. The two areas are separated by a temperate zone known as *moʿtadel*. In the western part, the mountainous highlands are divided by narrow valleys known as *sarḥadd*, which are unsuitable for farming (de Planhol 2000: 316). The boundaries between these regions are unclear, especially in modern times, given climate changes caused by global warming.

Fars
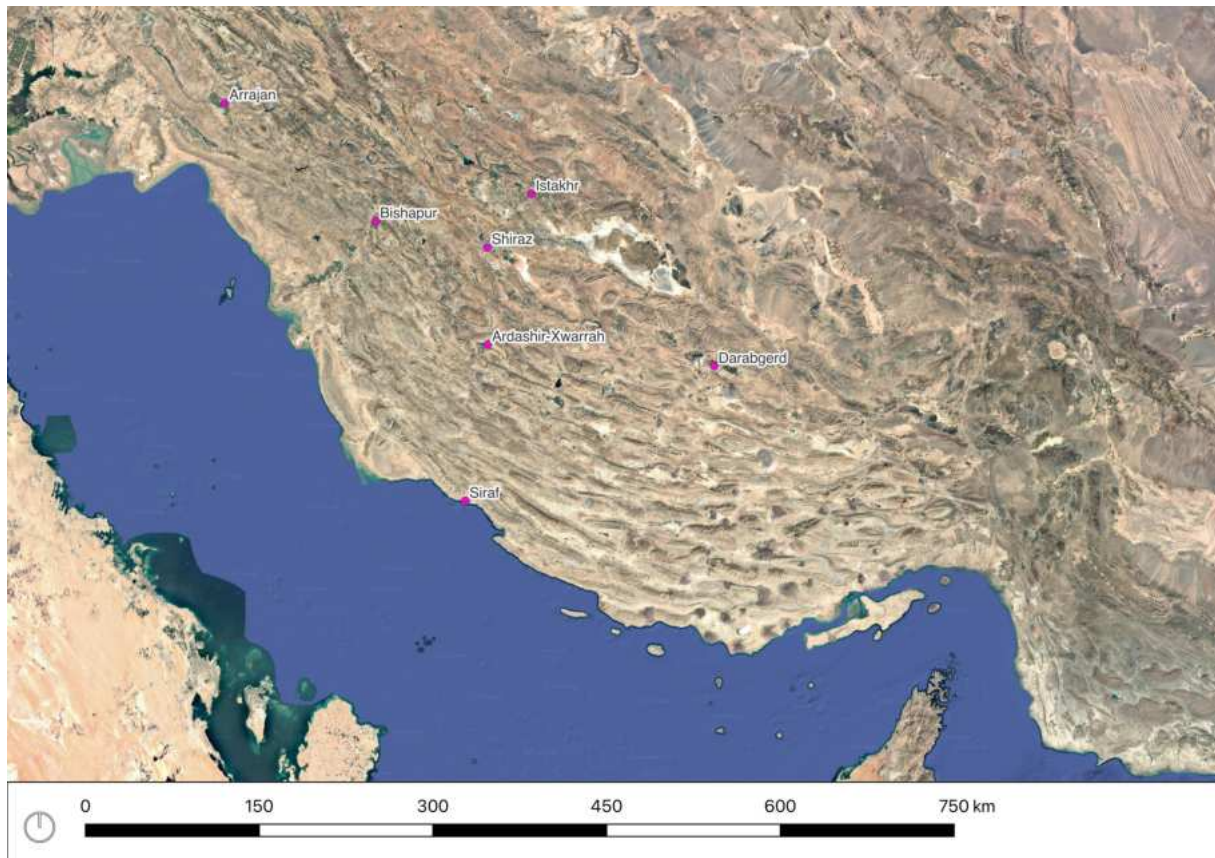
Figure 17. Annotated satellite image showing the location of the cities mentioned in the text.

The chronology of the Arab-Muslim conquest of Fars is not entirely clear, as the narrative of al-Baladhuri and al-Tabari on Fars' cities mentioned that most of these experienced revolts and had to be reconquered (Kennedy 2007: 148-59). Given these rebellions and the absence of peaceful surrender, the Arab-Muslim conquerors likely left garrisons to maintain control over the population. As a result, the urban environment underwent some modifications that were more directed and intentional.

Examining the former Sasanian cities in Fars, historical and archaeological evidence shows that the early Islamic city of Istakhr (see Figure 17), an area of 400 square metres, was enclosed within a wall, and a mosque and a *bazaar* were located at its centre (Kennedy 2008: 104). In Bishapur (see Figure 17), the new Islamic settlement was situated in the gardens west of the Sasanian city, possibly reusing some previous architecture as a mosque (Kennedy 2008: 104). Ardashir-Xwarrah (see Figure 17) was known as Gur, possibly due to its relations

with the *juri* roses (chapter 5.6), until the 4th AH/10th CE century and was eventually rebuilt and renamed Firuzabad by the Buyid Adud al-Dawla (r. 338-72 AH/949-83 CE) (al-Mustawfi [tr.: 118]). After the conquest, the new Islamic settlement seems to have occupied a portion of the original enclosure (Kennedy 2008: 104). Various sources mention the presence of Sasanian monuments in these cities, although their original functions may have been lost. As al-Masʿudhi stated,

> '(...) several other localities in Fars contain ancient monuments, and numerous legends are associated with them that are too lengthy to recount here.' (tr. Barbier de Meynard and de Courteille: vol. IV, 79).

Figure 18. Mound marking the possible location of Dehr-i Shahr. In the background, the northern section of Firuzabad's city walls. Photo by the author, view looking northeast.

According to al-Maqdisi (tr.: 382), Firuzabad's rural district was characterised by surrounding villages, and houses were well-arranged, suggesting a certain degree of urban planning even in settlements of a lower scale than cities. A 'Dehr-i Shahr,' literally 'city village,' was mentioned by Stein (1936: 117) as being inhabited in the 13th AH/19th CE century. A field

survey conducted in 2015 (Rossi 2016) identified the presence of two mounds characterised by large quantities of glass fragments and other surface findings, potentially part of the remains of the Dehr-i Shahr (Figure 18). Perhaps this was the settlement that emerged after the conquest, although excavations would be needed to confirm this hypothesis. If this is confirmed to be the post-conquest settlement, it would illustrate the ongoing habitation within the city walls of the Sasanian city.

The pattern emerging, especially from historical sources, indicates that former Sasanian cities exhibited continuous habitation but experienced a decline in their significance with the emergence of two new metropolises: Shiraz and Siraf. These two cities and their relationship have been extensively examined by many scholars, among whom are Whitcomb (1979a), Hodges and Whitehouse (1983), Chaudhuri (1985), Piacentini (1992), Potter (2009), and Priestman (2005, 2022). The fact that they played pivotal roles in trade in the Persian Gulf region post-Arab-Muslim conquest has led to substantial research, which will be further explored (chapter 4.7). The debate focuses on whether this overseas trade and hence Shiraz and Siraf's predominant role, had already started in Sasanian times and was picked up and expanded post-conquest. Most of the archaeological evidence in this regard is derived from the extensive excavations led by Whitehouse during the late 1960s and early 1970s in Siraf (Whitehouse and Williamson 1973; Whitehouse 2010). The seminar paper published by Williamson and Whitehouse in 1973 suggests that Indian Ocean trade began in Sasanian times. This thesis is supported by a wide range of sources and Siraf's archaeological evidence. On this prevailing hypothesis, Whitcomb (1979a) introduced the concept of two distinct trade assets in the region of Fars. The first was the provincial marketing system, which initially took shape during the Sasanian period and later evolved into a mercantile model. This system encompassed the five districts of Darabgerd, Bishapur, Arrajan, Firuzabad, and Istakhr. Economic disparities went beyond mere conceptual distinctions, eventually leading to a significant shift in economic importance toward the Shiraz-Siraf axis after the Arab-Muslim conquest (Whitcomb 1979a: 117-39).

On the other side of this debate, Kennet (2005, 2007, 2008) takes a sceptical stance, pointing out the absence of substantial archaeological evidence supporting the concept of Sasanian overseas trade. Priestman's (2002) contribution emphasises the importance of a quantifying

assessment of pottery from the transitional period, suggesting that the quantity of Sasanian pottery found in various sites along the Persian Gulf does not adequately substantiate the hypothesis of extensive 'Sasanian international trade.' The historical origins of Shiraz and Siraf remain thus subjects of debate, with inconclusive results arising from archaeological and historical evidence (Shahbazi 2004; Whitehouse 2010: 9). A definitive answer on their foundation and evolution during Sasanian times might potentially provide conclusive evidence for the international trade debate. Priestman (2022) suggests that Siraf did not hold substantial importance during the Sasanian period and could have attained the status of a 'garrison' with military function rather than a 'city.' It will be suggested (chapter 4.1) that the potential foundation of Shiraz is in the surroundings of the pre-existing fortified city of Qasr-i Abu Nasr. The archaeological evidence of this city implied a continuous occupation after the conquest and, consequently, a potential correlation of this fortified city with the newly founded Shiraz. Despite the ongoing debate and yet-to-be-clarified origins, the subsequent growth in significance of Siraf and Shiraz after the conquest consists of a fact. Both cities evolved into the primary urban centres of the Fars region.

al-Jibal

Notable inherited cities in the al-Jibal province included Isfahan (former Gayy) and Rayy.

Isfahan flourished during the Abbasid Caliphate, experiencing such extensive urban growth that the precise location of the former Sasanian city remains elusive. Historical accounts indicate that during the conquest, the Muslim-Arab army encountered two cities: Yahudiyya and Gayy (Gaube 2008: 163). Gayy (Figure 19) served as a fortified refuge for the inhabitants of the plain and possibly functioned as an administrative centre (Gaube 2008: 164). This is supported by the fact that the first Friday Mosque was built in Gayy instead of Yahudiyya (Mafarrūkhi 42, cited from Gaube 2008: 164). The shift in urbanisation from Gayy to Yahudiyya occurred after the rise of the Abbasid Caliphate, as evidenced by numismatic findings (Gaube 2008: 165). Around 300 AH/912 CE, Ibn Rusta resided in Isfahan, where he wrote the *Kitab al-Aʿlaq al-Nafisa*. Nearly three centuries after the conquest, he reported the significant extension of the cities' growth, mentioning eighteen cantons and 2300 villages lying within the region (Ibn Rusta [tr.: 178]).
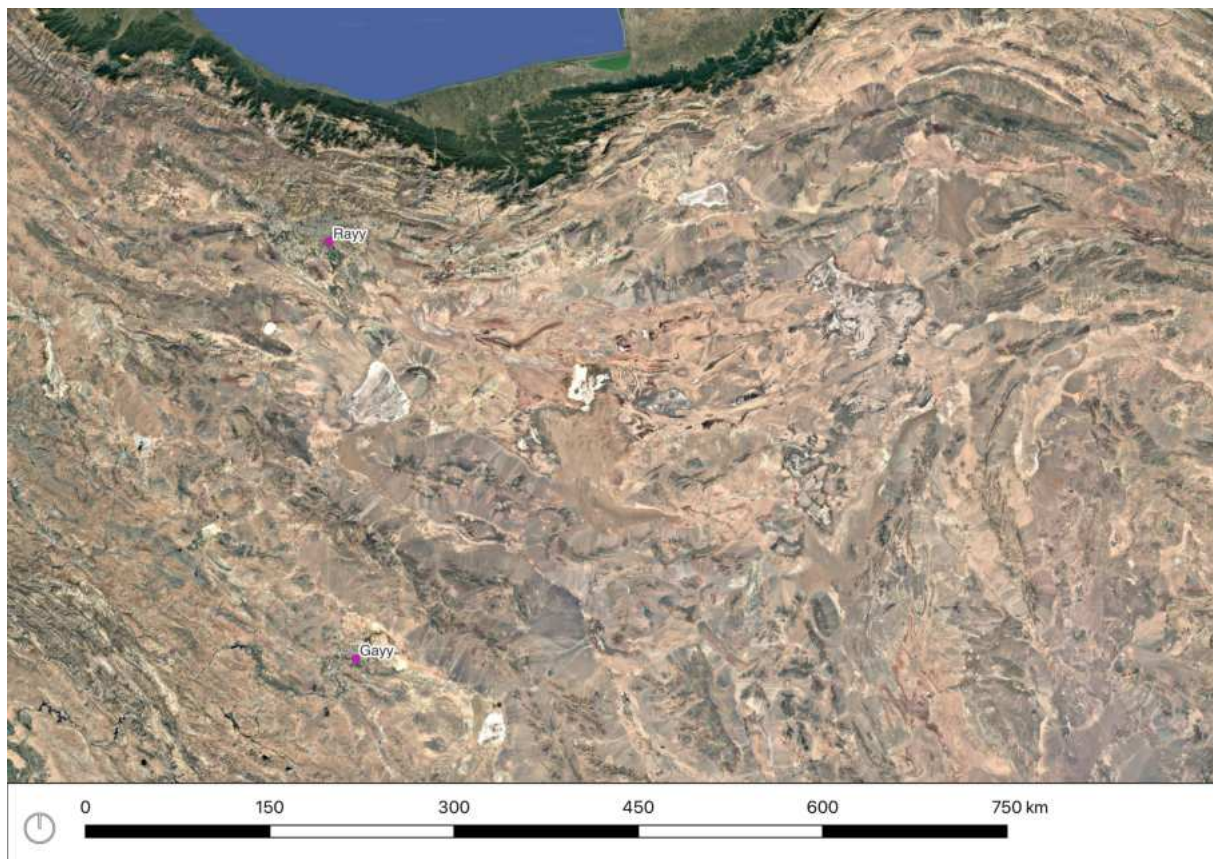
Figure 19. Annotated satellite image showing the location of the cities mentioned in the text.

The most detailed information comes from a later author who lived in the 7th AH/13th CE century, Yaqut ar-Rumi, who provides a peculiar description of Gayy, stating,

> *'Ispahan was formerly the city known as Gayy, on the site of which now stands the šahristan or city. After the capture of Jerusalem, Bakht en-Nasr brought all the Jewish prisoners to this place. They built a neighbourhood near the ancient city of Gayy, which they inhabited and gave it the name Yahoudieh, meaning the Jewish quarter. After many years, Gayy was destroyed and only a small portion remained, while Yahoudieh expanded and became the modern city of Isfahan.'* (tr.: 45)

Gayy was abandoned after the conquest as the population moved away upon submitting to the new power (Yaqut ar-Rumi [tr.: 47]). Worth noting are other toponymic instances such as Kalmakan, a village near the ancient gates of Gayy (Yaqut ar-Rumi [tr.: 492]), and Nizan, a village referred to as a quarter of Gayy (Yaqut ar-Rumi [tr.: 561]). Yaqut ar-Rumi (tr.: 520) also reports that Gayy (referred to as Medinet) was located just over a mile from Yahudiyya on the banks of the Zandarud River. The historical sources do not agree upon Yahudiyya's origins (Duva 2015: 49-52), and there is no archaeological evidence for Yahudiyya, or urban spaces associated with the Jewish population of Isfahan. However, both Sasanian and Islamic

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sources suggest the important role played by the Jewish community and Yahudiyya from Shapur II's reign onwards (Duva 2015: 49-52).

Similar confusion and loss of the Sasanian site occurred with Rayy (see Figure 19), now encompassed by the modern city of Tehran. al-Tabari's account of the conquest of Rayy is intriguing, stating that:

> *'the family of Bahram fell from grace, and Nuʿaym destroyed their town, which was called al-ʿAtiq (the Old Town); that is, the town of al-Rayy. al-Zinabi ordered the construction of the new town of al-Rayy.'* (2655 [tr. Rex Smith: 25])

Besides the mention of the Mihran family and its connections with Rayy already described (chapter 1.1), another notable fact is hence related to this city. During al-Tabari's time (4th AH/10th CE century), there were two Rayy, one referring to the Sasanian period 'old city' and another considered the new one. al-Baladhuri also mentioned that during the Caliphate of Abu Jaʿfar al-Mansur, the city of *ar-Rai* was re-built, surrounded by a moat and featuring a cathedral mosque and it was 'the city people inhabit today' (329 [tr. Murgotten 1924: 6-7]). This suggests that, potentially, the old Sasanian site was abandoned after the conquest. Examining the *futuh* narrative, if the promises of not harming the citizens who surrendered were fulfilled, the rebuilding of another city was not an event occurring within the process of a destructive conquest. One hypothesis that could explain a non-disruptive conquest, albeit related to the construction of a new city and the existence of ruins, is that the ruins mentioned in the sources might have comprised the palace of the governor's family. The descendants of Bahram Chobin, belonging to the aristocratic Mihran family, unlike the citizens, may have attempted to resist the conquest (Pourshariati 2008: 125-8). Another hypothesis explaining a non-disruptive conquest of Rayy could be that the conquerors constructed their dwellings in a settlement near the Sasanian city, establishing a new urban centre that attracted former citizens who abandoned the Sasanian city in favour of the new one. Surely, Rayy seems to have played a substantial role in the remembering and transmission of early Islamic historiography (Pourshariati 2009: 10). This activity hub possibly involved the Mihran family in the development of Islamic scholarship in the aftermath of the conquest.

Both these hypothesises might be confirmed by the fact that according to Yaqut ar-Rumi (tr.:

277), the reconstruction of Rayy took place considerably later than the initial conquest. He asserted that in the year 158 AH/774-5 CE, during the reign of the Abbasid Caliph al-Mahdi, the present-day city of Muhammedieh was established. This development included the construction of a moat and a *masjid-i jami*. Furthermore, Yaqut ar-Rumi (tr.: 277) stated that the original city of Rayy, called Arazi, has completely disappeared. It was located on the road to Khowar, 12 *farsakh* (approximately equivalent to 48 kilometres) from the contemporary city. Yaqut ar-Rumi (tr.: 277) also made note of the remnants of ancient structures in the vicinity, bearing witness to the former magnificence of this vanished city. This account suggesting such a renovation finds support in archaeological findings, which indicate that Rayy assumed a prominent role as the primary mint city of the al-Jibal region during the reign of al-Mahdi (Wheatley 2001: 136).

Khorasan

Khorasan and its cities were strategically significant due to their location at the fringes of the empire. They were not only connected to Iran and other central regions of the empire but also to Bactria and Transoxiana to the east. This geographical advantage played a key role during both the initial Sasanian expansion and the subsequent Arab-Muslim conquest (Simpson 2014: 2). However, it was not just their role as fortresses that mattered; their importance in facilitating trade and interconnectivity was equally crucial and will be observed in the urban study (chapters 5 and 6). The conquest of Khorasan was carried out during the pursuit of the Sasanian king Yazdegerd III, who had taken refuge in Merv, by the Arab general al-Ahnaf. It is documented that al-Ahnaf appointed another Muslim leader as his deputy in the region during this period (al-Tabari 2683 [tr. Rex Smith 1994: 53-4]). During the Abbasid dynasty, Nishapur and Merv (Figure 20) underwent a revival and significant expansion of their urban landscapes. Following the Mongol conquest of 615-7 AH/1218-20 CE, cities such as Balkh, Nishapur, and Merv were deserted, later becoming sources of invaluable historical information (Kennedy 2008: 93).
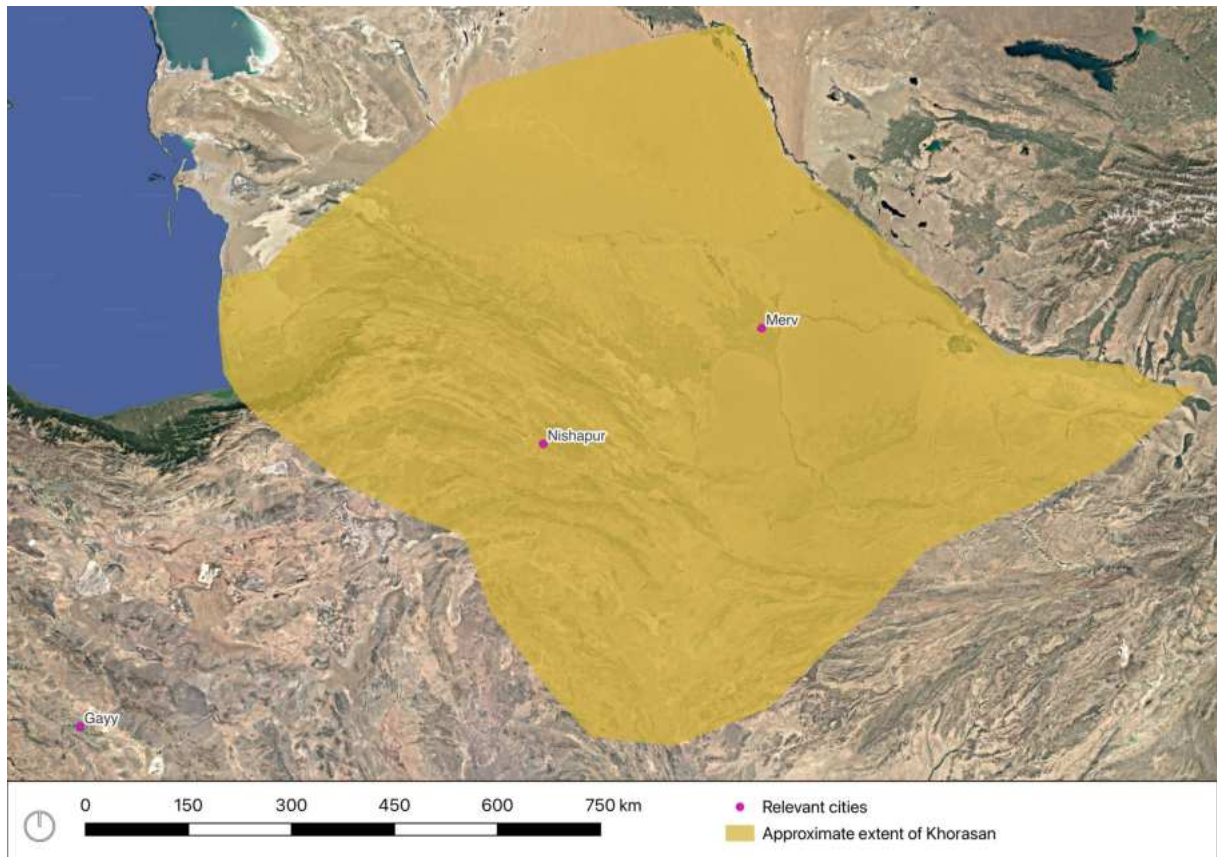
Figure 20. Annotated satellite image showing the location of the cities of Khorasan mentioned in the text.

In Nishapur (see Figure 20), this expansion involved the utilisation of suburbs to establish a new centre of power (Kennedy 2008: 104). A similar growth process behind Sasanian walls can be observed in the case of Merv (Kennedy 2008: 106). Notably, Nishapur was described as being divided into distinct sections, including a citadel (*quhandīz*), a suburb (*rabad*), and the city proper (*shahrestan*) (*Hudud al-ʿAlam* [tr.: 102]).

In Merv (see Figure 20), the citadel, possibly of Hellenistic origins, was attributed to Tahmurath, while the surrounding areas were marked by the presence of numerous *köşks* or castles (*Hudud al-ʿAlam* [tr.: 105]). Excavations at Gyaur Kala revealed archaeological evidence from both the Sasanian and Islamic periods, demonstrating continued urban development after the conquest, though somewhat diminished. Additionally, there was a shift in industrial activities, which had previously been confined to areas outside the city walls (Herrmann *et al*. 1993: 43). More specific examples will be further analysed in chapters 5 and 6.

3.6.   What characteristics did Islamic cities exhibit?

> *'This is not to imply that the Middle Eastern city*
> *was everywhere the vehicle of a uniform lifestyle,*
> *but rather than it provided the framework within which diverse*
> *cultures to varying degrees absorbed and internalised the various duties*
> *of the Faith as expressed in the five pillars of Islam.'*
>
> Wheatley 2001: 39.

This section will address the initial question: which characteristics define Islamic cities? The previous sections summarised the background framework of knowledge on pre-Islamic settlements, inherited cities from the Roman and Sasanian Empires, and newly founded garrison cities. While this dissertation focuses on cities inherited from the Sasanian Empire, it will also analyse pre-Islamic settlements, cities acquired from the Roman Empire, and garrison cities to provide comparative context and deepen our understanding of urban development in this period.

An aspect of Islamic city in the former Sasanian Empire layouts pertains to the tripartition into Citadel (*quhandīz*), Suburb (*rabad*), and City (*shahristan*) mentioned in certain sources. According to Yaqut ar-Rumi, the term *quhandīz*

> *'designated a fortress situated at the centre of a town, and it is especially used by the inhabitants of Khorasan and Transoxiana (...) it means the old citadel (…) applied to all the fortresses of the town, but it can be used for an isolated place and that it is not within a city of a certain importance.'* (tr.: 468).

The categorisation of spaces based on locations can offer valuable insights into their hierarchy and functions. An intriguing aspect of this tripartition is the amalgamation of Arabic and Persian names to designate spaces, potentially reflecting a cultural transition and blending reflected in how the population identified themselves, as discussed in the previous chapters. However, it might also be correlated to power preferences as this tripartition does not always align straightforwardly with the former Sasanian urban spaces.

Throughout the examination of the previous sections, some biases from past scholarship have already been identified and reassessed. For instance, some of the 'urban disruptions'

commonly associated with the Arab-Muslim conquest were already underway. A similar pattern of development is observed in other cities, such as Palmyra, where shops were integrated into the Great Colonnade (see chapter 3.2). Any alterations in the orthogonal grid or the shift from public to private functions should not automatically be interpreted as signs of decline. The preconceived notion of urban superiority in Greco-Roman urban planning should be challenged. The street hierarchy observed in Hatra and Islamic cities was also found in the proto-Babylonian Ur (Foietta 2018: 216-7). This comparison, along with the already discussed urban changes, cannot be underestimated. Since Hatra was unlikely influenced by proto-Babylonian Ur, it is suggested that urban processes are dynamic and primarily driven by social needs rather than being directly 'influenced' by cultural factors. This explanation aligns well with other 'typical' changes seen in late antiquity. It made more practical sense to occupy and utilise the Colonnade for commercial purposes rather than leaving it empty for promenades. Similarly, the big *agora* was often repurposed for other uses as the social gatherings were carried out in religious spaces. The advent and establishment of monotheistic religions such as Christianity and Islam, which necessitated communal rituals, led to the construction of churches or mosques in these central urban spaces. This dissertation will explore Sasanian urbanism and its transformation following conquest, a topic that has not received the same coherent analysis as has been carried out for Roman cities.

Another aspect considered in this chapter was the concept of awe allegedly experienced by these 'humble Bedouin' when confronted with monumental metropolises, as mentioned by *futuh* narratives. Ancient cities in the Roman world, especially during the late Republican and Imperial Roman periods, were meticulously designed to awe and impress any foreigner. Magnificent marble structures were erected to delineate cityscapes, astonish foreigners (often perceived as adversaries), and boldly and unsubtly proclaim that Rome is the *caput mundi*, and hence all its provinces will never fall. The Sasanian dynasty adopted a similar approach, carving monumental rock reliefs, establishing extensive irrigation infrastructure, and building an impressive palace in Ctesiphon. The Nabateans built Petra, and the Palmyrians erected columns and monuments for similar reasons. The Arab-Muslim army was as equally astounded by the grandeur of these constructions, just as a visitor would be today. That was the precise intention behind the architects' plans. The narrative of the humble

conquering Bedouin was likely a literary trope perpetuated by *futuh* narratives. It includes the famous story of the army entering al-Madaʾin and using the camphor to flavour their food (al-Dinawari [tr.: 134]). However, pragmatically speaking, camphor has a strong odour, so it was unlikely to be used in the same way as salt unless someone had no sense of smell. Nevertheless, the Caliphate's achievements within just a couple of generations surpassed this initial naivety. Indeed, this bias, which was promoted and fostered by Islamic authors, played a crucial role in crafting the narrative of the grandiosity and miraculous nature of the Arab-Muslim conquest. For centuries, scholars pondered how these seemingly uneducated Bedouin managed to subdue the 'two eyes of the Earth' – a title later attributed to the two empires, the eastern Roman and the Sasanian. After their military exploits, the Caliphate was able to draw upon a vast pool of resources. Their victories were over armies and empires, not over carpenters, mosaic artists, or craftsmen. Within 72 years after Muhammad departed from Mecca to Medina, evidence suggested that they easily stepped into rule territories where the population remained largely unchanged. Therefore, the workforce capable of constructing marvels was already in the conquered territories.

In the early years following the conquest, the transformation of the cities reflected the institutional fragmentation within Muslim urban society. Initially, open spaces adjacent to temples, churches, and city gates were repurposed for public prayers while retaining their pre-existing functions, such as commerce and religious festivities. As the conversions took over, in certain locations, the need arose to repurpose religious spaces into new structures, namely mosques (al-Sayyad 1991: 110).

Adopting and adding over the utilitarian perspective demonstrated by al-Sayyad will aid in comprehending the features of 'Islamic cities.' One key to understanding the reasons behind the changes brought by the conquest is highlighted by Wheatley,

> *'This is not to imply that the Middle Eastern city was everywhere the vehicle of a uniform lifestyle, but rather that it provided the framework within which diverse cultures absorbed and internalized the various duties of the Faith as expressed in the five pillars of Islam.'* (2001: 39).

All urban spaces are organised to meet the needs of the urban population, and regional variations intertwine with the cities' unique histories and the ethnic composition of their populations. Although there is no such thing as a universal recipe or a communal feature,

there was a consistent requirement for water infrastructure due to its significance in Islamic rituals, as well as an open space large enough to allow men to pray together (Wheatley 2001: 39).

4. Urban Landscape: **Sasanian cities**

4.1. The state of knowledge on Sasanian cities

> *'(...) and, outside of some new plans of buildings,*
> *scholarship was only provided with huge*
> *masses of ill-dated and largely inaccessible*
> *fragments of decorated stuccoes'*
>
> Grabar 1967: 25-6.

This dissertation predominantly focuses on cities that have been archaeologically explored through excavations or surveys, including Veh-Ardashir, Merv, Nishapur, Gondeshapur, Bishapur, Ardashir-Xwarrah, Qasr-i Abu Nasr, and Darabgerd. Moreover, these cities show substantial habitation during the Sasanian and early Islamic periods and are not newly established Islamic cities. Most of them were likely founded in Sasanian times, except for Merv and possibly Darabgerd. Despite the poor preservation of their Sasanian phases of inhabitation, Rayy (modern Tehran) and Gayy (modern Isfahan) are significant in terms of their development as key metropolises after the conquest and modern Iranian landscape and thus are considered within the case study (Figure 21). Some components of the earlier Sasanian phases can be inferred through the analysis of literary sources (Rante 2007, 2008, 2015; Duva 2018). Istakhr has been added as a case study due to the data on the Islamic phase investigated by a recent Italian mission (Fontana 2018). This initial opening section serves as an introduction to the history of archaeological investigations of the case study cities, with subsequent sections delving into the identified features of urban spaces as identified from historical and archaeological sources. The resulting dataset outlined throughout this chapter will provide a snapshot of the existing knowledge relating to urban spaces within Sasanian cities. The analysis of evidence dating to the post-conquest will be carried out in chapter 5.
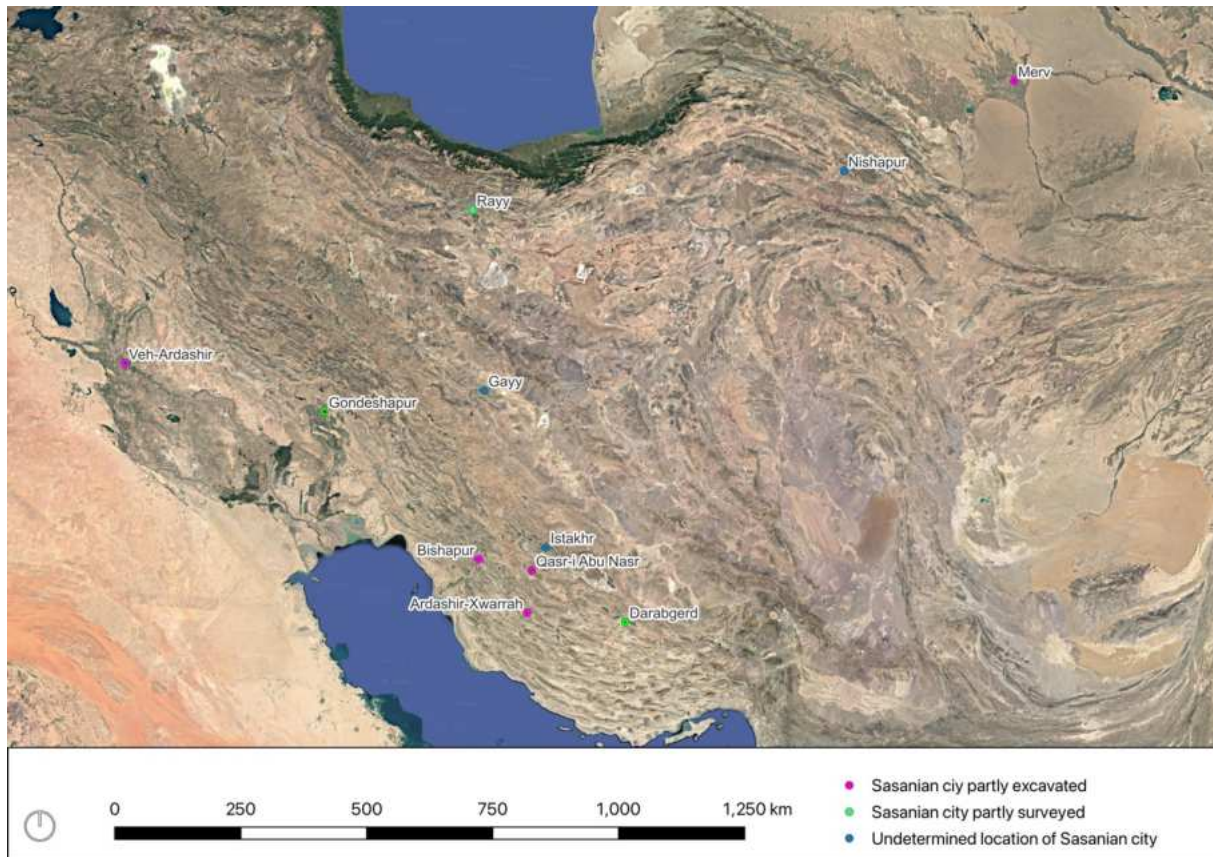
Figure 21. Annotated satellite image showing the Sasanian cities mentioned in this section.

Veh-Ardashir (Asorestan)

In 230 CE, Ardashir I (r. 224-40 CE) established the city of Veh-Ardashir on the site of the Aramaic village called Coche. Originally situated on the western bank of the Tigris River, the city was later split in two when the river's course changed in the 5th CE century (Kennedy 2007: 118). Veh-Ardashir was part of the al-Madaʾin conurbation (Figure 22), a term used by Arabs to refer to 'the cities,' which included nearby cities such as Ctesiphon, Seleucia, Asfanabr, and Veh-Antiuk-Khosrow. Simpson (2017: 33-4) has summarised a reconstruction of this conurbation and its cities, some of which have been founded and inhabited since the Seleucid dynasty (312-63 BCE). The identification of Veh-Ardashir has been a subject of controversy due to the *Shahrenstaniha-i-Eranshahr*'s mention of two cities with the same name: one Veh-Ardashir was founded by the mythical Ardashir, son of Spandiabad, while the other was started by three lords who are otherwise unmentioned and finished by Ardashir I

(tr. Daryaee 2002: 20).[17] Yaqut ar-Rumi (tr. Barbier de Meynard 1861: 518),[18] Hamza al-Isfahani (tr. Hoyland 2018: 33-5),[19] al-Tabari (820 [tr. Bosworth 1999: 15]), and al-Mustawfi (tr. Le Strange 1919: 50)[20] report that Ardashir I was the founder of this city. The city of Mahoza, mentioned in the *Talmud*, is interpreted as either Veh-Ardashir or one of its quarters (Simpson 2012-3: 10).
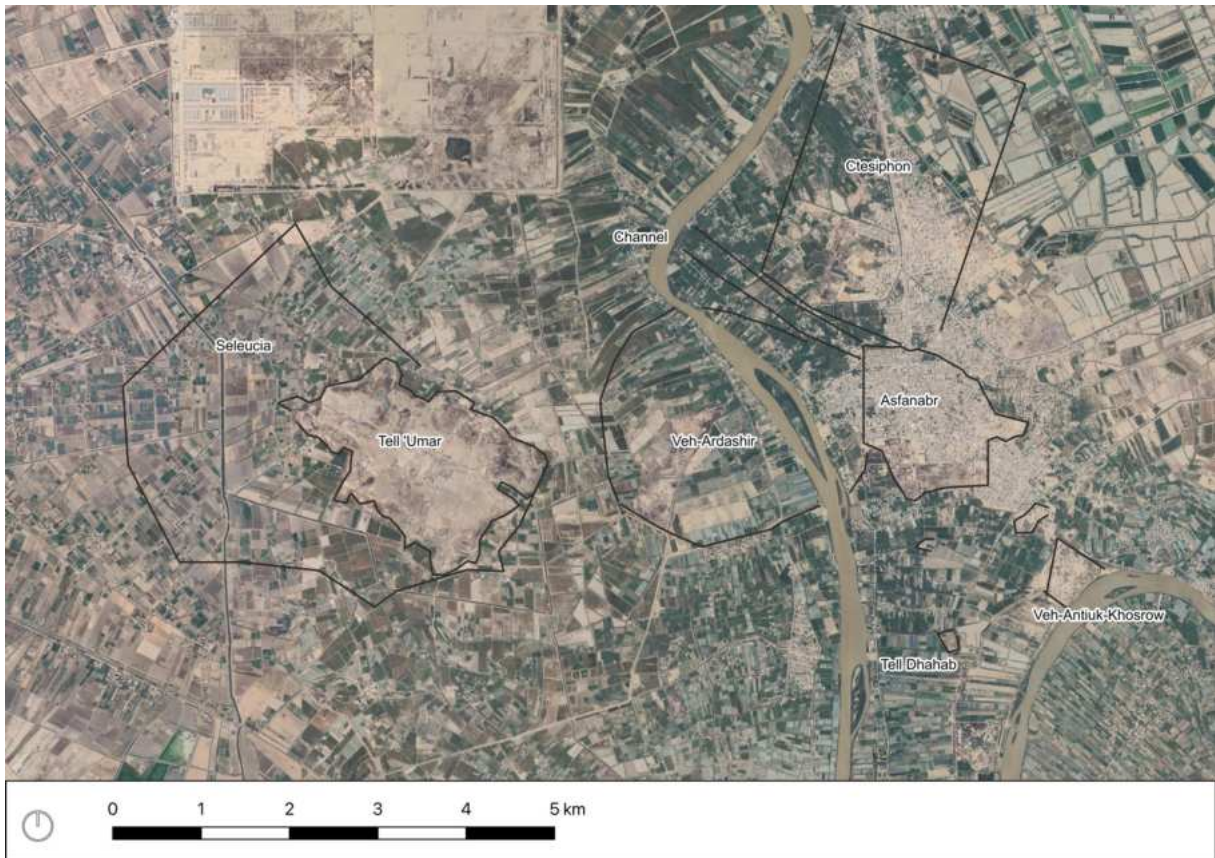
Figure 22. Annotated satellite image showing al-Madaʾin conurbation's tentative reconstruction (after Simpson 2015a: 8).

Sarre and Herzfeld (1920) were the first to carry out a ground survey of the Seleucia-Ctesiphon area. Although the survey's boundaries are not clarified in the resulting published

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[17] This translation has been used throughout the text. Therefore, only the page number of the translation edition will be provided in brackets.

[18] This translation has been used throughout the text. Therefore, only the page number of the translation edition will be provided in brackets.

[19] This translation has been used throughout the text. Therefore, only the page number of the translation edition will be provided in brackets.

[20] This translation has been used throughout the text. Therefore, only the page number of the translation edition will be provided in brackets.

research, it can be inferred from the text that it targeted the areas of Seleucia and Ctesiphon, as shown in Figure 22. They identified some clusters of Islamic pottery dated to the 1st-6th AH/7th-12th CE centuries. These clusters were localised on the grounds of Tell Baruda, rising within the rounded walls of Veh-Ardashir (Messina 2015: 101). In 1928-29, Reuther (1930) led a German expedition which carried out two soundings in Veh-Ardashir. The results of this mission suggested the existence of an Islamic settlement overlying the area. Later, in 1931-32, a joint mission of the *Islamische Kunstabteilung der Staatlichen Museen Berlin* and the *Metropolitan Museum of Art, New York*, surveyed the entire conurbation and focused the excavations on Ctesiphon and the eastern bank of the river (Upton 1932: 188-97; Kühnel and Wachtsmuth 1933; Schmidt 1934). An Italian team from the *Centro Ricerche Archeologiche e Scavi di Torino per il Medio Oriente e l'Asia* resumed the previous archaeological investigations and carried out eleven seasons of excavations between 1964 and 1976. Two main areas were targeted for investigations: the so-called 'Artisans' Quarter,' located in the southern part of the city, and Tell Baruda, in the centre of the city (Cavallero 1966, 1967; Negro Ponzi 1966, 1967a, 1967b; Venco Ricciardi 1968-69, 1970-71, 1973-74, 1977; Venco Ricciardi and Negro Ponzi 1985). The Artisan Quarter was further subdivided into 'Area 1' and 'Area 2' (Figure 23).

The excavations revealed that these two areas in the southern part of the city were built partly over an earlier necropolis, likely related to the Seleucid city of Seleucia. After a period of abandonment during the Arsacid era, these areas were reinhabited during the 3rd and 4th centuries CE (Cavallero 1966: 80; Venco Ricciardi 1968-69: 57). A trench excavated at Tell Baruda revealed part of the early Islamic settlement and archaeological evidence dated to the transition phase (Venco Ricciardi 1973-74). This settlement was identified by Hauser Halle (2007: 471) as the Bahurasir mentioned in the Islamic sources. The earthworks visible on the satellite imagery of this city (Figure 24) extend across the whole archaeological area, but no significant interpretation can be determined at this stage. Two significant observations potentially useful for future research can be inferred by the analysis of this satellite image. Firstly, the utilisation of earthen architecture facilitates the easy identification of the archaeological area, creating a distinct contrast with the neighbouring agricultural plots. Secondly, even after fifty years, the excavations remain visibly discernible, with the layout of the rooms still clearly identifiable.

Figure 23.Reconstruction of the excavated areas of Veh-Ardashir (after Simpson 2015: 10, fig. 1.2)
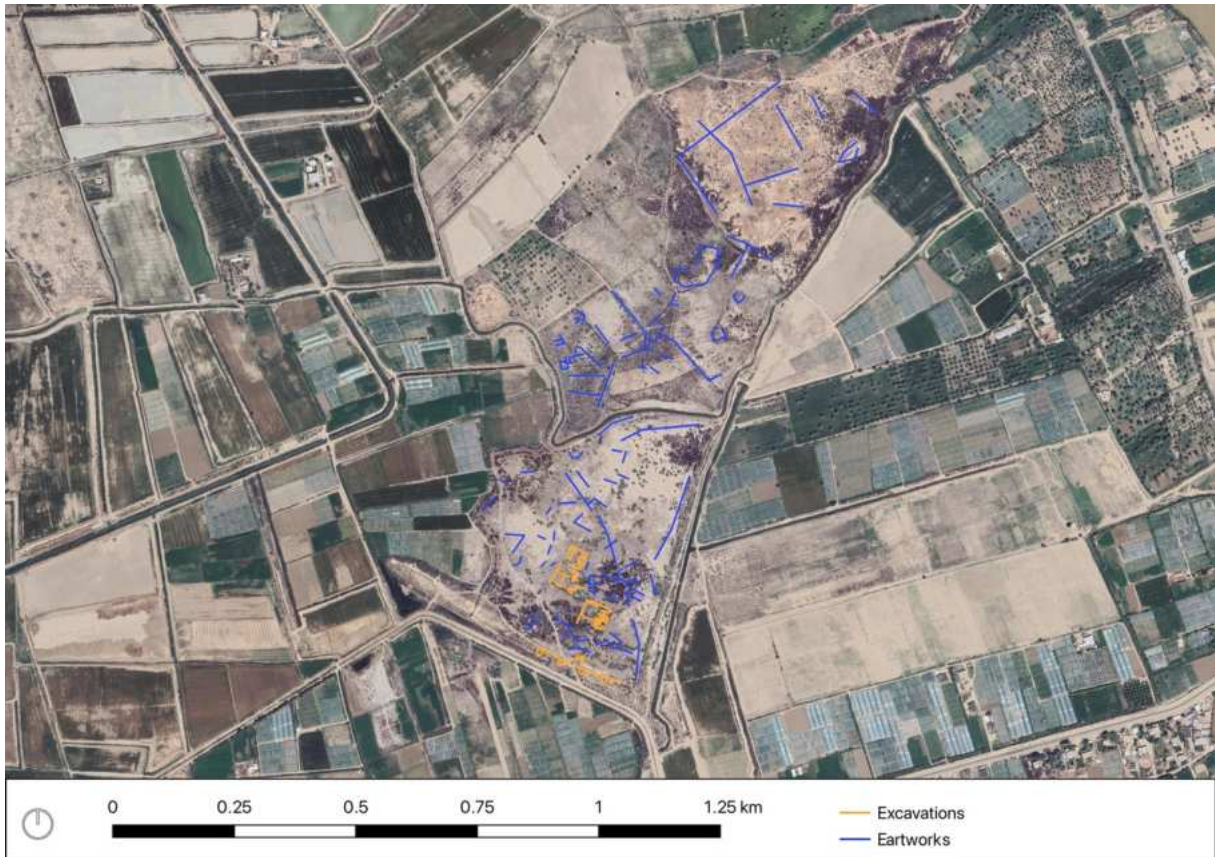
Figure 24. Annotated satellite image showing the extent and position of the archaeological excavations at the Artisan Quarters and the earthworks as identified by the author.

Merv (Khorasan)

Merv consists of another conurbation of cities, serving as the antithesis of Veh-Ardashir by being situated at the empire's periphery. Situated in an oasis formed by the Murghab River, it has been inhabited from the late Iron Age to the modern day. According to the *Shahrenstaniha-i-Eranshahr* (tr.: 18), it was founded by Alexander the Great, while Yaqut ar-Rumi (tr.: 527) claimed it was established by the mythical king Tahmuras. The oasis, and hence the city, are strategically located at the crossing point of trade routes. The strategic location of Merv and the resultant trade activities have played a pivotal role in its continuity of occupation and thriving economy. However, the significance of agriculture in the development and growth of Merv cannot be underestimated (Simpson 2019b: 292). The conurbation, shown in Figure 25, comprises the earlier polygonal citadel of Erk Kala, potentially founded during the Achaemenid period, the roughly squared city of Gyaur Kala,

and the irregular Sultan Kala, which was first outlined by O'Donovan (1882) (Herrmann *et al.* 1993: 41). During the transition period, Sultan Kala began to be inhabited, assuming the role of suburbs to Gyaur Kala (Herrmann *et al*. 1993: 43).

Figure 25. Annotated satellite image showing Merv conurbation.

Zhukovsky carried out the earliest excavations in Merv at the beginning of the 20th century, followed by investigations led by Pumpelly, Piotrovskii, and Maruschenk (Schmidt 1908; Piotrovskii 1949). The *South Turkmenistan Multidisciplinary Archaeological Expedition* (YuTAKE), under the direction of Masson (1963; 1980), also conducted regular archaeological seasons in the area during the 1960s. This work was resumed the following decade under the direction of Usmanova (Sidarova 1961; Galochkina 1964; Filanovich 1974). However, the results and archaeological evidence from Gyaur Kala that are most readily accessible to non-Russian speakers were excavated between 1993 and 2000 under the supervision of Herrmann and Kurbansakhatov. During these excavations, the team uncovered a significant number of artifacts and structures, including the remains of numerous residential areas. These findings provided new insights into the political and cultural history of the region.

Subsequently, the *Ancient Merv Project*, led by Williams and spanning two seasons of excavations from 2001 to 2005, focused on the late medieval periods of Merv and a specific emphasis on the Sultan Kala site (Williams *et al.* 2002; Williams *et al.* 2003). The Karakum Routes Survey (KRS) examined in detail the eastern route from Merv across the Karakum desert during the first years of the 21st century (Wordsworth 2015).
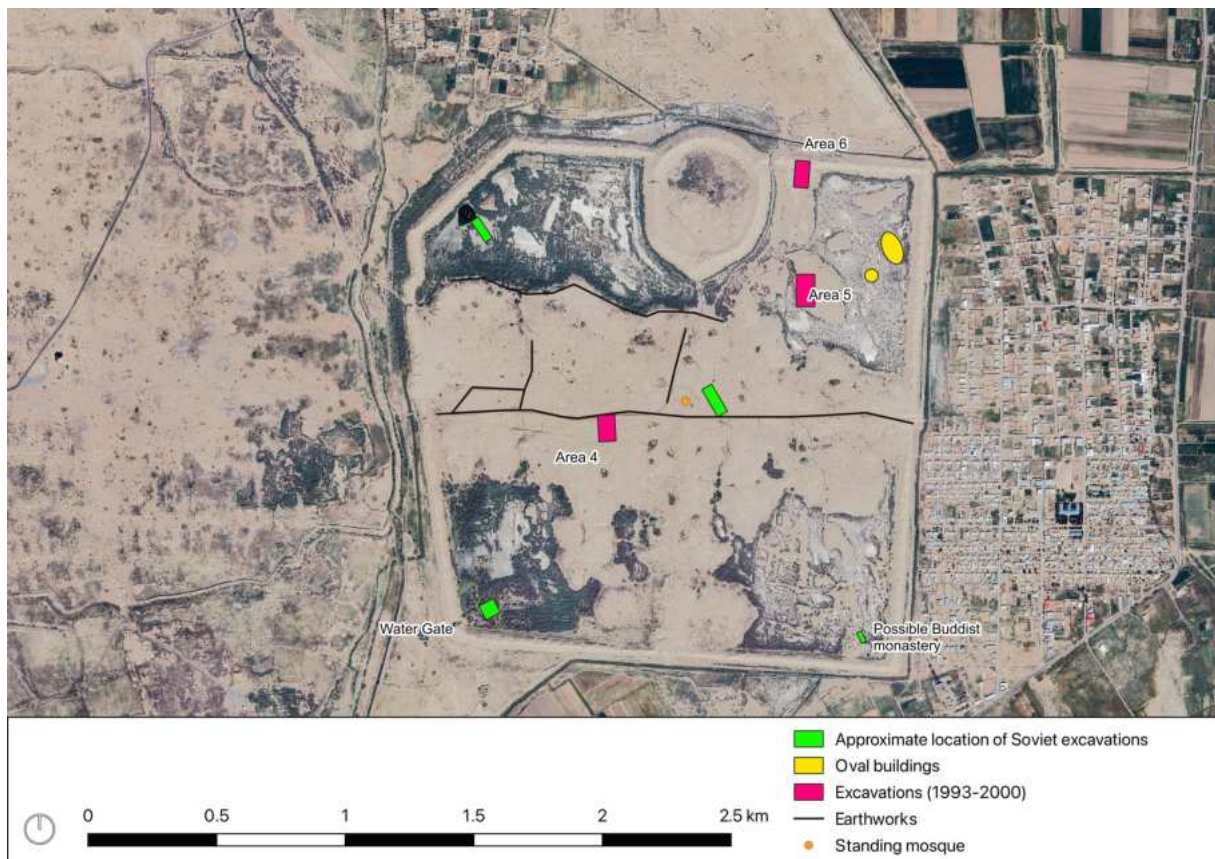
Figure 26. Annotated satellite image showing the extent and position of the archaeological excavations in Merv (after Herrmann et al. 1997: fig.1; Herrmann et al. 1993: fig.5).

Figure 27. Plan of Sasanian residential quarter found in Area 5 of Gyaur Kala (Herrmann et al. 1997: 5, fig.2)

The reconstruction of the previous archaeological intervention and the drafted results in Figure 26 were extrapolated from the secondary literature. Archaeological discoveries in Gyaur Kala have shed light on the historical transition in the region, as evidenced by the late

Sasanian house labelled as 'Structure C' excavated in Area 5 of Gyaur Kala (Herrmann and Kurbansakhatov 1995: 37-42; Herrmann *et al.* 1996: 4-8; Herrmann *et al.* 1997: 4-10; Herrmann *et al.* 1998: 54-64; Herrmann *et al.* 1999: 2-13; Herrmann *et al.* 2000: 2-11; Figure 27). This residential dwelling provided information dating to the 1st AH/7th CE century, and the lack of archaeological evidence indicating destructive events suggests a peaceful transition after the conquest (Herrmann *et al.* 1993: 50-5; Herrmann and Kurbansakhatov 1994: 66-70; Herrmann and Kurbansakhatov 1995: 33-7; Herrmann *et al.* 1996: 8-15).

A late-standing mosque, known as 'Beni Makhan' and its related cistern, and several two-stage kilns found in the Soviet excavations were dated to the Islamic era. These findings suggest that occupation in Gyaur Kala lasted from the 3rd-4th AH/9th-10th CE to the 6th AH/12th CE centuries (Herrmann *et al.* 1993: 43). Another post-conquest area of occupation was found in the form of the industrial 'Area 4', which the excavators dated to the 3rd-4th AH/9th-10th CE centuries (Herrmann *et al.* 1996: 15-7; Herrmann *et al.* 1997: 10-7). The excavators hypothesised that previous industrial spaces during the Sasanian era were located outside the walls (Herrmann *et al*. 1993: 43). The earthworks visible on satellite imagery are less prominent compared to those at Veh-Ardashir, potentially because of the soil's salinisation (Herrmann and Kurbansakhatov 1995: 3). During the 1990s, fieldwork played a critical role in mapping the existing satellite imagery, particularly the topographical program. This program involved analysing both aerial and satellite imagery and conducting ground truthing. For instance, two oval-shaped buildings were identified east of Erk Kala (Herrmann *et al.* 1996: fig.1).

Nishapur (Khorasan)

Nishapur, located in the Khorasan region, is another Sasanian city whose significance grew after the conquest (Figure 28). Historical sources suggest that it was established either by Shapur I (Hamza al-Isfahani [tr.: 35]; *Shahrenstaniha-i-Eranshahr* [tr.: 18]; al-Mustawfi [tr.: 147]; Yaqut ar-Rumi [tr.: 169]) or Shapur II (al-Tabari 840 [tr. Bosworth 1999: 58]; al-Masʿudhi [tr. Barbier de Meynard and de Courteille: vol. II, 188). Although extensive archaeological excavations were conducted in the 1940s, the Sasanian site was not discovered, nor were

any traces of the transitional layers immediately following the Arab-Muslim conquest (Wilkinson 1986: 40).
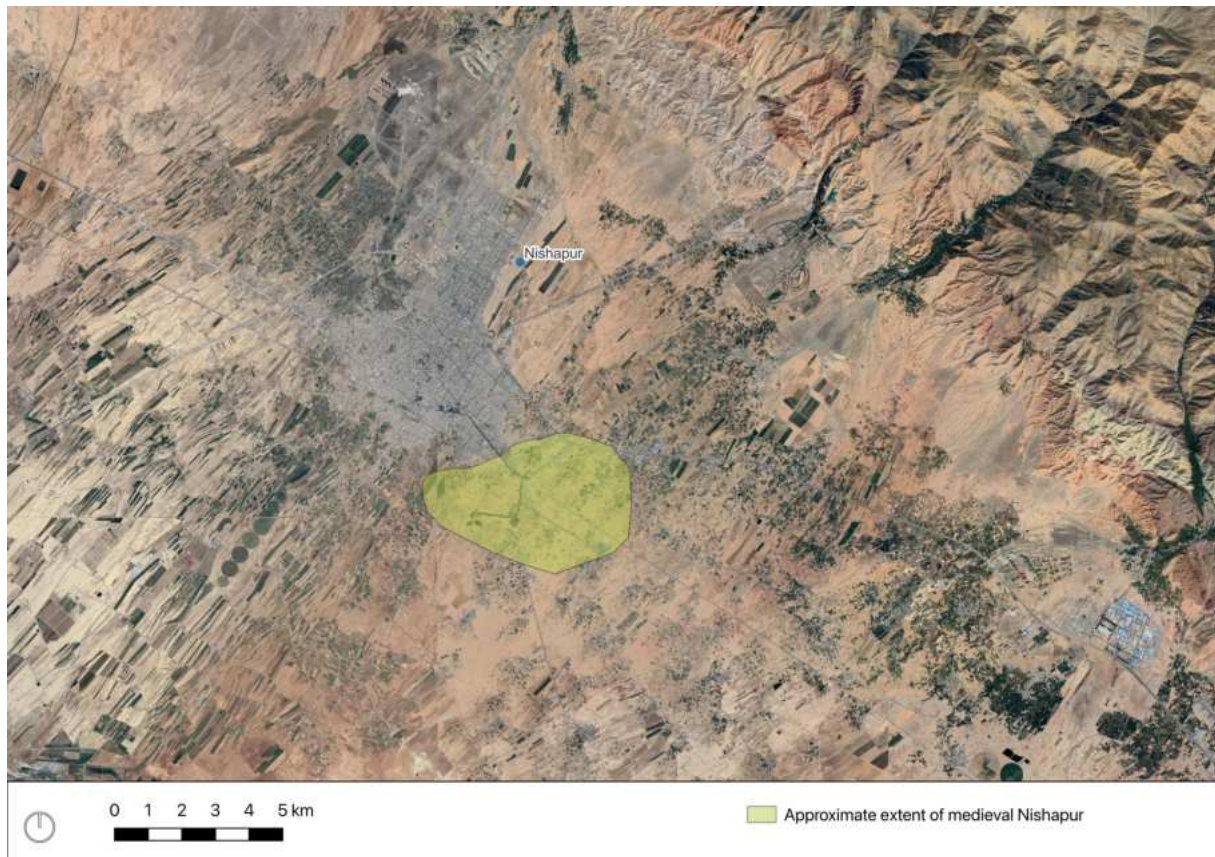
Figure 28. Annotated satellite image showing the potential extent of Abbasid (medieval) Nishapur.

During the period from 1935 to 1940, the Metropolitan Museum of Art (MMA) conducted excavations under the leadership of Hauser, Upton, and Wilkinson (Wilkinson 1986). The archaeological investigations focused on various *tepes* (Figure 29), which were dated to the 4th AH/10th CE century. The significance of the archaeological findings was underscored by the wealth of information collected on Islamic Nishapur, particularly the data gathered on domestic spaces. Labbaf Khaniki led an Iranian team excavating trenches within the area of Shadyakh, which attributed this site to the 3rd AH/9th CE century onward (Rante and Collinet 2013: 7). From 2005 to 2006, the Iranian-French archaeological mission carried out excavations at the Qohandez, concentrating on its northeastern part (Rante and Collinet 2013: 13). Among the various excavation methodologies, they used thermoluminescence and archaeo-magnetic analyses to date the Sasanian settlement to the reign of Shapur II and later (Rante and Collinet 2013: 10, 53-4). However, these results are questionable based on

both the reliability of the technique and the small sample size, and the fact that the pottery appears to be from mixed phases (pers. comm. Dr. St John Simpson).
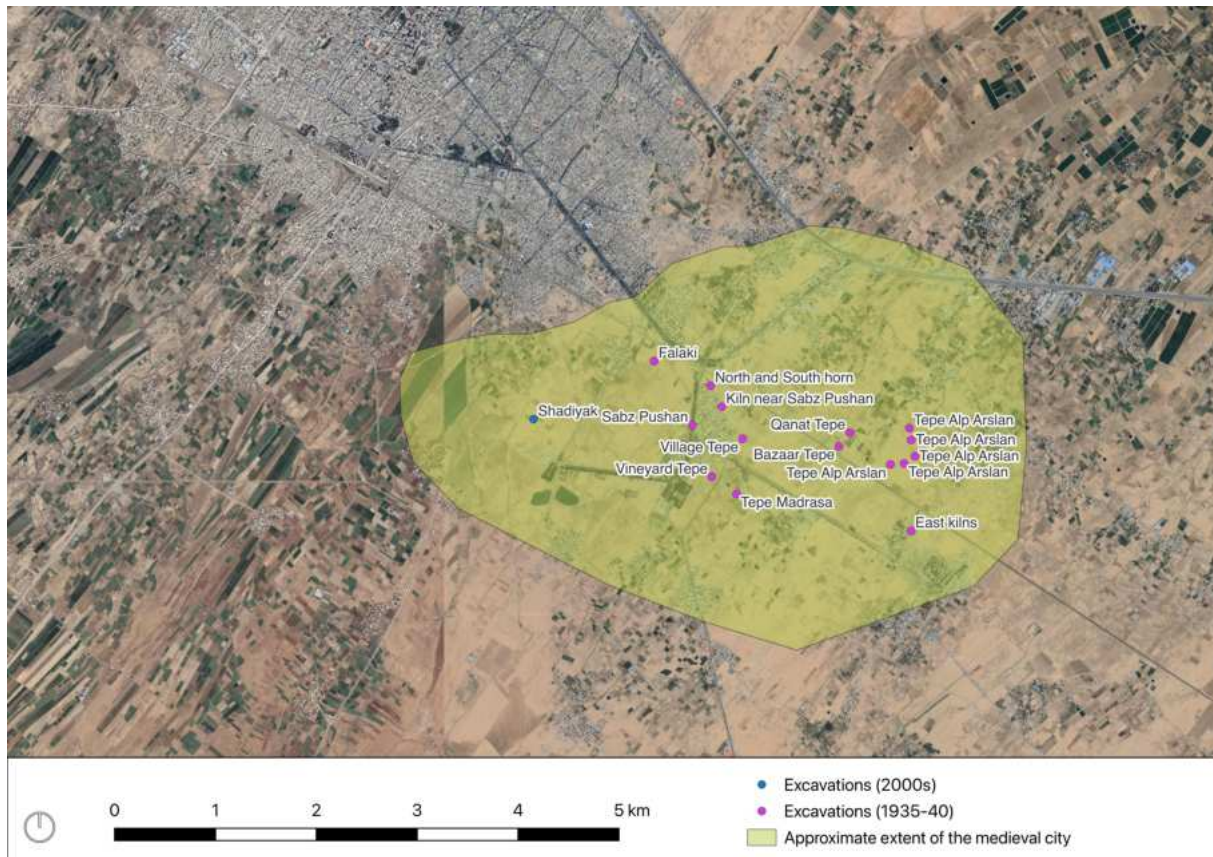
Figure 29. Annotated satellite image showing the approximate extent of medieval Nishapur along with the approximate location of the archaeological excavations and sondages.

Gondeshapur (Khuzestan)

Khuzestan, also known as Elam, was a crucial region of the Sasanian Empire and the cradle of the Elamite civilisation. Of particular importance to this dissertation is Gondeshapur (Figure 30), believed to have been established by Shapur I near the Siyah Mansur River according to various historical sources, including Middle Persian (*Shahrenstaniha-i-Eranshahr* [tr.: 20]); Syriac (*Chronicles of Seert* [tr. Alcock 2018: 6]);[21] Persian (*Shahnama* [tr. Davis 2010: 668, 680,

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[21] This translation has been used throughout the text. Therefore, only the page number of the translation rediltion will be provided in brackets.

683]);[22] and Arabic (Hamza al-Isfahani [tr.: 35]; al-Mustawfi [tr.: 109]; al-Yaqut ar-Rumi [tr.: 169]; and al-Tabari 826-7 [tr. Bosworth 1999: 29-30]). While Potts (1989: 327-34) suggested a possible Parthian origin, no evidence of an earlier settlement has been discovered thus far.
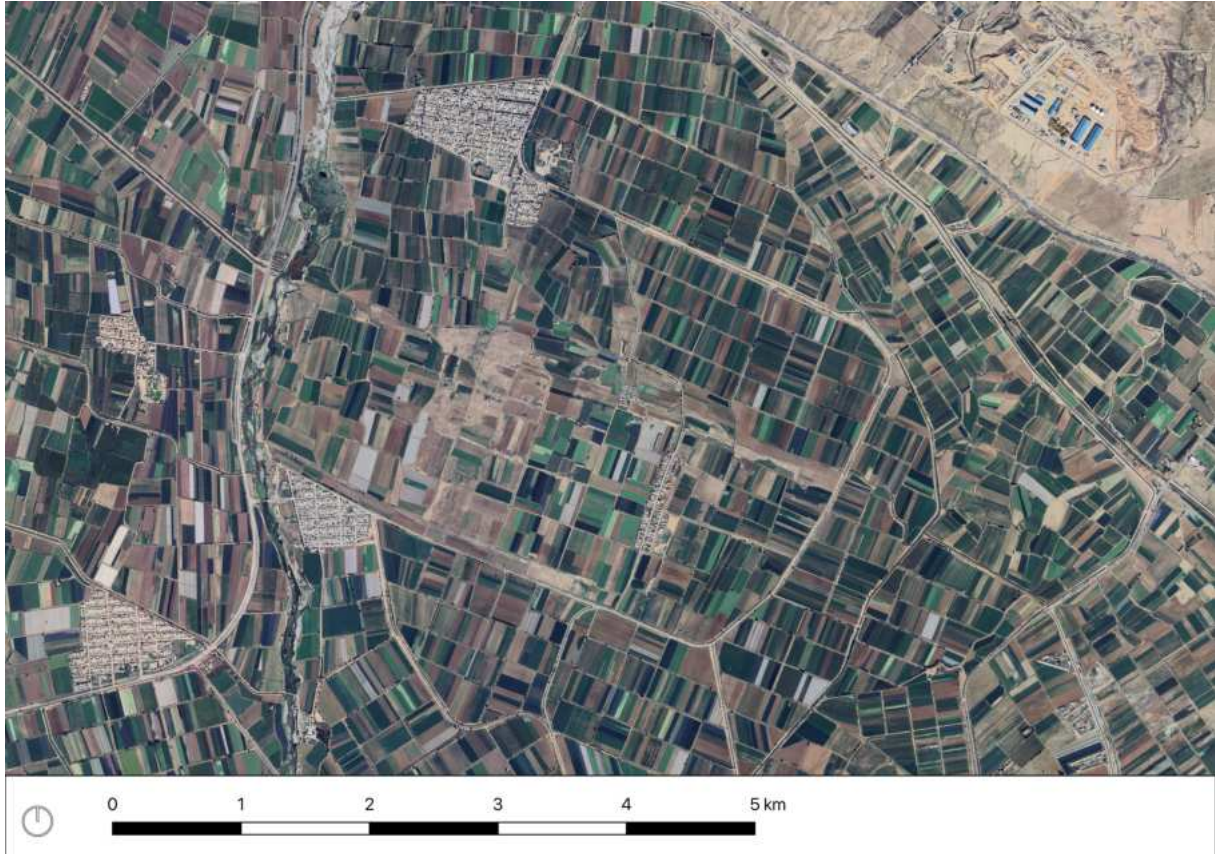
Figure 30. Satellite image showing Gondeshapur.

In 1950, Ghirshman (1952) conducted excavations in this city, uncovering parts of two monumental buildings; however, the precise location of the excavation is unclear. Adams and Hanser (1968) carried out a topographical survey of the region in 1968 (Figure 31), using the results to determine the best location for four soundings, two of which were carried out on the prominent mounds of Tabl Khaneh and Kask-i Bozi, whilst the other two on the plains. Early Islamic period structures were discovered in the central area, indicating a strong continuation of settlement, but the archaeologists deemed it likely that Sasanian structures were located below the level of both the occupation tells and the current-day ground level (Adams and Hansen 1968; Simpson 2017: 29). While recent unpublished excavations carried

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[22] This translation has been used throughout the text. Therefore, only the page number of the translation edition will be provided in brackets.

out by Moradi in 2016 did not reveal any Sasanian structures (pers. comm. Dr. Yousef Moradi), the grid pattern visible in the earthworks on satellite imagery confirms Adams and Hansen's (1968: 53) suggestion of regularly spaced intersecting streets.
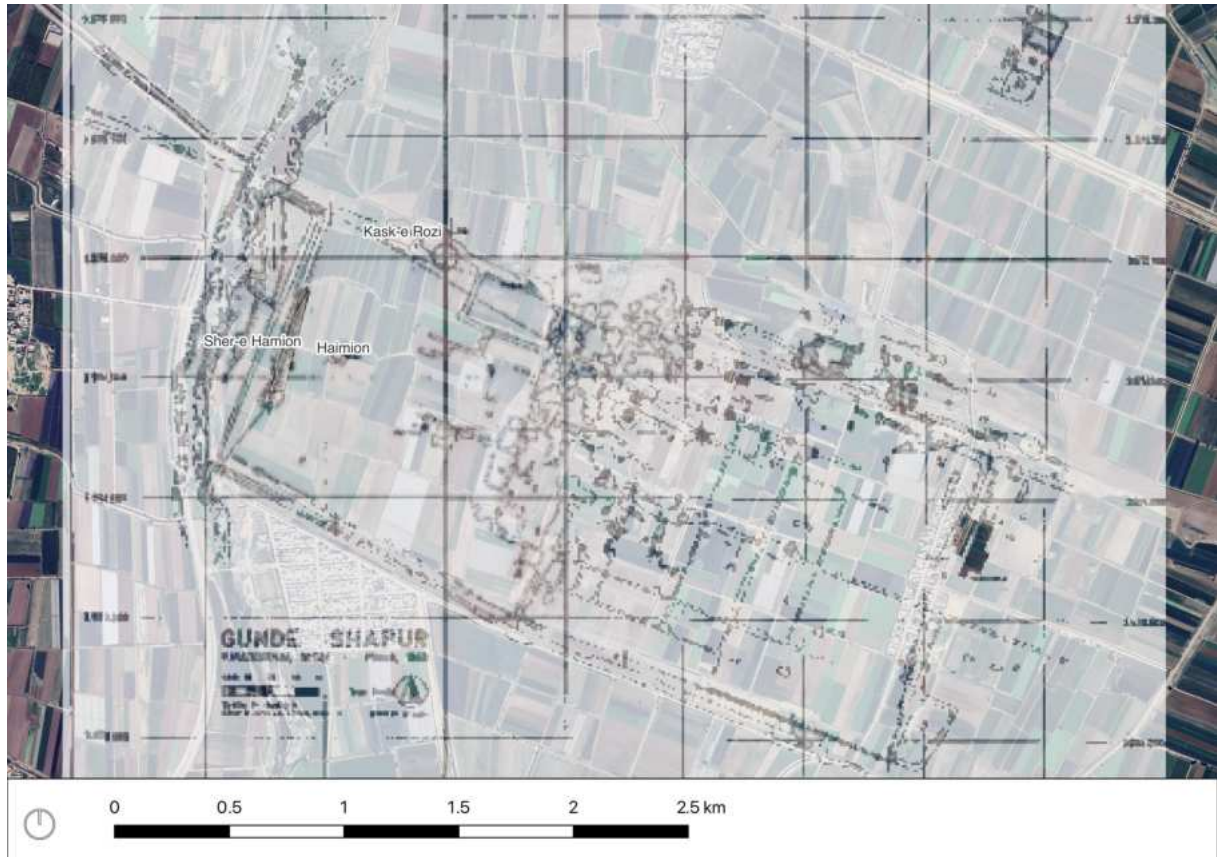
Figure 31. Annotated satellite image showing Gondeshapur's earthworks (as identified by Adams and Hansen 1968: fig.1).

Bishapur (Fars)

The inadequate archaeological evidence regarding urbanism in Sasanian cities is an issue in the Iranian plateau. Excavations have tended to focus on monumental and defensive structures rather than residential areas and city infrastructure. This is exemplified by the rectangular site of Bishapur (Figure 32), established by Shapur I near the Shapur River following his victories over the Romans according to Syriac (*Chronicle of Seert* [tr.: 6]) and

Arabic sources (Ibn Hawqal [tr.: Ouseley 1900: 82];[23] Hamza al-Isfahani [tr.: 35]; Ibn al-Balkhi [tr.: Le Strange 1912: 330-1];[24] Idrisi [tr.: Jaubert 1836: 399];[25] al-Mustawfi [tr.: 125]). Despite generating significant interest among 19th-century European travellers and 20th-century archaeologists, largely due to three reliefs carved onto the walls of a nearby gorge, excavations have neglected much of the city's residential and infrastructural aspects.
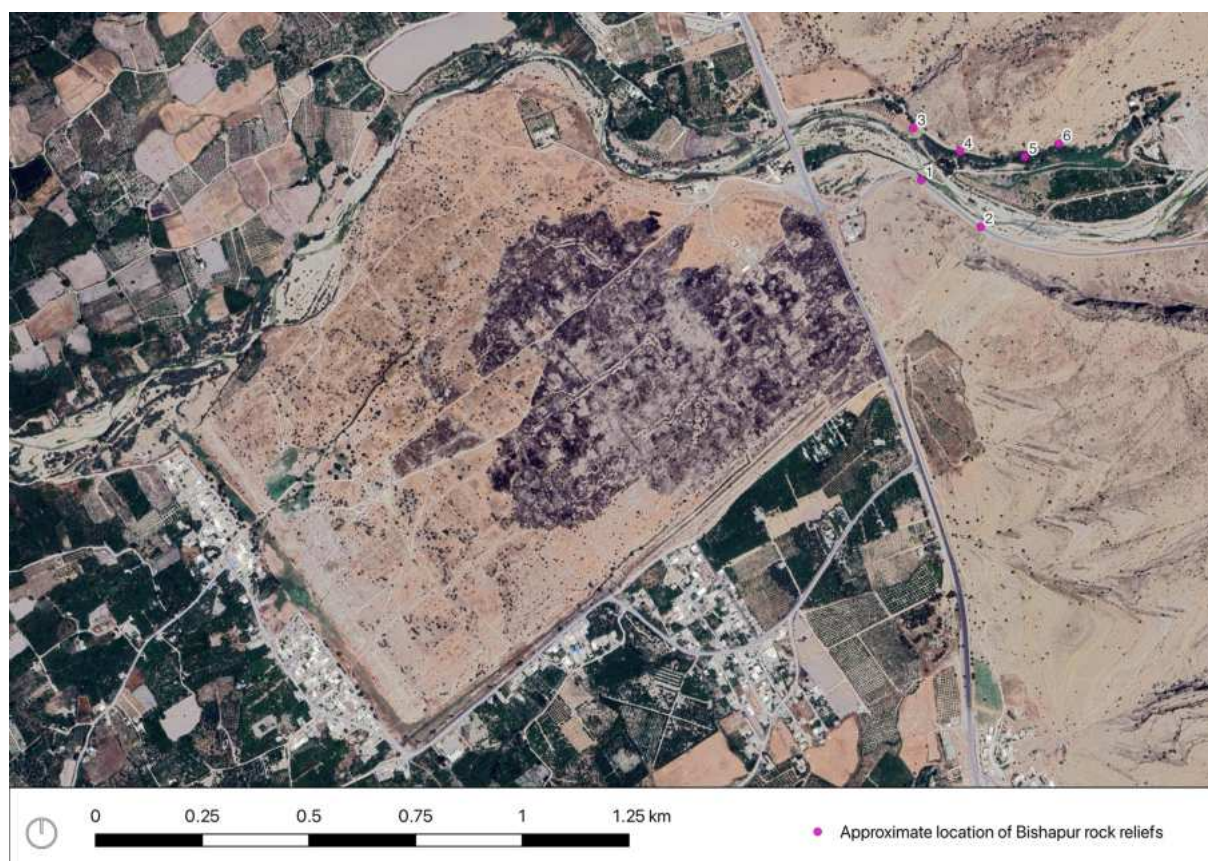
Figure 32. Annotated satellite image showing Bishapur and the location of rock reliefs. Their numbering follows the current scholarly consensus.

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[23] This translation has been used throughout the text. Therefore, only the page number of the translation edition will be provided in brackets.

[24] This translation has been used throughout the text. Therefore, only the page number of the translation edition will be provided in brackets.

[25] This translation has been used throughout the text. Therefore, only the page number of the translation edition will be provided in brackets.
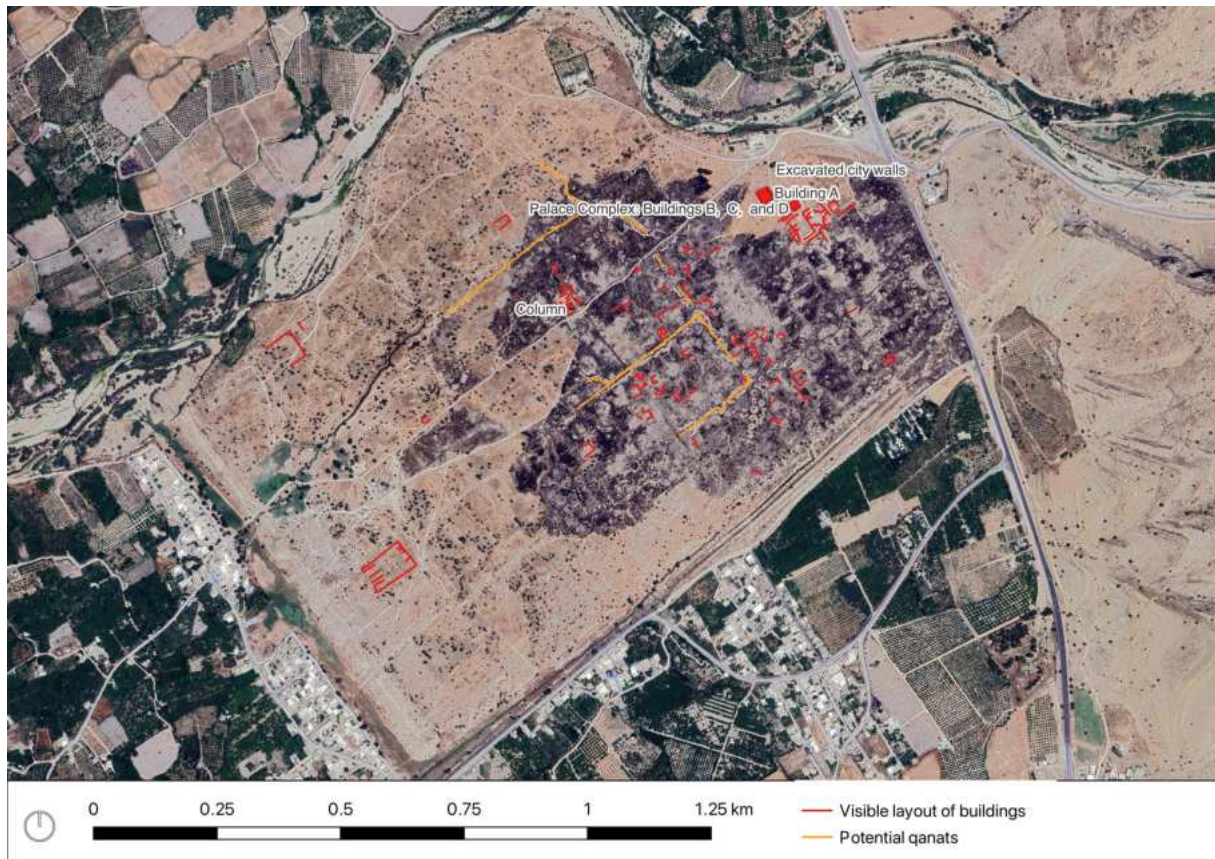
Figure 33. Annotated satellite image showing the position of the archaeological remains.

Between 1935 and 1941, Ghirshman (1971) conducted five seasons of excavations at the site, with a focus on the palace complex and three of its buildings, as shown in Figure 33: Building B, which was an open, four *ivān* enclosure; Building A, a partially subterranean temple that was likely devoted to Anahid; and Building D, a court with intricate floor mosaics (Keall 1989). According to Ghirshman (1971), Building C, known as the Hall of Mosaics, was reused after the transition. Sarfaraz (1970: 178) led a more recent Iranian Archaeological Mission that examined the fortifications, focusing on the northeastern corner of the city. In the early 21st century, a team led by Mehryar carried out four seasons of excavations, uncovering an early Islamic bath and the Governor's palace, which was dated to the late 1st AH/7th CE century and will be discussed in chapter 5 (Mehryar 1999: 58-60; Mousavi 2008: 3). While many buildings can be identified on satellite imagery, along with other earthworks, there has been a lack of focus on residential areas and city infrastructure. The survey conducted by Genito (*et al.* 2014) and his team in 2013 identified some of these earthworks as the layout of qanats. The example of Bishapur exemplifies the fact that the focus of excavations has traditionally been on monumental and defensive structures rather than urban residential

areas and infrastructure, which has resulted in a lack of archaeological excavated contexts regarding urbanism in Sasanian cities on the Iranian plateau.

Ardashir-Xwarrah (Fars)
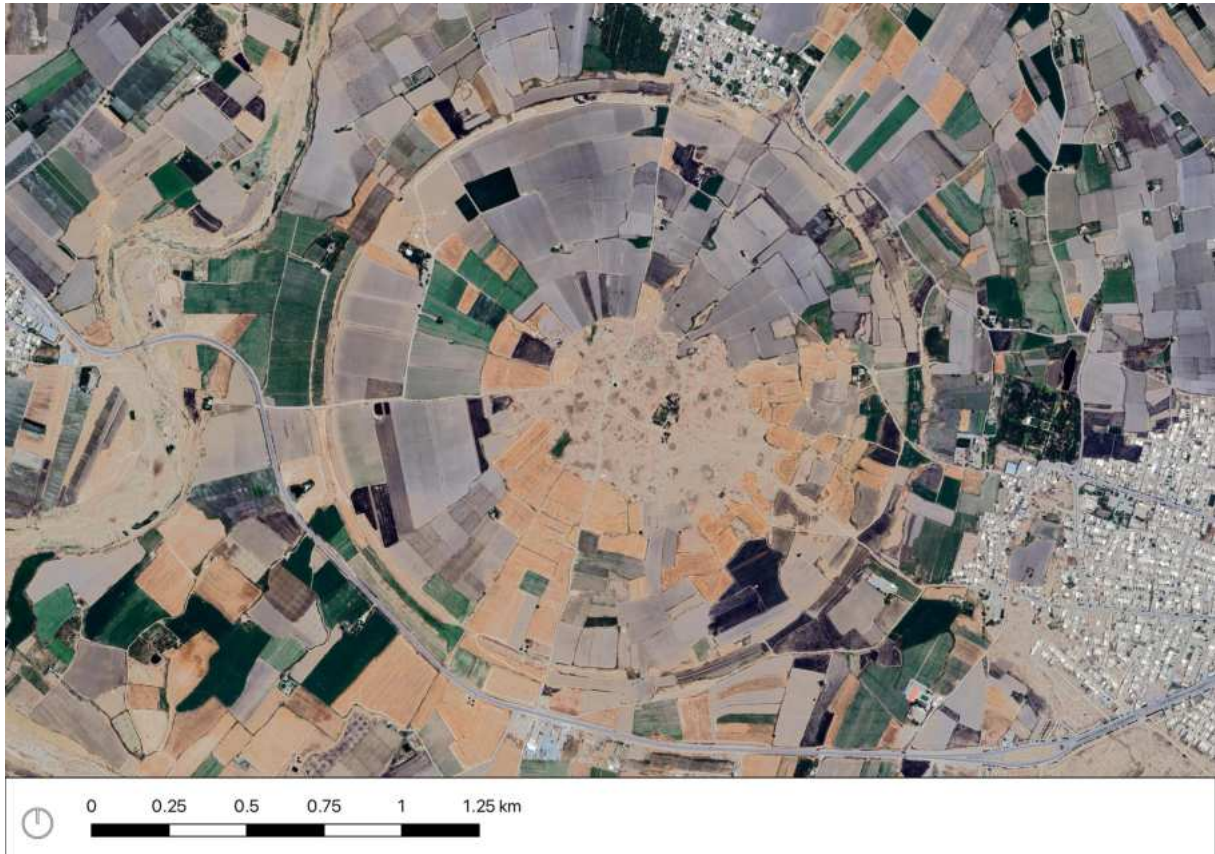
Figure 34. Satellite image showing Ardashir-Xwarrah.

Ardashir-Xwarrah, which translates to 'the Glory of Ardashir,' is a renowned site in Fars (Figure 34). Ardashir I established it near the Tang-ab River, though the exact reasons for its founding are steeped in legend reported both from Middle Persian (*Shahrenstaniha-i-Eranshahr* [tr.: 20]) Persian (*Shahnama* [tr.: 650, 680]) and Arabic sources (Ibn al-Balkhi [tr.: 324-30]; Ibn Hawqal [tr.: 82, 101]; Idrisi [tr.: 394]; al-Maqdisi [tr. Collins 1994: 382];[26] al-Masʿudhi [tr. Barbier de Meynard and de Courteille: vol. IV, 78]; Hamza al-Isfahani [tr.: 33]; Yaqut ar-Rumi [tr.: 23, 174-6]; al-Tabari 817-8 [tr. Bosworth 1999: 11-2]). While al-Mustawfi (tr.: 116) was mistaken in attributing the founding of the city to King Piruz (also transliterated

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[26] This translation has been used throughout the text. Therefore, only the page number of the translation edition will be provided in brackets.

as Firuz), most scholars agree with al-Tabari's account (817-8 [tr. Bosworth 1999: 11-2]), which suggests that Ardashir-Xwarrah was founded as a challenge to Arsacid power and the royal authority to establish cities.

Figure 35. Rock relief of Ardashir I. Photo by the author.

This hypothesis is supported by two rock reliefs, one depicting Ardashir defeating the Arsacid king (Figure 35), and the other Ardashir with the god Ohrmazd, and the presence of two palaces built by this king. The earliest palace, Qal'a-yat Dukhtar, was constructed before Ardashir's victory, and its military function is confirmed by its location, on a cliff overlooking the gorge which served as the main access route to the plain where the city lies (Figure 36). The second palace presents only ceremonial features and is located circa 8 kilometres north of the city, within the plain.

Figure 36. View of the gorge accessing Ardashir-Xwarrah's plain as seen from Qal'a-yat Dukhtar. Photo by the author. View looking northwest.

Due to its significance, many scholars have taken an interest in this site, including Stein (1936: 114-27), who surveyed the area during his tour of Persia. In the 1970s, Huff (1977, 1978) conducted two seasons of excavation at Qal'a-yat Dukhtar, as well as a survey of the site plan (Huff 1973, 1974) and an excavation at the mistakenly named *ātashkada*, which was Ardashir I's second palace (Huff 1979). In 2005-6, a new archaeological team consisting of both Iranian and German researchers led by Niakan and Huff conducted further excavations within the city, which have yet to be published, except for some extracts on the Circle of Ancient Iran Studies' website (CAIS). Some names and locations used in this dissertation were identified thanks to Mittertrainer's research (2020) and the author's MA dissertation (Rossi 2016), as shown in Figure 37. Further investigations are currently carried out by the Iranian-Italian Joint Archaeological Mission in Fars (Callieri *et al.* 2021).
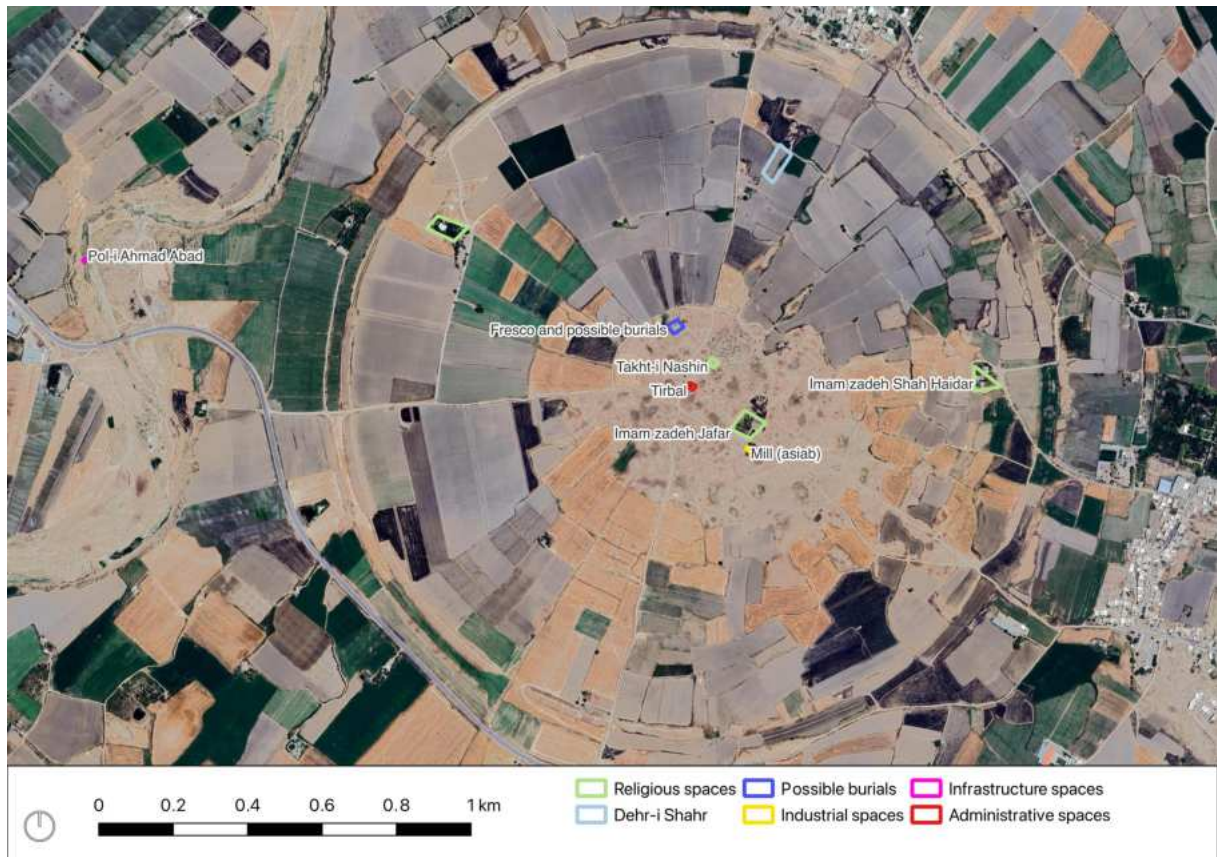
Figure 37. Annotated satellite image showing the extent and position of the archaeological remains in Ardashir-Xwarrah (after Rossi 2016).

The recent excavations uncovered a number of interesting features, which were highlighted in articles on the CAIS website. These articles included sensational headlines such as 'World's Oldest Observatory Discovered in Gur' (Figure 38) and 'Bas-Reliefs of Four Sasanian Princes Unearthed at Gur' (Figure 39). However, it should be noted that the latter discovery was a fresco found within a room that also contained possible sarcophagi (Mousavi 2018: 3).[27]

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[27] This information is available on the CAIS' website: http://www.cais-soas.com/News/2006/March2006/12-03.htm; https://www.cais-soas.com/News/2006/January2006/09-01-bas.htm; and http://www.cais-soas.com/News/2006/February2006/18-02-painted.htm (All pages were accessed 13, November 2023).

Figure 38. Feature of undetermined nature. Photo by the author. View looking east.

Figure 39. Fresco, detail. Photo by the author.

Darabgerd (Fars)
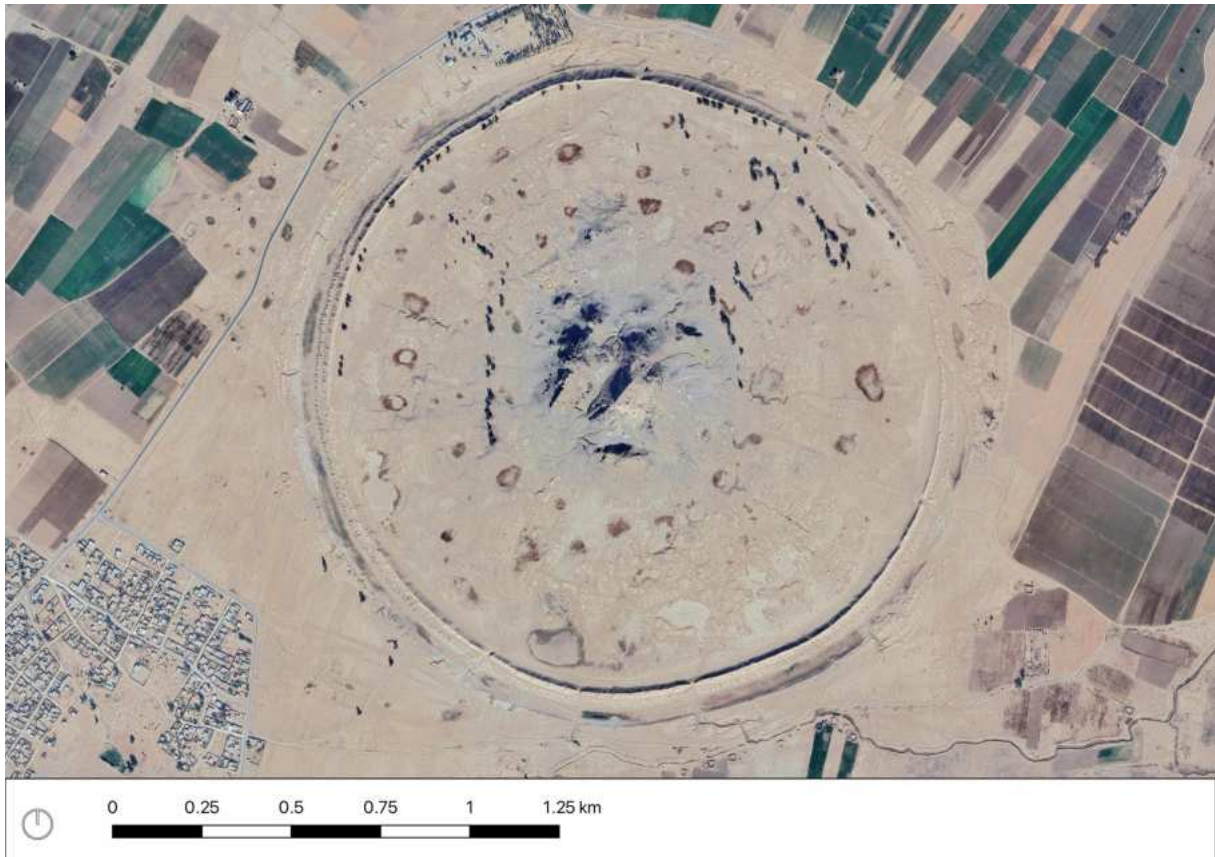
Figure 40. Satellite image showing Darabgerd.

Darabgerd and Ardashir-Xwarrah are often compared due to their similar shape, although Darabgerd's circumference is more irregular (Figure 40). Ibn al-Faqih (tr. Masse 1973: 28)[28] notes that Ardashir-Xwarrah was modelled after Darabgerd, as Ardashir was stationed there before his rebellion against Arsacid rule. According to Hamza al-Isfahani (tr.: 26), the city was originally triangular, but it was later encircled by a circular wall by a functionary, reportedly called Hajjaj ibn Yusuf. Morgan (2003: 331) suggests that this account is confirmed by al-Mustawfi (tr.: 125). However, al-Mustawfi (tr.: 138) refers to Darab on a page different from what Morgan referenced, and he does not mention triangular walls connected to the city. The origin myths related to Darabgerd include that it was founded by the legendary king Darab, either Dara, son of Dara (*Shahrenstaniha-i-Eranshahr* [tr.: 20]), or Dara, the son of Bahman ibn Isfandiyar (Ibn al-Balki [tr.: 21]). The city is located close to the Rudbal stream, a

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[28] This translation has been used throughout the text. Therefore, only the page number of the translation edition will be provided in brackets.

tributary of the Chashma Shapur River (Stein 1936: 190), and a nearby rock relief can be found in the area (Herrmann 1969).

Stein (1936: 190-4) surveyed this city, while Morgan's (2003) study following his survey mainly focused on water supply, including the location of a possible aqueduct noted by Flandin and Coste (1843-54) in the previous century. The satellite imagery (Figure 41) reveals a second possible wall around the central citadel and some earthworks that could be the remnants of a street grid. Additionally, rectangular-shaped earthworks may represent the remains of structures.
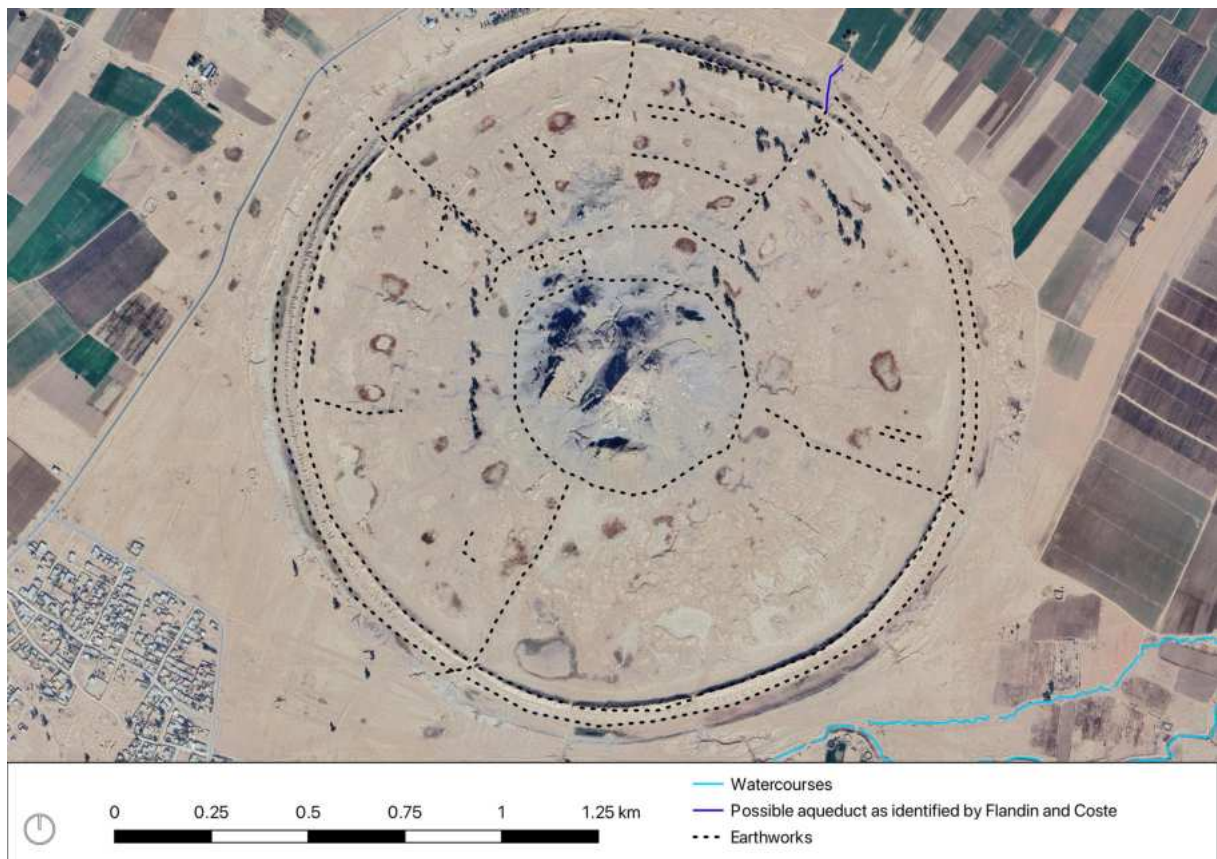
Figure 41. Annotated satellite image showing Darabgerd's earthworks as identified by the author.

Qasr-i Abu Nasr (Fars)
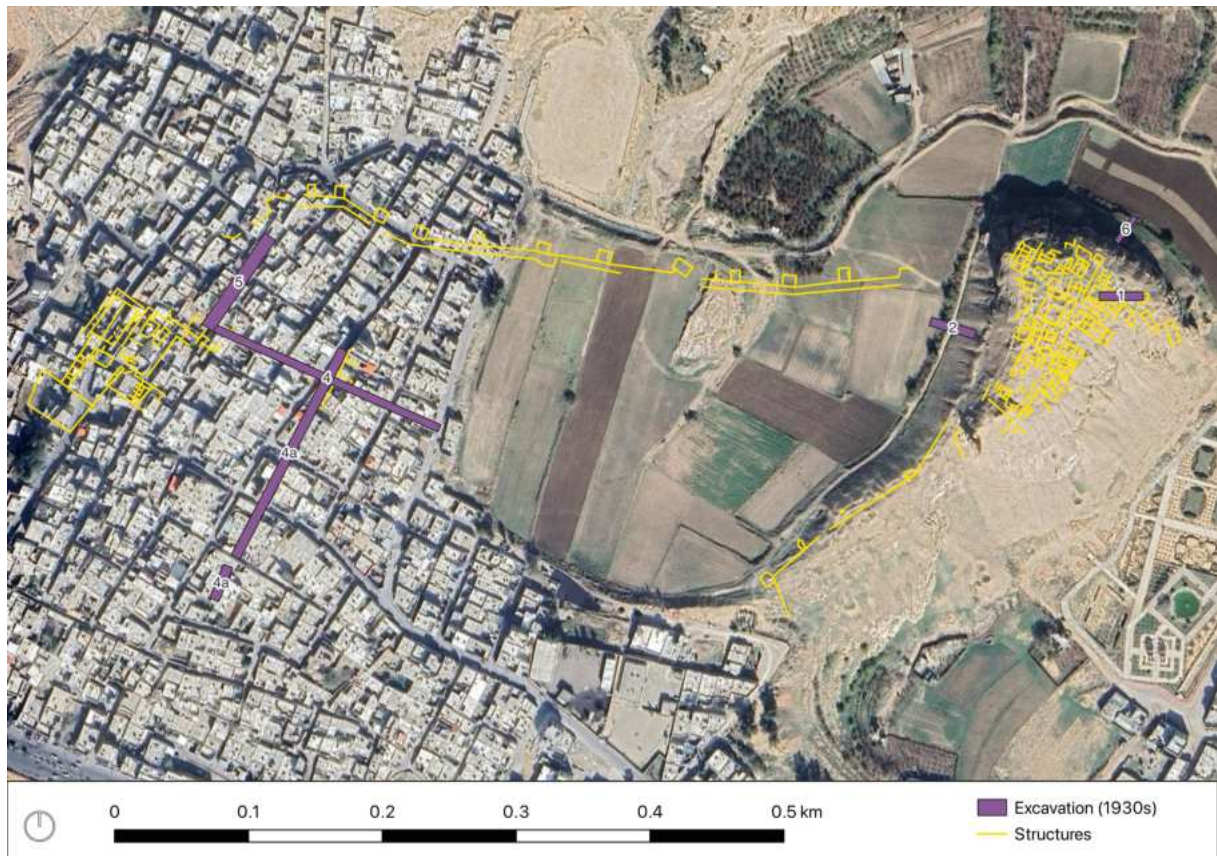
Figure 42. Annotated satellite image showing Qasr-i Abu Nasr and its investigations (numbering of trenches and buildings' outline after Whitcomb 1985: fig.2).

During the 1930s, the site of Qasr-i Abu Nasr, including the fortress and the city (Figure 42**)**, was excavated by the *Metropolitan Museum of New York* expedition led by Hauser. The report of their findings was published years later by Whitcomb (1985), which makes the reconstruction of the location of the findings more challenging. The city's foundation date and name during the Sasanian period or before are unknown. Qasr-i Abu Nasr is the modern name of a city that was tentatively identified as Kard-Fana-Khosrow, a commercial settlement founded by the Buyid ʿAdud al-Dawla, as reported by Ibn al-Balkhi (tr.: 316; cited from Whitcomb 1985: 40-1). Curiously, the *Hudud al-ʿAlam* (tr. Minorsky 1937: 105)[29] emphasises the foundation of Shiraz in the Islamic era and mentions a formidable citadel within it, known as Shah-*mowbed*'s Fortress. This could potentially correspond to the name by which Qasr-i Abu Nasr was referred to in the year 372 AH/982 CE when the geographical treaty was

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written.

Nonetheless, these excavations have contributed to the reconstruction of Sasanian urbanism. Many archaeological missions in the 19ᵗʰ and early 20ᵗʰ centuries were focused on discovering monuments or treasures and overlooked or missed valuable information. The case of Qasr-i Abu Nasr is emblematic of the issues examined in chapter 2.5, as the excavators were eager to find a new Persepolis based on the presence of some Achaemenid stones, but 'unfortunately' they brought to light *just* a Sasanian city, with no sensational finds (Whitcomb 1985: 11).

The rectangular site of Qasr-i Abu Nasr was fortified and located close to a system of irrigation streams from the Rud River. An Islamic settlement was discovered in the western area, called the 'Achaemenid Enclosure' by the excavators due to distinctive Achaemenid-styled dressed stones used as doorways (Whitcomb 1985: 32-86). Islamic burials and a building identified as a Nestorian monastery were found in the North Hump (Whitcomb 1985: 32, 45-7). The fortress showed continuous occupation after the Arab-Muslim conquest. The main archaeological evidence suggesting this continuity consisted of the fact that the majority of the Arab-Sasanian coins found within the excavations were recovered here (Whitcomb 1985: 22, 87-209). However, only limited excavation was undertaken in the city, and much of it was left unrecorded. The Sasanian occupation was found within the area called 'the Fortress' or 'Citadel,' localised on the hilltop of the natural rocky outcrop.

Istakhr (Fars)

Istakhr (Figure 43) is located approximately 5 kilometres north of Persepolis, on the southern bank of the Pulvar River. This region was closely associated with the Arsacid family of Ardashir and the house of Sasan. This relationship is tied to dynastic legitimacy, as exemplified by the legendary connection of Ardashir's grandfather serving as a priest at the Fire Temple of Istakhr dedicated to the Goddess Anahid (al-Tabari 814 [tr. Bosworth 1999: 4]). Regardless of the veracity of Ardashir's origins, it is true that from this city, the Sasanian Dynasty emerged. The close geographical proximity of Istakhr and Persepolis led to a

common confusion in later sources, often resulting in the misidentification of spaces or structures originally situated in Istakhr but mistakenly associated with Persepolis and vice versa.

Figure 43. Annotated satellite image showing Istakhr and relevant nearby monuments.

In 1932 and 1934, the Chicago Oriental Institute, led by Herzfeld (1935, 1941), conducted the initial excavations at Istakhr (Figure 44). Subsequently, Schmidt (1939) led the institute's excavation efforts in 1935 and 1937. These substantial investigations revealed a

> *'greater volume of our material belongs to the Early Islamic period, which accumulated a very thick stratum.'* (Schmidt 1939: 109).

The structures found during the initial tests consisted of a building with rooms grouped around a central courtyard (Schmidt 1939: 107-11). Whitcomb (1979b: 363) later examined aerial photographs of the site taken by Schmidt (1939: fig. 96) and claimed that the early Islamic city with rough square boundaries was distinctly visible to the east of the older Sasanian city. In 2011-12 and 2015, the Iranian-Italian Mission carried out further investigations into Istakhr and its mosque during two brief fieldwork seasons (Fontana *ed*.:

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2018). An interesting analysis of the satellite and aerial imagery has been carried out by Andaroodi (*et al.* 2021). The possible Sasanian earthworks had been identified as being located west of the city, whilst the potential Islamic grid is concentrated in the centre and western locations. According to this analysis confirming Whitcomb's theory, the Sasanian network of main and secondary streets perpendicular to each other has a northwest-southeast direction, while in the Islamic period, it featured a north-south alignment.
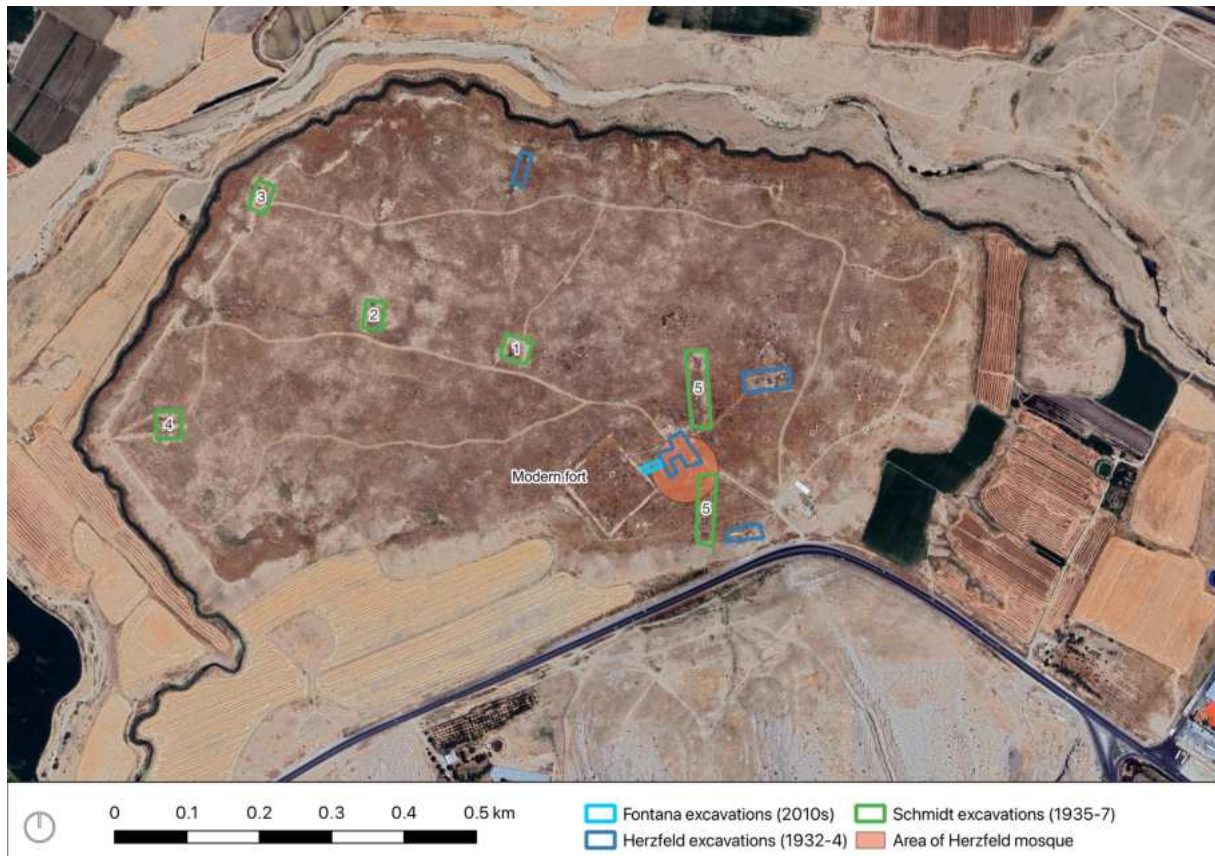
Figure 44. Annotated satellite image showing Istakhr and former archaeological investigations (the numbering of trenches is after Colliva and Rugiadi 2018: fig.10).

Rayy (Mad)

Of the last two cities, Gayy and Rayy, located in Media (Mad, al-Jibal), the core of the empire, not much archaeological information is available. According to Arabic sources, Rayy was

allegedly founded by Piruz (al-Dinawari [tr. Jackson-Bonner 2020: 61])[30] or had an even older history shrouded in myth according to al-Mustawfi as it was,

> '(…) founded by the prophet Seth, son of Adam, and Hushang the Pishdadian added to its buildings, so that it became a great city. Then it fell to ruin and Manuchihr rebuilt it (…)'. (tr.: 59).

Rayy is today situated on the southern outskirts of Tehran, and it was substantially destroyed by modern development and farming, as shown in Figure 46. The first investigations of the area were carried out by Ker Porter in the first years of the 19th century, who drew a useful map of what was surviving at the time (Porter 1821: 361-2; Rante 2014: fig. 5). The description of Ker Porter is quite different from what is possible to see presently on satellite imagery, as:

> 'The ruins lie about five miles south-east of Teheran, extending from the foot of the curving mountains, and running in that direction across the plain in an oblique line south-west. The surface of the ground, all over this track, is marked by hollows, mounds, mouldering towers, tombs, and wells. A very strong citadel appears to have occupied a high and rocky promontory that just out considerably beyond the other huge buttresses of nature (…)'. (Ker Porter 1821: 359).

In the 1930s, a joint expedition of the 'University of Pennsylvania Museum' and the 'Museum of Fine Arts' was led by Schmidt, following the assumption that it was the Median city of Rhaga conquered by Cyrus the Great (Hall 1935: 55). The excavations focused on the mound of Chishmih ʿAli (meaning 'Spring of ʿAli'), where the stratigraphy highlighted the presence of a prehistoric settlement, an Arsacid temple, and Islamic deposits (Hall 1935: 56; Schmidt 1940). A project involving archaeological investigations focusing on the city of Rayy started in the 1970s (Keall 1979; Adle and Kossari 1990; Figure 45). The first seasons of excavations focused on the necropolis, in the area of the 'citadel or first city walls' (*quhandīz*) over Mount Sorsore dating to the 3rd AH/9th CE century, the 'third wall or the new walls' (*dīwāri naw*) (Adle and Kossari 1990). A new topography of the city of Rayy has been presented by Rante (2007, 2008), which informed Figure 46. Rante (2008) compared Rayy's fortifications and defensive apparatus to the 'eastern urban and defensive tradition,' assimilating the Hellenistic tradition throughout the Arsacid period.

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[30] This translation has been used throughout the text. Therefore, only the page number of the translation edition will be provided in brackets.
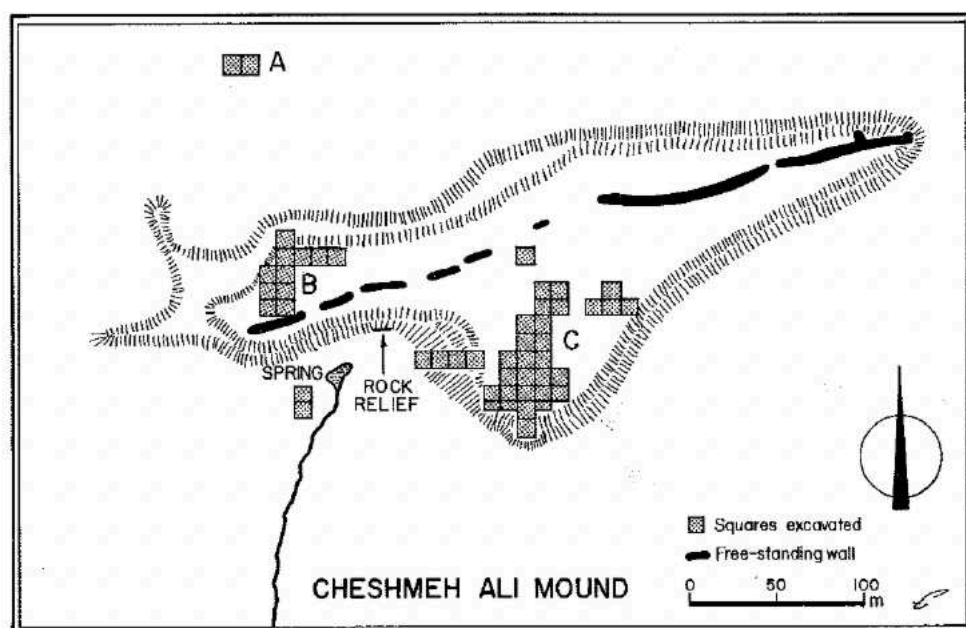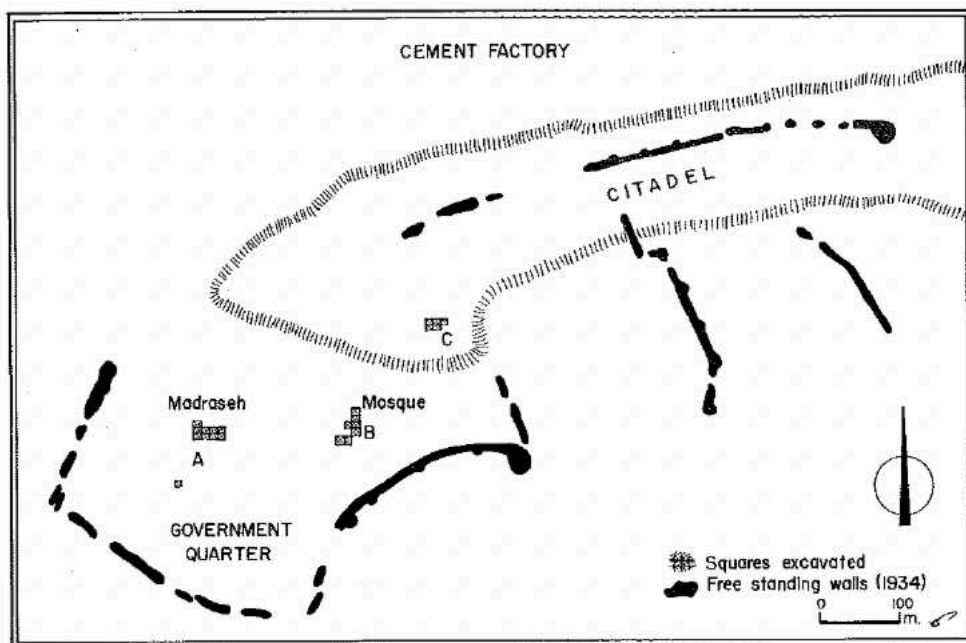
Figure 45. Areas excavated after (Keall 1979: 542, figs. 3-4).

Figure 46. Annotated satellite image showing Rayy.

Gayy (Mad)

The last city of this overview is the allegedly circular Gayy, situated in the present-day Isfahan region. However, there has been no archaeological evidence of its location so far, and thus, information about Gayy relies mainly on accounts from medieval Islamic authors, requiring inference and interpretation to reconstruct its historical context. Gayy was founded by Alexander the Great according to both Middle Persian (*Shahrenstaniha-i-Eranshahr* [tr.: 20]) and Arabic sources (Ibn al-Faqih [tr.: 262]; Ibn Hawqal [tr.: 363]; Ibn Rusta [tr. Wiet 1955: 160] [31]; al-Mustawfi [tr.: 48]; al-Tabari 702 [tr. Perlmann 1987: 94]). Hamza al-Isfahani (tr.: 55-6) identifies Piruz as re-founder. The foundation myth involves the Sasanian king requesting the Roman emperor to send him a physician capable of identifying

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[31] This translation has been used throughout the text. Therefore, only the page number of the translation edition will be provided in brackets.

the optimal province within *Īrānshahr* to construct a new royal residence. This location was expected to meet specific criteria, including being a place where the four fundamental elements of Zoroastrians (fire, water, earth, and air) would coexist. According to the myth, this ideal place was found in the Isfahan province. Golombek (1974: fig. 2) proposed a first attempt at reconstructing the walls of Gayy.

To summarise, this section provided a brief outline of the current state of knowledge regarding the case study cities. The selection of these eleven cities was based on the availability of archaeological and historical data, as well as the fact that their periods of habitation are predominantly confined to the Sasanian and Islamic eras. The information provided served as the baseline for the subsequent comparison while also offering additional insights into the nuances of Sasanian cities. These cities exhibited diverse characteristics influenced by regional variations, which will be further explored within this analysis.

4.2.   Urban layouts

> *'The cities in the land of Ērānšahr which have been built in different days, where and which overlord made them is written in detail in this memoir.'*
> *Shahrenstaniha-i-Eranshahr* (tr.: 17).

An assessment of the specifics of the urban landscape that preceded the Arab-Muslim conquest is fundamental to establishing the degree of change in the cities. Therefore, the following sections of this chapter will provide the main characteristics of Sasanian cityscapes. These elements were identified by collecting information mainly from the sample of cities selected: Veh-Ardashir, Merv, Nishapur, Gondeshapur, Bishapur, Ardashir-Xwarrah (Gur), Qasr-i Abu Nasr, Darabgerd, Istakhr, Rayy (Tehran), and Gayy (Isfahan) (chapter 4.1) and

cataloguing the data into functional categories: residential, infrastructural, religious, industrial, commercial, institutional, and recreational spaces. Before considering these spaces in detail, the cities will be considered as a whole by examining their urban layout. This exploration of urban layout will be introduced by some consideration of defence features, consideration of these cities' size, and the role of the rural surroundings within the Sasanian urban fabric.

Despite the long-standing academic interest in studying human congregational activities in cities, much of the archaeological evidence from the Sasanian period has been related to defensive features. This is not surprising, given the paramount role of military defences during pre-industrial eras, resulting in most excavations being focused on fortifications, garrisons, and fortresses situated mainly at the periphery of the Sasanian territory. Several notable examples include the excavation of a fort in Oman, Fulayj (al-Jahwari *et al.* 2018), the Dariali and Gorgan Walls on the eastern frontier (Sauer *et al.* 2013, 2020), and Qaleh Iran in the al-Jibal region (Nemali *et al.* 2019). Many extensive studies have been carried out on city fortifications, such as at Merv (Herrmann *et al.* 1999: 15-6; Herrmann *et al.*2000: 12-4; Herrmann *et al.* 2001: 17-22; Williams *et al.* 2003: 140-2), Qasr-i Abu Nasr (Whitcomb 1985: 16-9, 87-209), Bishapur, (Sarfaraz 1970: 178), Ardashir-Xwarrah (Stein 1936: 117-8), and Darabgerd (Stein 1936: 192). Although fortifications will not be directly analysed in this dissertation, the significance of military defences in urban settings needs to be emphasised. This is particularly vital because the later idea of garrison cities (see chapter 3.4) is connected to this concept. The sampled cities are enclosed by one or two defensive walls, although many of these features had yet to be confirmed to be Sasanian in date. Some walls featured projecting towers (such as Merv and Veh-Ardashir), which had been archaeologically investigated, and others are characterised by moats, as seen in Darabgerd and Ardashir-Xwarrah.

Another significant aspect of cities is their size, often employed as a distinguishing factor from towns. A preliminary measurement of the case cities' area extent has been discussed in Table 3. The table indicates when it was feasible to calculate the areas using ArcGIS software. This was achieved by creating a polygon shapefile covering the entire perimeter as identified in satellite imagery. Subsequently, the software was employed to calculate the areas. In other

instances, geometric formulas were applied, as depicted in Table 3. All provided measurements are approximate due to the inherent margin of error when using satellite imagery for such calculations, as well as the possibility of inaccuracies in measurements derived from historical sources and utilised in mathematical calculations. Moreover, without further excavations, the precise extent of the Sasanian city and any potential changes following the conquest cannot yet be determined through measurement. Further details regarding the measurements are included in Table 3.

Table 3. Approximative areas of examined cities, in order of size:

City	Area (hectares)	Notes on measurements
Veh-Ardashir	922.10	The perimetral polygon is an assumption following Simpson's (2015a: 8) tentative reconstruction.
Merv	590.70	The perimetral polygon includes both Gyaur and Erk Kala.
Ardashir-Xwarrah	355.95	The perimetral polygon includes the space enclosed by the innermost walls, excluding the moat and second outer walls. The radius is obtained by dividing the diameter (1.98 kilometres) by 2. However, by applying the mathematical formula $A=\pi r^2$ the result is 310 hectares.
Darabgerd	302.16	The perimetral polygon includes the space enclosed by the innermost walls, excluding the moat and second outer walls. The radius is obtained by dividing the diameter (1.9 kilometres) by 2. However, by applying the mathematical formula $A=\pi r^2$ the result is 298 hectares.
Gayy	283	According to Duva (2018: 167), the possible perimeter was 3 kilometres. The radius is obtained by applying the mathematical formula $r = C / (\pi 2)$.
Bishapur	188.49	The perimetral polygon features very irregular sides, especially the western one, bordered by the river.
Gondeshapur	179.94	According to Mofidi-Nasrabi (2019: 107), the measurement for this city is 560 hectares. However, the perimetral polygon considered only the area surveyed by Adams.
Istakhr	84.85	The perimetral polygon features very irregular sides, especially the northern one, bordered by the river.
Qasr-i Abu Nasr	6.47	The perimetral polygon included only the citadel.

While many of these measurements may not be entirely accurate due to the destruction and disturbance of the sites caused by intensive farming and modern urban development, they still provide a useful means of understanding the level of urban extension. It is worth noting that Bishapur, Darabgerd, and Ardashir-Xwarrah, all in Fars, are among the relatively well-preserved cities.

In addition to fortifications, the surrounding areas of the cities were crucial for the urban environment. The importance of the rural districts surrounding the cities is confirmed by Shapur's inscription, assigning each district to its corresponding city (Lukonin 1983: 725). In *A Short Chronicle,* Merv's description potentially involves the concept of conurbation, and it also suggests the presence of intra-mural farming activities:

> *'[Merv?] it measures twelve parasangs from within, and inside the outer wall, there are many cities and fortresses, fields of wheat and barley, and gardens and parks.'* (tr.: 90).

This source may refer to the enclosed city known as Gyaur Kala or another outer wall surrounding a more extended area. Although this extract cannot clarify the layout of Merv, it highlights the role of rural spaces within the urban environment. The extensive surface surveys carried out in the Merv oasis and the hinterland of Veh-Ardashir suggest how the cities were embedded in a complex pattern of rural land use (Simpson 2008: 252). Although surveys and modern research (Adams 1965; Whitehouse 2010; Sauer *et al.* 2013; Hartnell 2014; Whitcomb 2014; Christensen 2016;) focused on Sasanian agricultural policy in more extended areas, they did not specifically study the connections between urban and rural land use.

While the rural dimension was undoubtedly important, the urban landscape played a fundamental role in the fabric of the Sasanian Empire. The Sasanian cities' circular shape, such as Veh-Ardashir, Darabgerd, Ardashir-Xwarrah, and potentially Gayy, was a rare feature. Archaeological evidence confirms the circular layout for some of these cities, while Islamic authors suggested that Gayy's shape served as a prototype for the later city of Baghdad (al Duri 1986: 894-908). Scholars have speculated on the reasons behind this shape, with some attributing it to Parthian or Hatra's influences and strategic-military advantages (Ghirshman 1962: 35; see also chapter 3.2). However, Simpson (2017: 27) notes that despite the benefits,

circular cities pose challenges for internal urban planning, making their layout exceptions rather than the norm. Darabgerd and Ardashir-Xwarrah, located in valleys surrounded by mountains and with limited access points, offer military advantages and blend well into the landscape. Another intriguing hypothesis is the relationship between the circular shape and the concept of kingship. The use of this figure is typical in different elements of early Sasanian architecture, from the urban layout to the consistent use of the dome, and of symbolic significance, from the ring of *xwarrah* to the planetarian sphere (Callieri and Askari-Chaverdi 2023). Rectangular layouts are more prevalent, as they avoid the challenges of internal architecture in a circular plan and continue the previous layouts of older centres (Simpson 2017: 27). Satellite imagery shown in the preceding section reveals that the walls of both Gondeshapur (Figure 30) and Bishapur (Figure 33) are designed with one side of their rectangular layout bordered by a river. All these considerations suggest that a symbolic explanation behind the use of the circular shape might be more reasonable than pragmatic reasons.

The layout of cities involves examining the placement of different neighbourhoods and districts. When a city is built from the ground up, these areas are likely planned to work together in harmony with the external layout. This approach can help shed light on the impact of institutional agencies. For example, Bishapur was founded under the direction of the royal house, as evidenced by the inscription of the governor Apasay on a column during the king's visit (Ghirshman 1971: 10). Ghirshman (1971: 21) compared this city to a 'Sasanian Versailles' and suggested that it was simply the result of the king's whim. However, while the royal ideology was certainly a major factor in the planning and construction of the city, such as in the orientation of buildings at 37 degrees and the possible presence of a triumphal arch (Shahmohammadpour: 2021), its function was much more complex than that. Besides the promotional monuments and rock reliefs confirming the ideology behind its founding, the city grew rapidly, and historical sources mention substantial industrial and commercial activities. Pusai was a skilled craftsman descending from deported captives who wed a Persian woman, had his workshop in Bishapur during the reign of Shapur II, and was deported to Karka-ye Ladan with his family during another movement of people, where he was favoured by the king because of his skills (*Acts of Pusai* [2, AMS II, 208-9], cited from Dodgeon and Lieu 1991: 163). Despite the intentions behind its founding, the city became a

thriving urban centre. According to topographical surveys and remote imaging, Bishapur is approximately 1.5 kilometres long and 1 kilometre wide, with major streets dividing it internally into 200-square-metres blocks (Simpson 2017: 28).
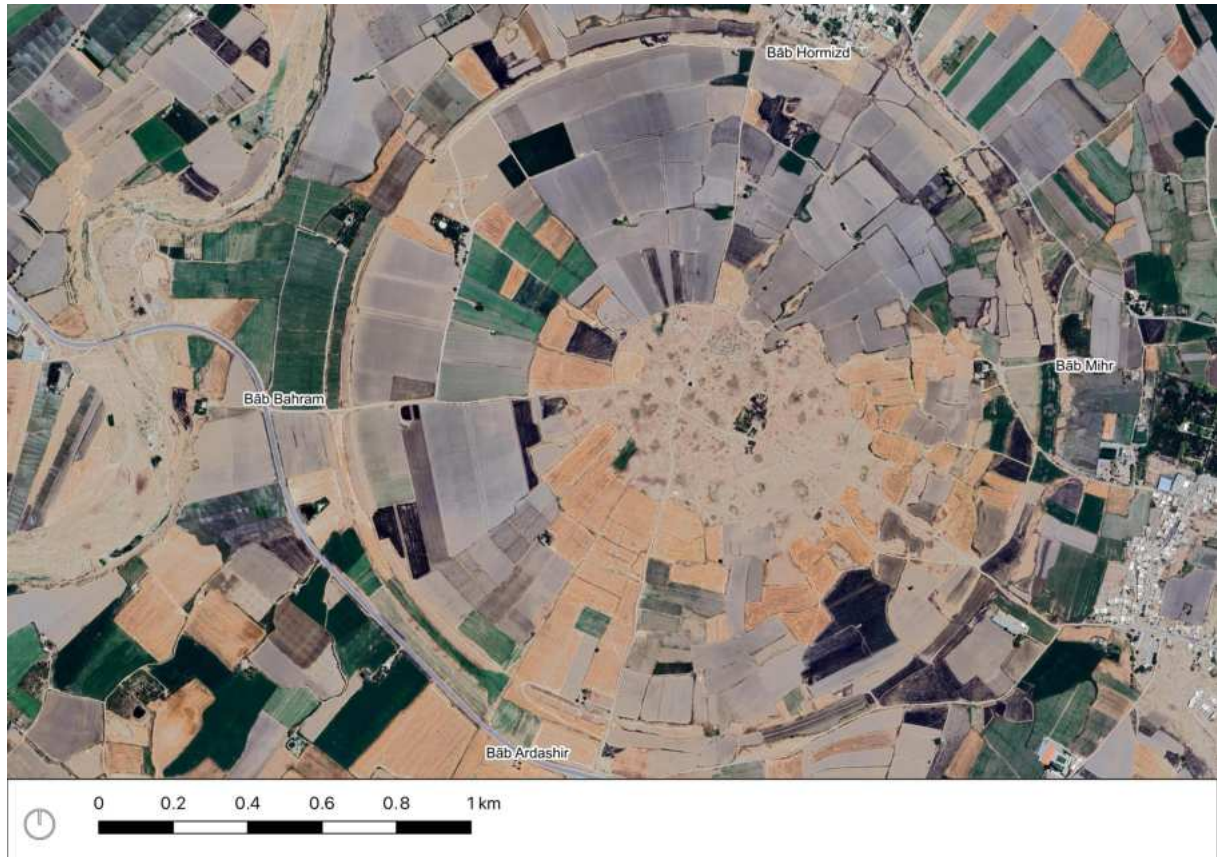
Figure 47. Annotated satellite image showing Ardashir-Xwarrah's attempted location of the four gates.

The circular city of Ardashir-Xwarrah has fascinated scholars with its meticulously planned circular layout, spanning 1.98 kilometres in diameter. Interestingly, the city's area is nearly twice the size of Bishapur. Encircling the city were two concentric walls with four gates. These gates, as documented names by Istakhri (Stein 1936: 118), were known as Bāb Mihr in the east, Bāb Bahram in the west, Bāb Hormizd in the north, and Bāb Ardashir in the south (Figure 47-Figure 48), all names bearing a distinctive Sasanian echo. While Yaqut ar-Rumi (tr.: 17) mentions the existence of the four gates, he does not provide their specific names. The gate names suggest a connection to Mithra, the god associated with the east and the rising sun, Bahram, the god of war linked to Verethragna, and Hormizd, the Middle Persian appellation for the supreme divinity, Ahura Mazda. Bāb Hurmuz was located to the north, which Zoroastrianism considered the point of arrival for the malevolent forces guided by the

Evil one, Ahriman (Cereti 2001: 202-3).

Figure 48. Tīrbal from Bāb Ardashir. Photo by the author, looking north.

Within the confines of the city, only a limited number of structures have endured or been unearthed through archaeological excavation. One prominent structure, the Tīrbal (Figure 49), stands at the heart of the city and is assumed to represent royal symbolism while potentially serving military and industrial purposes. This tower-like structure, constructed with coarse stone masonry, reaches a height exceeding 30 metres (Huff 1999: 634). The Tīrbal was potentially employed for surveying activities during the wall construction process (Huff 2008). It was alternatively referred to as Ivān Girda, a term meaning 'the circular hall,' by Ibn al-Balkhi (tr.: 325), who also mentions the presence of a *sayāhā*, i.e., shady places constructed atop the platform, along with a grand dome named Gunbad or Kīrmān situated amidst these places. It becomes apparent from the description that the author mistakenly conflated Tīrbal with the Takht-i Nashin due to the detailed account of stone blocks and a kiln-burnt brick cupola.

Figure 49. Tīrbal. Photo by the author, view looking west.

In addition to the Tirbal and the Takht-i Nashin, the city encompasses three Imam-zadeh shrines, potentially very late: Imam-zadeh Shah-Haidar, Imam-zadeh Jaʿfar, and Imam-zadeh Buzurg (Stein 1936: 119; Rossi 2016: 98-100, 104). The presence of these shrines within the city walls suggests habitation following the Arab-Muslim conquest (see chapter 5.4; Rossi 2023). Furthermore, Stein (1936: 117) reports the existence of ruins along the northern edge of Ardashir-Xwarrah. This area corresponds to the former village of Dehr-i Shahr, which was destroyed during the early 20th century. At present, this area comprises two *tells* partly damaged from agricultural disturbance. The two *tells* are characterised by scattered sherds of glass and pottery (Stein 1936: 117; Rossi 2016: 101-3). Additional features include an excavated fresco (see Figure 39), a structure identified as a possible observatory (see Figure 38), and a mill-like construction (Figure 50), with the mill interpretation being validated by the discovery of a nearby millstone (Figure 51).

Figure 50. Mill structure. Photo by the author, view looking northeast.

Figure 51. Millstone. Photo by the author, view looking northeast.

Another circular city, Darabgerd, exhibits a slightly smaller and irregular layout compared to Ardashir-Xwarrah. Besides the shape, Darabgerd's defensive infrastructure resembles that of the more famous city, as Ibn al-Balkhi (tr.: 21) described it as consisting of a water-filled ditch and a central fortress. Ibn al-Balkhi (tr.: 21) also indicated that Darabgerd was abandoned around the 5th AH/11th CE century. In terms of the number of gates, the information gathered by Morgan (2003: 327) can be summarised as follows: Ouseley provides no specifics, Flandin and Coste's map depicts eight gates, Forsat Shirazi mentions only one, Stein identified four, the Iranian National Cartographic Organisation's maps indicate six gaps in the walls with a potential seventh, and Huff suggests four gates. However, Morgan (2003: 327) points out that additional recesses in the wall alignment have yet to be accounted for. Based on satellite imagery, it appears that there are a total of five gates, with three located in the northern portion and two in the southern section, as illustrated in Figure 41.

According to Istakhri, there were four gates and a central rocky prominence in Darabgerd,

but only a few remnants of ancient Persian structures were visible (Stein 1936: 191). Scholarship largely overlooked Darabgerd due to the greater attention given to Ardashir-Xwarrah. However, Stein (1936: 193) visited Darabgerd and described it as 'composed of limestone darkened apparently by bitumen and full of cavities' with two peaks. He also observed lines of ruined dwellings along a section of the road leading towards the west gate, which he identified as shops in a *bazaar* street, discerning rows of small rooms (Stein 1936: 193). Notably, just outside the north-western segment of the ramparts, there is a shrine known as Qadamgāh-i Dayā (Stein 1936: 190). This aligns with the pattern of religious spaces primarily located outside the urban confines (see chapter 4.5).

The precise location of the third circular city, Gayy, has not yet been discovered. This city, as described, shared common characteristics with Darabgerd and Ardashir-Xwarrah, such as a central building situated between two circular fortification walls and four gates. Ibn Rusta (tr.: 160 ff) provides the names of the four gates as Bāb Khūr, Bāb Isfidj, Bāb Tirah, and Bāb Yahudiyya while mentioning that the city's defensive walls encompassed one hundred towers. Additionally, Ibn Rusta (tr.: 160 ff) reports the presence of an ark-like structure, a *quhandīz* known as Sārūq or Sārūya, located at the city centre, similar to the Tīrbal in Ardashir-Xwarrah. By utilising Ibn Rusta's description, Duva (2018: 167) calculates the possible perimeter of Gayy, estimated to be 3 kilometres, equivalent to approximately 283 hectares. Furthermore, Duva (2018: 168) suggests that Gayy's internal walls might have been elliptical. This hypothesis is inferred by the fact that some authors reported two different measurements of the city that align with the axes of an ellipse (Duva 2018: 168). Based on astrological information provided in the sources, Duva (2018: 169-70) reconstructs the likely positions of the gates: Bāb Khūr in the southeast, Bāb Isfidj in the northeast, Bāb Tirah in the northwest, and Bāb Yahudiyya in the southwest. Similar to Ardashir-Xwarrah, these gate names hold connections to Zoroastrian traditions and astronomy, with Khūr possibly representing Hormizd, the sun deity (*khurshīd*), Tirah associated with the *yazata* Tir, the chief of the fixed stars, and Māh referring to the Persian name for the moon (Duva 2018: 172). These correlations between gate names and the Zoroastrian astronomical sphere emphasise the need for further astro-archaeological research into urban layouts.

When considering rectangular-plan cities, Gondeshapur is noteworthy, stretching

approximately 3.1 kilometres in length and 1.5 kilometres in width. Within its boundaries, scattered low mounds are present, as mentioned by Simpson (2017: 28). However, satellite imagery (see Figure 30-Figure 31) reveals that little evidence remains of what was once believed to be a substantial and remarkable city. Nevertheless, surveys carried out at the site indicate the probable presence of Sasanian structures beneath the surface, suggesting a history of uninterrupted and vibrant habitation (Simpson 2017: 29).

Qasr-i Abu Nasr, a fortified site, exhibits an orthogonal layout in its planning, as noted by Whitcomb (1985: 96). The site comprises both a citadel/fortress and a town, yet the excavations conducted thus far have concentrated solely on the citadel, and the modern urban development substantially disturbed the remains located in the plain. The lack of comprehensive data on building stratification and activities like demolition and levelling poses challenges for interpreting the site from an archaeological perspective. Also, the publication concerning the excavations was released years after the initial dig, leading Whitcomb to painstakingly reconstruct a narrative based on the reports and notes of the excavators. Notably, there appears to have been a phase of reconstruction resulting in a different orientation of all structures within the fortress (Whitcomb 1985: 99). This occurrence of urban renewal implies the involvement of an institutional agency. However, the precise reasons behind these modifications and the exact nature of the structures remain unclear due to the limited currently available information. In contrast to the cities built with stone materials, the absence of epigraphic evidence presents another obstacle to comprehending Sasanian urban centres. According to current knowledge, any observed layout in residential areas within the empire's cities could be either a planned urban project or an impromptu gathering. Determining the true nature of these layouts remains elusive. Nevertheless, plausible hypotheses and interpretations can be formulated based on the existing data. For example, the existence of houses arranged in rectilinear grids, as evidenced by the partially excavated residential quarters in the northeast corner of Merv, suggests the presence of urban regulations, at least within that specific section of the city (Simpson 2014: 17). This regularity was interpreted as likely reflecting an earlier street plan influenced by the alignments of the Seleucid foundation (Simpson 2014: 20).

Another issue related to Sasanian cities is their architecture, primarily relying on mudbrick

construction. The use of mudbrick and rubble masonry instead of stone allowed for the recycling of rubble masonry materials by dismantling structures and rebuilding them without incorporating *spolia* (Kennedy 2006: 7). This, coupled with the lack of epigraphic evidence, presents challenges for archaeologists in reconstructing the various phases of urban layouts. It requires an experienced eye to discern the progression of mudbricks and the subtle changes resulting from the constant reconstruction of this particular building material. For example, a site-formation process commonly observed in long-lived settlements, particularly those with mudbrick architecture such as Merv and Veh-Ardashir, involves the regular raising of street levels to compensate for subsidence, thereby affecting the floor levels of mud-brick houses (Cavallero 1966: 71; Herrmann *et al.* 1998: 56). The purpose and agency behind this process are not clear. The fact that the floor levels of other rooms were often not adjusted but accessed through steps suggests that the regulation may have been limited to the rooms directly adjacent to the streets (Simpson 2014: 15). Hence, the arrangement of cities and the involvement of institutions in their planning have been and continue to be a concern for excavators. In the case of Veh-Ardashir, for example, the excavations of the southern part (Area 1) aimed to understand how the quadrangular residential quarter could adapt to the irregular circular walls. While the gradual accumulation of sediment resulting from periodic floods hindered a detailed examination, it was possible to identify a likely presence of a large clay strip (Negro Ponzi 1966: 81). This strip has been interpreted as a road that follows a similar path to the city walls (Negro Ponzi 1966: 81). Therefore, this road assisted in accommodating the circular shape of the walls and the rectangular quarters.

To summarise, the majority of cities within the Sasanian Empire were primarily rectangular in shape. However, a few well-known exceptions with circular layouts are present, and archaeological evidence has confirmed the presence of three of them. While literary sources mention city planning, particularly in the cases of Ardashir-Xwarrah and Bishapur, which appear to have been established for royal ideological purposes, determining such planning is difficult solely based on archaeological evidence. The mentioned historical sources underline the relations of some gates' names to astronomy and religion. The main challenge in

reconstructing city planning stems from the prevalent use of mudbricks. This material has not been well-preserved in current archaeological sites, and the processes of reconstruction and maintenance over time further complicate the interpretation. According to the data set identified and described in this section, the majority of cities were rectangular and, in at least two cases (Gondeshapur, Figure 30; and Bishapur, Figure 33), relying on river boundaries. The circular layouts present anomalous but significant examples with Darabgerd, Ardashir-Xwarrah, and potentially Veh-Ardashir and Gayy. Gates and names -- where present – connect astronomy, and perhaps underlying these are religious significance, which hints at a symbolic meaning of the circular layouts.

4.3.   Residential spaces

> *'Raba also said: The reason why people of Mahoza are so sharp*
> *is because they drink the waters of the Tigris;*
> *the reason why they have red spots*
> *is because they indulge in sexual intercourse in the daytime;*
> *the reason why their eyes blink is because they live in dark houses.'*
> Berakoth 59b.

The style of houses likely differed based on regional factors, local building materials and traditions, and the affluence of the homeowners. The available evidence from both archaeological findings and literary sources regarding domestic architecture in Sasanian cities reveals slight variations across different periods and geographical regions. For example, while certain features were consistently present in the examined instances, courtyards were absent in the archaeological data from Merv. This absence is supported by the discovery of brick rubble or soil containing domestic waste from outside the households within some buildings (Simpson 2004: 234). The differences between Merv and other cities may be attributed not only to regionalism (as explored in this section) but also to its location on the fringes of the empire and the resulting influences from neighbouring cultures.

This section will show that regional factors, local building materials and traditions, and the

affluence of the homeowners are variabilities substantially interconnected and interdependent. Starting from the local building materials and traditions, mudbrick was predominant and extensively utilised for constructing domestic buildings, as evident from the archaeological remains found in Veh-Ardashir, Merv, and Qasr-i Abu Nasr (Simpson 2014: 17). Surveys conducted in Ardashir-Xwarrah and Bishapur suggest that stone was the predominant building material, potentially held together with mortar (Rossi 2016; Shahmohammadpour 2021). However, since there have been no excavated domestic structures thus far, the assertion that stones were used in vernacular architecture cannot be conclusively inferred. In Qasr-i Abu Nasr, the houses situated within the citadel were constructed with mudbrick on stone foundations, which may suggest a higher socioeconomic status (Simpson 2017: 41). The presence of clay brick houses in the wealthy city of Susa further reinforces the link between material choice and social standing (Gropp 2015). It can be concluded that, usually, the lower statuses used building materials easily available in the area, while more complex technologies can hint at higher statuses – although a more focused archaeological study is needed to confirm or refute this hypothesis. Mudbrick was, hence, substantially used across the territories of the empire. Its popularity is not only due to its availability but also because of its adaptability. According to Lawrence and Low (1990: 461), mudbrick houses were frequently reconstructed on an annual basis, requiring adjustments and changes in household arrangements. The malleability of mudbrick allowed for modifications in the layout of houses, although the overall alignment was generally maintained to prevent the removal of wall plaster and articulated mudbricks, which would have posed challenges (Simpson 2004: 233-4). The process of reconstruction has been archaeologically documented in Merv and Veh-Ardashir (Herrmann *et al.* 1999: 4; Simpson 2015a: 14). The adaptability of mudbrick is exemplified, for instance, by blocked doors and raised thresholds suggesting different planning phases as observed in 'Structure C' in Gyaur Kala (Herrmann *et al.* 1999: 5). This adaptability is not common only to the mudbricks, but also to other clay-related building materials used in the flooring. In Veh-Ardashir, the typical construction material for house floors was well-compacted clay, potentially mixed with water to minimise dust (Cavallero 1966: 77; Venco Ricciardi 1973-4: 18; Simpson 2015a: 13). The practice of using mudbricks for flooring was mentioned in historical sources (Mas. Shabbath 95a) and found in archaeological evidence. It was extensively used in Merv, where the floor was usually composed of green and brown mudbricks laid over a makeup deposit (Herrmann

et al. 1997: 5), but only one instance was found in Veh Ardashir (Cavallero 1966: 77; Venco Ricciardi 1973-4: 18; Simpson 2015a: 13). The different and colder temperatures of Merv during winter respect to Veh-Ardashir may suggest that mudbricks were used for flooring rather than compacted clay to enhance thermic insulation. Besides the pragmatic reasons behind its use, plastering indicated the owner's status. The exterior walls of Veh-Ardashir were plastered with a simple mixture of fine clay and water (Cavallero 1966: 77; Simpson 2015a: 13). On the contrary, plaster was commonly used in many buildings at Qasr-i Abu Nasr, suggesting their interpretation as high-status dwellings (Whitcomb 1985: 101). The plastering also had a decorative function, as suggested by the long room with green plastered walls in 'Structure C' at Merv (Herrmann *et al*. 1997: 4). The presence of decorations and gypsum plaster likely varied depending on the social status of the owners, while the use of cheaper clay plaster was more widespread to cover the irregularity of mud-brick walls and provide an additional insulating layer. To the best of current knowledge, no evidence of stucco use within urban domestic Sasanian structures has been revealed so far.

Other features influenced by the wealth and social standing of the homeowners were the arrangement and design of rooms. The majority of excavated buildings in Veh-Ardashir and Merv were likely single-story structures with flat roofs, which was assumedly the lowest and most common arrangement and design. However, two of the larger houses in Veh-Ardashir included an *ivān*, a reception room with an unclear roofing facing the courtyard entrance (Cavallero 1966: 79; Cavallero 1967: 78; Simpson 2015a: 15). A similar architectural feature resembling an *ivān* was also identified in the southern section of Qasr-i Abu Nasr (Whitcomb 1985: 101). Evidence suggests the existence of a two-story house in Veh-Ardashir, where a large house located in the northwest corner of the northern block could be accessed from the main street via a staircase leading to either an upper floor or the roof (Cavallero 1966: 79; Simpson 2015a: 14).

The presence of a courtyard cannot be taken as the main feature of status identification. The extent of this space could hint at social-economic differences. For instance, large courtyards were discovered in the richer Qasr-i Abu Nasr citadel (Cavallero 1966; Whitcomb 1985; Simpson 2014: 17; Simpson 2015a: 14), while in Veh-Ardashir, the smaller houses often featured a small open courtyard. There are different instances of the conception of the

courtyard as part of the inside or the outside of the residences. In some cases, courtyards were not considered a proper feature of the house but more the antechamber to the street. This is inferred from the *Talmud*, where rabbis discussed the placement of Hanukkah lamps, which should ideally be positioned on the outside. R. Huna stated, 'If a courtyard has two doors it requires two Hannukkah lamps.' (Mas. Shabbath 23a). This suggests not only the possibility of having two entrances to the street but also that courtyards, although private, could be considered as an 'outside' space. Historical evidence highlights different types of courtyards: inner and outer (Mas. Eiruvin 66b), courtyards located at different levels (Mas. Eiruvin 77), and the co-dwelling of extended families in larger houses with multiple shared courtyards (Bava Batra 11a-b; Mas. Shabbath 6a). A dwelling type with multiple inner and outer courtyards was often surrounded by houses accommodating different tenants (Mas. Eiruvin 70a). However, the courtyard was potentially also part of the inside spaces of the house. This is suggested by the potential placement of privies in courtyards, often shared with neighbours. The privy was likely situated in a secluded spot because anything associated with human secretions was considered highly impure according to Zoroastrian beliefs. Nonetheless, the *Talmud* suggests that privies could also be located in non-fixed places (Shabbat 81a). The courtyards were also used as private open spaces to access natural light, as historical references suggest a potential scarcity of large windows (Barakhot 59b). Although historical sources describe the presence of trees and gardens within these courtyards (Mas. Shabbath 143b), no archaeological evidence of such features has been found during excavations (Cavallero 1966; Simpson 2015a: 15). The performance of economic activities in courtyards is supported by the possible presence of cisterns between two courtyards (Mas. Eiruvin 85a). Courtyards were also used as spaces for keeping animals. Talmudic references and occasional incantation bowls allude to the presence of animals, such as cattle, sheep, and goats, which were owned by households (Bava Basra 36a). As an example, it is mentioned that an ass should be made to walk up and down the courtyard until the saddle falls off during Shabbat, allowing them to refrain from work activities. (Mas. Shabbath 53a). Furthermore, courtyards served as spaces for social activities. Torah teachings were allowed in courtyards, and the rabbis' houses became something akin to 'schools' (Bava Batra 21a).

Another important space between the inside and outside of dwellings was the roof. Roofs

served multiple purposes, such as collecting rainwater or drying bottles (Mas. Baba Kama 29a). The *Talmud* mentions permissions related to the use of roofs (Mas. Eiruvin 89b), but it explicitly states that rainwater should not be gathered from a neighbours' roof (Mas. Gittin 79b). This suggests that roofs were easily accessible and potentially utilised for various economic activities such as threshing and cooking, supporting the hypothesis that they served as functional spaces beyond mere shelter.

Compared to courtyards and rooms, there is less information about inside domestic spaces. Some larger houses present storage rooms, where necessary activities of the household's economic affairs often take place, such as grain processing (Baird 2014: 275). Storerooms are considered a common component of Sasanian houses in Merv, as many of them were discovered in comparison with the other cities (Herrmann *et al.* 1999: 4). Generally, storage rooms do not differ much architecturally from other rooms, except for the presence of typical artifacts, such as jars or other ceramic storing objects. 'Structure C' at Area 5 of Gyaur Kala presented a well-preserved residential layout consisting of a storeroom and four interconnected rooms used for residential and domestic purposes. The storeroom had a separate doorway leading from a narrow alley on the east (Herrmann *et al.* 2000: 2). Another room common in Sasanian houses was the potential oven room or kitchen. In Veh-Ardashir, kitchens were characterised by small oval hearths located approximately 0.15-0.20 metres below the floor level. These hearths were interpreted as oval fireplaces, and similar features were observed in the domestic architecture of Merv (Cavallero 1966: 77; Simpson 2015a: 13).

The internal spaces were subdivided by doors, as suggested by the door sockets discovered in certain alleys in Merv and residential quarters in Otrar (Fedorov-Davydov 1983: 400; Simpson 2015a: 12), and references in the *Talmud*, specifically mentioning the closing of alley doors within Mahoza or the Euphrates town of Nehardea (Simpson 2015a: 12). In Merv, fixed doors may have been scarce, with hanging drapes used to separate spaces, as suggested by the excavation of seven houses in Gyaur Kala (Simpson 2004: 232). The existence of solid doors closing off some alleys and providing 'private' access raises intriguing questions about the nature of the homeowners and their properties. Simpson (2015a: 12) suggests the possibility of shared responsibility in the form of a housing association, where members are

either elected or appointed by municipal authorities.

Another significant aspect to consider within the internal division of Sasanian planimetry is the concept of gender division, potentially consisting of a prototype of *pardah*. Literary Zoroastrian sources mention segregation rooms specifically designated for menstruating women. According to the *Videvdad* (16.1-2), 'they should place her in a place with dry dust.' Menstrual huts were constructed to provide a space where menstruating women could reside for nine or ten days following their menstruation. Even their mere presence was considered capable of causing impurity to objects and people (Skjærvo and Elman 2013: 41ff; Secunda 2014). For instance, al-Tabari (829 [tr. Bosworth 1999: 34]) recounts the tale of Nadirah and Shapur, whose story unfolded during her segregation in the outer suburb of the city of Hatra due to menstruation. This practice is not surprising, considering that menstruation was considered one of the most impure aspects according to Zoroastrian beliefs. Similarly, Jewish women were also considered ritually impure (*niddah*), and they were required to undergo a complete immersion for purification seven days after menstruation (Niddah 66a). Therefore, individuals belonging to these two religious traditions needed to shape their domestic spaces following their respective religious doctrines. In addition, it may be that other religious traditions had similar purification processes, possibly influenced by Judaism and Zoroastrianism. However, no historical or archaeological evidence has been found so far that confirms this hypothesis, especially in the case of more eastern regions. Although no archaeological evidence for gender division has yet been discovered, this absence may be explained by the use of temporary structures or enclosed spaces that were erected only when needed and left minimal traces in the archaeological record. Another explanation may relate to the nuances of identity construction and religious practice, as not all doctrinal requirements were strictly observed in everyday life by the general populace (see chapter 1.1).

The vernacular architecture of the Sasanian period was not impervious to foreign influences, as evident through various instances of cultural exchange. Beside the possible influences showcased by the city of Merv, one such example occurred during the interactions between the Roman and Sasanian Empires, particularly during the wars of the 6th century CE. Morony (1984: 268) highlights the case of Abraham of Beth Rabban, the headmaster of the Nestorian

school at New Antioch, who incorporated a Roman-inspired atrium at the entrance of his house to keep animals away, following the custom observed in Nisibis.

In addition, the discovery of animal terracotta figurines during excavations at Veh-Ardashir provides valuable insights into the daily life of the past. Cellerino and Messina (2013: 126) propose two main hypotheses regarding these figurines: they may have served as toys, or, more intriguingly, they could have had a votive function. These figurines were possibly kept inside households as tokens of performed sacrifices, signifying an apotropaic purpose. This notion is supported by the presence of animals with symbolic significance in Sasanian eschatology, such as predatory birds, foxes, and rams, depicted in these figurines.

In summary, building materials indicate regional variability but also hint at the owner's status. The archaeological findings indicate instances of rebuilding and levelling processes that occasionally altered the layout of houses, which were part of continued inhabitation. By examining and comparing the different levels of the excavation plans, these transformations are easily identifiable. The presence of numerous minor adjustments, homogeneous with the rest of the planning assets, might suggest that urban spaces were subject to control and regulation by some municipal authorities.

Religion may had influenced Sasanian households, as exemplified by the gender division dictated by religious practices. However, since substantial archaeological evidence of this elemtn had not been found so far, the need for further investigations arise. Additionally, the mention of rabbis teaching in courtyards illustrates the merging of religious, institutional (schools), and domestic aspects. The economic factors also played a significant role in residential spaces. This extended beyond the productive functions of courtyards, roofs, and storage rooms within household management. It encompassed the correlation between houses and workshops, as evidenced by the excavations at Veh-Ardashir (see chapter 4.7). The integration of industrial and commercial spaces with domestic areas is further supported by data collected at Dura Europos (Baird 2012: 201).

4.4.   Infrastructural spaces – between the spaces

'Šapuhr said to his advisors, "My wise counsellors,
Now you must build another bridge,
So that there will be one for coming and one for going,
And my subjects and soldiers will be able to pass back and forth without trouble.
We must spend a lot of money from the treasury on this.'
Shahnama (tr.: 686).

The term 'infrastructure' is used here to refer to any facilities that serve an urban context, such as roads and bridges, various types of water supply networks, and dumps. These spaces are communal and typically constructed and maintained by an institution. The presence of an institutional agency is particularly evident in the case of extensive-scale water supply networks. An example of this is the Nahr Canal, which linked the Tigris to the Euphrates and was allegedly constructed by 'Manuchehr, Alexander the Great or Shapur grandson of Darius [sic!]' (al-Mustawfi [tr.: 52]). Mustawfi suggests that the canal was not only maintained by the Sasanians but might have even been commissioned by royal order. This is quite unsurprising as the royal agency would have had the money and workforce necessary to build big water infrastructures. The fact that this author attributed the canal's construction to heroes and legendary figures of the past suggests that he regarded it as a remarkable engineering achievement. The significance of the water supply network within rural spaces during the Sasanian era has been extensively studied by scholars (Adams 1965; Whitehouse 2010; Sauer *et al.* 2013; Hartnell 2014; Whitcomb 2014; Christensen 2016; Maresca 2019b; Soroush 2020). However, the provision of water was a means of regulating urban life as it involved a substantial and intricate network consisting of canals, aqueducts, wells, cisterns, and basins. Adams and Hansen proposed that Gondeshapur's grid-like pattern revealed through remote sensing imagery was a result of a network of tunnels supplying fresh water to the population (Adams and Hansen 1968; Simpson 2017: 30). Based on Morgan's survey, Darabgerd was provided by intricate water supply network. Specifically, the remnants of two aqueducts are still visible, consisting of piers constructed with rubble masonry and mortar (Morgan 2003: 328). One of these aqueducts is located near the northern gate (see Figure 41) and carries water from a canal supplied by the Rudbal stream (Stein 1936: 192). The

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aqueducts directed the water into an open basin, while within the city, channels containing water were constructed with rubble masonry and, in some cases, lined with mortar bricks (Morgan 2003: 328). On the southwestern corner of Darabgerd's central hill, Stein (1934: 193) found a potentially Sasanian well lined with rough stone masonry and a small, bare chamber with walls constructed using roughly dressed stones in mortar coated with hard stucco. Water supply systems found archaeologically also included cisterns and wells designed to collect runoff. In 'Area 2' of Veh-Ardashir, the excavators noted a significant abundance of cisterns specifically designed for collecting drainage water. These cisterns had a mouth width ranging from one to two metres and depth between 1.50 to 2 metres, widening into a bell-shaped structure (Cavallero 1966: 78; Cavallero 1967: 50; Venco Ricciardi 1968-69: 59). However, only one well was discovered in 'Room 25' of 'Area 2' at Veh-Ardashir, measuring 0.60 metres in diameter and constructed with whole fired bricks arranged in a spiral pattern from bottom to top (Cavallero 1967: 51).

Figure 52. Mihr Narses' bridge. Photo by the author, view looking east.

Other infrastructures related to water but not always with a supply network, are bridges. Unfortunately, the knowledge in this regard is limited, as the archaeological data survives only outside of cities (Maresca 2019a). The Mihr Narses' bridge, situated outside Ardashir-Xwarrah, is one of the most famous examples (Figure 52). Mihr Narses' bridge is of particular importance as the inscription mentions that it was built by order of the vizir Mihr Narses and hence confirming elite involvement in infrastructure construction (Rossi 2022). However, the presence of bridges in the urban centres of Ctesiphon and Veh-Ardashir is confirmed by historical sources. For instance, there are substantial mentions of the construction of a second bridge across the Tigris. This bridge was ordered by Shapur II due to traffic congestion, suggesting an increase in population and traffic during the 4th century CE (*Shahnama* [tr.: 686]; al-Tabari 837 [tr. Bosworth 1999: 5, 52]; al-Dinawari [tr.: 50-1]). In addition to the well-known masonry bridges (Maresca 2019b), historical sources also mention bridges made of boats (al-Tabari 897 [tr. Bosworth 1999: 5, 157]; al-Masʿudhi's *Moruj* [tr. Barbier de Meynard and de Courteille: vol. IV, 198], and Sebeos [tr.: 84]). When the Arab-Muslim army arrived at the Tigris River to enter Ctesiphon, they discovered that the Persians had relocated the ships and ferryboats to the eastern bank and burned the bridge (al-Baladhuri 264 [tr. Hitti 1916: 418]).

Streets and alleys were also an important feature of cities. The archaeological evidence in Veh-Ardashir reveals a distinction between main roads and alleys within the road system. The width of the main roads, measuring approximately 7 metres, not only indicates their suitability for wheeled traffic but also suggests maintenance carried out by institutional authorities (Cavallero 1966; Venco Ricciardi 1970-71; Simpson 2015a: 11). Although smaller in size, approximately 2 metres wide, the street excavated at Gyaur Kala is still considered a main road (Herrmann *et al.* 1999: 7). The presence of institutional maintenance is further supported by the findings in the residential quarters of Merv, where unpaved streets and alleys with central open drains flanked by compacted pavements of brick deposit were discovered (Simpson 2014: 17; Simpson 2017: 42). Historical literature mentions paved and cemented streets in Veh-Ardashir, although this information has not been conclusively confirmed (Simpson 2015a: 12). It should be noted that the reports (Cavallero 1966: 64), erroneously state that the two streets were covered with a surface of clay mixed with bitumen (pers. comm. Dr. St John Simpson). In addition to the main infrastructure, a network

of narrow alleys or passages provided access to the houses within the two excavated blocks of the residential quarters in Veh-Ardashir (Cavallero 1966; Simpson 2015a: 12). These alleys exhibit an interesting characteristic: concentrated deposits of potsherds, which are interpreted as a form of compacted hardcore resulting from trampling and supplemented by the sweeping of refuse from neighbouring properties (Cavallero 1966: 78; Simpson 2015a: 12). The comparison of this evidence to similar layers discovered in 'Area 5' of Gyaur Kala (Merv), dating back to the 4th-5th centuries CE, confirm that this was a practice potentially habitually used in all cities of the empire (Herrmann *et al.* 1996: 5; Simpson 2008). Furthermore, burn spots near doorways were found in the alleys close to 'Structure C' in Merv, indicating the regular lighting of small fires (Herrmann *et al.* 2000: 5). It is worth noting that these lanes often led to the outer walls, as mentioned in the *Talmud*: 'when you go through the lanes of Mahoza to get to the fields…' (Mas. Berachoth 62b). The urban road system was regulated and maintained by some form of institutional authority, emphasising the significance of urban centres and the efforts made to ensure well-organised, clean, and tidy cities.

During archaeological excavations in the residential area of Merv, greenish and/or ashy lensing deposits have been discovered on the streets. These deposits have been interpreted as places where refuse was disposed of, subsequently trampled upon, and gradually integrated into the street (Simpson 2004: 233). Although the presence of municipal dumps is inferred by the archaeological evidence of the roads and historical sources, no archaeological evidence for dumps was found in cities. Possibly, they were not as extensively utilised as one might think, as recycling was already a deeply ingrained practice in human behaviour. Scientific analyses of artifacts confirmed the practice of recycling glass and metal (Simpson 2015b: 27). Moreover, no refuse pits have been found inside the houses, suggesting that waste may have been discarded in the streets or deposited in communal dumps, where it was either collected by a municipal organisation through a door-to-door collection or directly transported by the citizens themselves (Simpson 2004: 232). It is hypothesized that considerations of public health also played a role in the placement of dams outside city boundaries.

In conclusion, the infrastructure's construction was primarily influenced by institutional

agencies. From the limited available evidence, roads and bridges are frequently associated with royal patronage and occasionally with noble benefactors. However, this documented involvement primarily relates to infrastructure outside urban centres; any suggestion that these entities functioned as agencies within city walls remains speculative. The mention of noble families plays a crucial role in reconstructing the administrative framework of the Sasanian Empire and understanding how the house of Sasan's propaganda hid the degree of impact of some elements of the society. The fact that infrastructure projects were not exclusively royal prerogative points to a more diverse and multifaceted identity for the 'Sasanian Empire,' extending beyond the direct influence of the royal house.

The deconstruction of the concept of an empire as a purely royal-centric entity is further supported by evidence suggesting the presence of municipal agencies within infrastructures of cities in the potential form of water supply networks and damps. This evidence highlights a more complex system of governance and societal organisation. The presence of some form of institutional authority within each city is not excluded, although the evidence to support this claim is scattered.

4.5. Religious spaces

> *'And in the hallowed temple he became*
> *A poor recluse, beside the sacred flame.'*
> *Vis and Ramin* (tr. Davis 2008: 496).

Categorising religious buildings and identifying sacred places poses significant challenges. The initial step involves identifying the criteria that defined and shaped a specific place, space, landscape, or building to eventually acquire sacred attributes. A change in religion marked the transitional period post-Sasanians. Thus, it becomes necessary to distinguish between different types of religious spaces. In a syncretic empire like *Īrānshahr*, places of worship extended beyond fire altars and temples.

Churches and synagogues were integral to the religious landscape. Funerary practices also

varied based on the religion of the deceased or their family. Merv, known as a 'frontier city,' exemplifies the syncretism of *Īrānshahr*. Scholarly attention has been drawn to the presence of a Buddhist monastery in the southeastern corner of Merv (Simpson 2014: 17; Kaim and Kornacka 2016: 65-6). Christian bishops are documented in Merv from the 3rd century CE onwards, and the Kharoba-Koshk, a structure located 15 kilometres north of the medieval Sultan Kala, has been assumptively interpreted as a Christian church (Simpson 2014: 20; Kaim and Kornacka 2016: 59-63). A Christian mould was discovered within a domestic context in the citadel (Simpson 2008: 248). Despite mentions in literary sources, no archaeological evidence confirms the presence of a Manichaean Church or a Jewish community (Kaim and Kornacka 2016: 63-5).

Christian communities were present within the Sasanian Empire. Syrian sources, particularly martyrologies, extensively describe Christian monasteries, churches, and shrines. According to tradition, Mar Mari alone built 365 churches and monasteries in various chief towns above Seleucia and Ctesiphon (*Acts of Mar Mari* [tr. Harrak 2005: 41]).[32] Although not archaeologically confirmed, 'Nestorian' dioceses are attested in Nishapur and Coche in 430 CE (Rante and Collinet 2013: 9). Notably, a German team excavated a Christian site, possibly a church or a monastery, of which chronology is debated whether being pre or after the conquest (Cassis 2002: 64; Simpson 2018).[33] This structure comprises two construction phases, with the later building erected directly above the earlier one (Cassis 2002: 64). The later church measures 27.18 by 15.06 metres and is built of baked bricks set in gypsum mortar. Its planimetry features a single-aisled nave with four rectangular pillars positioned near the lateral walls and connected to them by small arches, creating a series of niches. The nave terminates in a deep rectangular sanctuary with a flat rear wall, flanked by two adjoining rooms. This later phase is further characterised by six side entrances and the absence of a western doorway (Cassis 2002: 64). The earlier phase presents a narrower plan, supported by round pillars on square bases, with the adjoining rooms accessible only through the sanctuary (Cassis 2002: 65).

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[32] This translation has been used throughout the text. Therefore, only the page number of the translation edition will be provided in brackets.
[33] 33°05'43.42''N and 44°32'51.03''E. I would like to thank Dr. Simpson for this information.

Literary evidence mentions the presence of a church in Seleucia (*Chronicle of Seert* [tr.: 66]), and the first bishopric was reportedly established in Ctesiphon in 291 CE (*The Chronicle of Arbela* [tr. Kroll 1985: 21]).[34] Another bishopric was reported to be in Rayy (*Martyrdom of Miles,* cited from Payne 2016: 65). Later mentions of churches constructed by Mar Addai can be found in al-Masʿudi's *al-Tanbih* (tr. Carra de Vaux 1847: 207). An intriguing reference to churches is found in the *Chronicle of Seert* (tr.: 23-4), recounting that Shiraran, an alleged sister of Shapur I, constructed a church in Merv modelled after the layout of the royal palace. She christened it 'Ctesiphon' and built this church as an expression of gratitude after undergoing an exorcism performed by St. Barshaba. While there is a possibility that this event could have been an expression of Christian hagiographic propaganda, it conceivably pertained to an actual church located in Merv. However, two key considerations must be emphasised. Firstly, when literary sources refer to the al-Madaʾin conurbation, the exact location is unclear, as various names such as Mahoza, Seleucia, Veh-Ardashir, al-Madaʾin, and Ctesiphon seem to have been used interchangeably. Secondly, despite the socio-economic significance of monasteries and churches, no ascertained archaeological evidence of any Christian religious space within the city walls dates to the Sasanian period, as the chronology of Veh-Ardahsir's church is debated.

The Jewish community consisted of another significant social group in Sasanian Asorestan, offering valuable insights into urban life through the narratives found in the *Talmud*. However, the Jewish diaspora also extended to the east of Babylon, with the existence of a Jewish village called al-Yahudiyah mentioned, possibly a village or a quarter of Gayy. Additionally, there are reports of many Jewish people residing in Susa (Daryaee 2009: 55). From an archaeological perspective, it remains uncertain whether they had distinct residential areas. Some scholars argue that religious segregation was driven by differences in purity laws and logistical considerations (Daryaee 2009: 66). However, others highlight the similarities between the purity laws of rabbis and Zoroastrian priests, claiming that there is no basis for hypothesising ghettoisation. Rabbi Elman's influential work, continued by his students like Secunda, explores this topic (Secunda 2010, 2014; Elman 2016, 2019). The ownership of synagogues by the Jewish community is well established, and there was

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[34] This translation has been used throughout the text. Therefore, only the page number of the translation edition will be provided in brackets.

certainly such a structure in Mahoza (Morony 1984: 313).

Another religion present in the empire was Manichaeism. Limited information is available regarding its architectural features and funerary traditions. A remarkable aspect of Manichean rituals was the presence of the *bema*, a platform comprising five steps, which served as a display for an effigy of Mani (Gardner and Lieu 2004: 93). The bema was likely constructed using perishable materials, which could explain why no remnants have survived to the present day. Mani's life appears to have centred around certain cities in Asorestan and Khuzestan, suggesting that Manichaean communities might have flourished in an urban environment. Nevertheless, our understanding of this religion and its sacred spaces is still incomplete. Of particular interest is the account of Mani's father, possibly shortly after Ardashir's ascent, visiting a 'house of idols,' a term that potentially indicates something distinct from a fire temple (Gardner and Lieu 2004: 46).

Finally, Zoroastrianism was the 'official religion of the dynasty' practiced in *Īrānshahr*. The ongoing debate centres around fire temples, with scholars holding varying interpretations of their purposes, architectural complexities, and layouts (Huff 1986; Callieri 2014: 72-102). There were at least three hierarchical categories of fires, although not all Zoroastrian worship was ritualised through fire (Boyce 1975: 462-3). Priests in Zoroastrianism engaged in various activities, as indicated by the clergy seals used in administrative sealings (Callieri 2006). There are fascinating references to fire temples in various sources, such as John of Ephesus' *Life Ecclesiastic* (tr. Brooks 1926: 39 ff.), which mentions 'transportable' fire temples left behind in the Sasanian camp after the Romans defeated Narses (297-8 CE). Additionally, Łazar P'arpec'i (tr.: 96) recounts the forced conversion of Christian Armenian churches into fire temples, and Joshua the Stylite (tr. Wright 1882: 14)[35] reports the destruction of fire temples by Armenians during Kavadh's reigns (r. 488-96 CE and 498-531 CE).

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[35] This translation has been used throughout the text. Therefore, only the page number of the translation edition will be provided in brackets.

Figure 53. A modern fire temple over a cliff watching modern Isfahan, shown in the background. Photo by Federica Duva.

However, a notable characteristic shared by all known Zoroastrian fire temples is that evidence collected so far suggests that they were placed outside the confines of urban walls (Kennedy 2006: 15-7; Rossi 2023). A word must be said about the nature of Takht-i Sulaiman. This site was home to Ādur Gushnasp, the sacred fire of warriors and kings, and displays a remarkable continuity of occupation from the Achaemenid period through to the Mongol invasion. During the Sasanian era, it was enclosed by a 12-metre-thick mudbrick wall reinforced with semicircular bastions. The complex included not only religious structures—comprising various phases of temples—but also features such as a central lake, and ancillary buildings serving a range of functions. These included a kiln for the production of bull's-eye glass, shelters and hostels for pilgrims, mudbrick dwellings likely inhabited by priests and officials, and a small settlement of roughly constructed stone and mudbrick houses located below the enclosure wall at the foot of the western hillside (Huff 2002). Takht-i Sulaiman may be regarded as a city, as archaeological excavations have revealed the presence of residential and infrastructural areas alongside the religious complex. However, it cannot be considered a standard urban case study, as the settlement was established specifically in relation to, and because of, the fire temple, with a spatial hierarchy markedly distinct from that of other cities. Nevertheless, it represents a noteworthy exception within the broader category of fire temples and exemplifies the substantial bureaucratic and administrative apparatus that supported such religious institutions.

Examples of these ex-urban locations include Palang Gerd in Kermanshah and Mele Hairam in Turkmenistan (Boucharlat 2019). The epic poem *Vis and Ramin* mentions an *ātashkada* (fire temple) situated near one of the gates leading to Merv (Minorsky 1937: 28; Kaim and Kornacka 2016: 53). Another instance can be found in the three fire temples of Gayy, namely Shahr Ardashir, Zarwad Ardashir, and Mihr Ardashir, which are located close to the city but not within its boundaries (Hamza al-Isfahani [tr.: 38]; Duva 2018: 165; Figure 53). Literary evidence appears to confirm the rural aspect of fire temples having originated during the Parthian era. In the *Acts of Mar Mari* (tr.: 57), the pagan temple destroyed by Mar Mari is described as being 'outside the city.' It should be noted that the rural location of these temples does not necessarily imply that the priests lacked influence within the cities.

Figure 54. Takht-i Nishin. Photo by the author, view looking southwest.

Figure 55. Depression behind the Takht-i Nishin. Photo by the author, view looking east.

Only three known examples suggest the presence of Zoroastrian temples within city walls, assuming that Takht-i Sulaiman *is* a form of urban entity. One of these is the Takht-i Nashin within the walls of Ardashir-Xwarrah, which remains remarkably well-preserved, with its corners constructed using large, dressed limestone blocks arranged in regular courses (Stein 1936: 120). It consisted of a platform approximately 10 metres in height, with each side measuring 26 metres, and accessible via a staircase (Figure 54). Positioned atop this platform was a room shaped like a cross and covered by a brick dome, measuring roughly 15 metres in diameter (Kleiss 2015: 135). While a *chahār-ṭāq* (four arches) is typically considered the architectural module employed in fire temples, the Takht-i Nashin, in contrast, comprises a cubic structure featuring four *ivān* projecting from each of its four sides (Huff 1999). Behind the Takht-i Nashin, there is a distinct depression marked by three solid walls constructed with rubble masonry (Figure 55), indicating the presence of a structure covered with the hard waterproof plaster known as *sarawj* (Stein 1936: 120; Rossi 2016). Ibn al-Balkhi (tr.: 324-30) mentions two tanks, Būm Pīr and Būm Jawān, known as the Old and Young Owl, respectively.

A pond in front of Ardashir's second palace (Figure 56), approximately 8 kilometres to the north of the city, was confirmed to be used and landscaped during the first years of the dynasty (Djamali *et al.* 2021). New archaeological investigations identified the presence of rooms surrounding the *chahār-ṭāq,* meaning that this temple was a substantial complex (Callieri *et al.* 2021: 66). The importance of water tanks, ponds, and infrastructures suggests the existence of different rituals beyond fire worship. Although foreign accounts often highlight worship focusing on rituals connected with fire, Zoroastrianism encompasses far more than just this aspect.

Figure 56. Pond east of Ardashir's second palace. Photo by the author, view looking southeast.

The second indication of the presence of Zoroastrianism within the Sasanian city walls is the 'Bishapur temple,' interpreted as being dedicated to the goddess Anahid and involving some ritual connected to water (Callieri 2014: 50-1). The third is the temple dedicated to the goddess Anahid, which was potentially located within the walls of Istakhr (Shavarebi and

Amiri Bavandpour 2020). Since two out of the three known intra-mura examples are temples dedicated to Anahid, a connection between the presence of water at the Takht-i Nashin and the worship of this goddess in this location can be reasonably presumed. At the same time, the existing archaeological evidence and historical accounts from Islamic authors suggest that Zoroastrian centres were predominantly located in rural areas. This raises the question of why no central Zoroastrian temple was in a major urban centre. One argument put forth by Elman (2011: 155) is that Zoroastrianism, stemming from nomadic Indo-European religions, differed from the urban-centric temples of Ancient Mesopotamia. According to the *Gathas*, Ahura Mazda, the supreme deity, did not require a physical dwelling like the gods of Mesopotamia, as he already had a 'house' in the House of Song (Elman 2011: 156-7). This distinct aspect may be connected to the rural nature of elite society and the concept of purity within Zoroastrianism (Kennedy 2006: 18). While the exact reasons for the rural nature of fire temples remain unclear, they likely had ties to the aristocracy and contributed to the social and economic power of aristocratic households (Callieri 2014: 66, 118, 124; Payne 2016: 48).

Zoroastrian funerary practices involved the exposure of bodies and preservation of bones. Archaeological evidence from the Bushehr peninsula reveals buried jars containing human remains, sometimes modified for this purpose, arranged in rows near buildings (Simpson 2019a: 122). In the plans of Istakhr and on Kuh-i Husayn, rock chambers and niches have been identified as tombs, with complete bodies initially buried in the former and *astodānān* (containers for bones) placed within the latter (Huff 1998: 75; Cereti and Gondet 2015). However, these cases confirm the extramural nature of Zoroastrian burials, potentially related to temples located mainly in rural areas. Other Sasanian cemeteries found involved inhumation, potentially associated with Christians or other religions. For example, Gird-i Bazar in the Peshdar Plain was situated on older Iron Age structures and was distant from any known Sasanian settlement (Squitieri 2020). However, the different burial practices and their coexistence in this diverse empire are not the focus of this analysis of urban spaces, as for practical health and sanitation reasons, all the religions discussed preferred to keep cemeteries separate from cities.

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To conclude, one of the main characteristics of the Sasanian religious spaces was the tolerance between religions. Moreover, spaces related to the orthodox Zoroastrian hierarchy and the cult of fire were often rural. The main religious spaces within cities, all in Fars, appear to be connected to Anahid and water rituals. Jewish and Christian communities, and consequently their worship spaces, seemingly populated more substantially the cities.

4.6.   Industrial spaces

'What is the business of the well-endeavouring, the artizans?'
The spirit of wisdom answered thus:
'The business of the artizans is this,
that as to that work which they do not understand,
they do not bring a hand to it;
and that which they well understand,
they perform well and with attention;
and they demand wages lawfully. '
Dina-i Mainog-i Khirad (tr. West 1901: 68-9).

In a late antique context, the term 'artisan' or 'craftsman' encompasses a wide range of skills and occupations. In a Sasanian urban setting, this includes textile workers, tentmakers, butchers, tanners, leatherworkers, saddlers, shoemakers, rope-makers, carpenters, furniture joiners, painters, goldsmiths, silversmiths, ironsmiths, cup-makers, jewellers, perfumers, potters, and brick manufacturers, all of whom are mentioned in literary sources (*Denkard* VIII.38 cited from Cohen 1937; Tafazzoli 1974; Simpson 2000: 64; Daryaee 2009: 142). Sources allude to the existence of multiskilled artisans as al-Masʿudhi (tr. Barbier de Meynard and de Courteille: vol. IV, 225-6) mentions a slave 'who is carpenter, painter, and blacksmith at the same time.'

Craftsmen were concentrated in a single neighbourhood, indicating a complex arrangement of urban spaces with a mix of functions within each quarter (Bava Basra 21b). The intermingling of industrial and economic spaces is evident, as 'every trade had its own series of shops in the *bazaar*' (Tafazzoli 1974: 192; Simpson 2000: 64). According to the *Talmud*,

craftsmen's stalls were occasionally situated in residential areas in Veh-Ardashir to sell their recently produced goods (Simpson 2004: 237). Furthermore, Łazar P'arpec'i (tr.: 228) not only mentions the close relationship between industry and commerce but highlights the hereditary transfer of knowledge from fathers to sons. al-Tabari (1046 [tr. Bosworth 1999: 382]) describes a shoemaker sitting in a booth that opened onto the road. These literary sources suggest a diverse productive and commercial environment characteristic of urban spaces. Moreover, it appears that industrial production and markets held priority in urban areas (Simpson 2000: 61; Whitcomb 2014: 212).

Urban crafts were organised into guilds under the administration of an appointed chief known as the *kirrōgbad*, derived from the term *kirrōg,* which means 'artisan' (Tafazzoli 1984: 192). According to the *Avesta*, craftsmen referred to as *hutuxshān*, belonged to the fourth social class (Simpson 2000: 64; Daryaee 2009: 47). This negative view of craftsmen within Zoroastrianism may have been reflected in the government's lack of involvement (Tafazzoli 1974: 193ff; Simpson 2000: 64; Daryaee 2009: 48, 142). As a result, it has been hypothesised that Christians constituted the majority among craftsmen and traders (Daryaee 2009: 49). The fact that most artisans were non-Zoroastrians can also be attributed to the prevalence of skilled workers who were Roman or Syriac prisoners (Daryaee 2010b: 404). The deportation of captives from Roman territories contributed to the development of craftsmanship. When Anushirwan built the new Antioch, which was part of the al-Madaʾin conurbation, the presence of a chief of artisans in charge of the city led Morony (1984: 267) to argue that the centre was primarily intended for manufacturing purposes. It can be reasonably argued that the most skilled artisans were employed in the royal workshops (Daryaee 2010b: 404). Literary sources mention the existence of a royal industry. For example, the parents of Mar Simeon bar Sabbae were referred to as 'royal dyers' (*Chronicle of Seert* [tr.: 44]). In the *Martyrdom of Pusai,* Shapur II established a specific structure to oversee his artisans in Karkhe-i Ladan (Payne 2016: 41). It remains unclear whether the royal artisans worked within the palace or if there was some sort of arrangement that granted royal suppliers' greater credibility in the broader market. If confirmed, this might imply that the royal house had the prerogative and resources to gather, feed, and sustain the royal workforce. One question is related to where this royal workforce would have lived: within palatial spaces or in urban areas near the palace, potentially in Ctesiphon or other cities of the conurbation. Another

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question arises regarding the contractual bonds of this workforce—whether they would be on call constantly or free to have other commitments, with the understanding that all other work would be abandoned if a royal project arose.

The archaeological evidence is more extensive than for other urban spaces, although the interpretation is not always straightforward due to the limited number of production sites that have been discovered. However, insights can be gained from the study of these findings. For instance, the production of mass-produced items is suggested by certain discoveries in Merv, such as terracotta horse-rider figurines, which can be compared to similar objects from different geographic regions (Simpson 2004: 234). Similarly, in Adiabene, ceramics that bear a strong resemblance to metal wares indicate the presence of a mass-production industry (Simpson 1996: 101). Chemical analysis conducted on archaeological finds can provide valuable insights into their origin, trade networks within and outside the empire, and other aspects of production. For example, it has been established that recycling metals and glass was a common practice (Simpson 2004: 238). Furthermore, the analysis of glass found in Veh-Ardashir has revealed the presence of natron in some pieces, indicating the trade of undecorated cold-worked vessels from the Roman Empire (Simpson 2015b: 80, 93). Mesopotamia, along with South Gilan, is recognised as two of the most significant centres for glass production during the Sasanian period (Simpson 2015b). One archaeological piece of evidence for glass production within the urban walls is found in a Mesopotamian centre, specifically the small mound in the Artisans' Quarter of Veh-Ardashir. This site features a series of six ovens with two large terracotta tubes and vents, along with numerous slag deposits amidst the pottery shards, leading excavators to interpret it as a structure used for glass production (Cavallero 1966: 77-8). Conversely, there is no evidence of an indigenous glass industry at Merv during the Sasanian era (Herrmann *et al.* 1997: 9).

In the city of Merv, small findings and textual sources confirm the presence of intramural crafts, including iron forging. The production of crucible steel is reliably attested to during the early 3rd AH/9th CE century, although the possibility of a Sasanian industry cannot be disregarded (Simpson 2014: 19). Literary sources provide support for this, as a Chinese chronicle, *Ko-Ku Yao*, reported steel production in Iran, which was exported to China, and Roman sources considered Persian steel to be second only to Indian steel (Daryaee 2010b:

405). At the site of Darabgerd, a survey revealed evidence of iron production in the form of 'lumps of greyish material stained by iron oxides' (Morgan 2003: 335). However, no specific chronology has been proposed for this finding. In the excavations carried out in the southern part of Veh-Ardashir, the buildings found in 'Area 2' are thought to have mainly served as workshops and private residence (Cavallero 1966; Simpson 2015a: 13). The identification of these structures as productive centres of glass and metal is supported by the discovery of unworked waste, slag, and a series of small gypsum plaster moulds (Cavallero 1966: 77-8; Negro Ponzi 1967b; Simpson 2015a: 13). Chemical analysis indicates that metalworking likely involved bronze or possibly silver (Negro Ponzi 1967b: 59). This part of the city was referred to as the 'Artisans' Quarter' of Veh-Ardashir, although the extent to which the archaeological evidence was found in its original context is not always clear, suggesting that some items may have been introduced during construction fillings (Simpson 2015a: 26). Similar archaeological evidence, such as worked bone off-cuts, chopped horn-cores, smithing-hearth bottoms, and a small mould for casting pendants, was also uncovered on the surface of Merv (Simpson 2008: 69-70).

Among the metal manufacturers, minting must be mentioned. Although minting is not strictly an industrial activity, it has been included in this section for practical reasons. The operation of mints depends on a steady supply of refined metal and necessitates the construction of industrial facilities, such as furnaces and metallurgical workshops. Scholars' interest in Sasanian coinage included the identification of mints and minting practices (Whitcomb 2014: 212). Mints were a fundamental part of the empire itself, as coinage is a basic attribute of the urban economy. One question to consider is whether the presence of a mint elevated the importance of the corresponding urban centre. It has been suggested that the highly monetised Sasanian economy was driven by the need to provide cash salaries to soldiers and officials. Minting was heavily regulated by the state, except in cases where usurpers like Bahram Chobin (Daryaee 2015) or Vistahm Ispahbudhan minted coinage in the territories under their control, which was the quarters of north and east – i.e., *kust-i ādurbādagān* and *kust-i khwarāsān* (Valentine 1921: 61; Christensen 1944: 447; Pourshariati, 2008: 133). The large number of silver and bronze coins often provides insights into the usage and condition of coinage (Whitcomb 1985: 20); however, this evidence is sometimes affected by unforeseen factors like archaeological luck or coin remelting practices (Schindel

et al. 2014).

Certain locations, such as Merv, Veh-Ardashir, Nishapur, Bishapur, Ardashir Xwarrah, Darabgerd, and Gayy, have been identified as minting sites based on coin marks. For example, the names MRW/MRWY/MR were associated with Merv's mint, KWN BBA with Ctesiphon, AB with Nishapur, HW and HWC with Gondeshapur, BŠHR and BYŠ with Bishapur, ART with Ardashir-Xwarrah, DA with Darabgerd, GD with Gayy, and WH with Veh-Ardashir (Göbl 1990: 82-3; Cereti 2004). Some gold coins of Shapur II mention mints in Merv, Kabul, Sind, and Ctesiphon (Alram *et al*. 2007: 27, table 1), although no archaeological evidence has been found for any mints (Simpson 2017: 22). Silver mines were known to exist in Isfahan, possibly referring to Gayy, and were reportedly active until the Islamic era (ibn Rusta [tr.: 181]). Noteworthy is the fact that mints related to Ctesiphon and Veh-Ardashir are those that presented undisturbed continuity, hence conferring the rank of 'administrative capital' to these cities' conurbation.[36]

Merv serves as an excellent case study for understanding Sasanian times due to the wealth of archaeological evidence and the extensive surveys and excavations conducted in its oasis for over a century. Despite this, no pottery kilns have been discovered within the walls of Gyaur Kala. However, sites like Djin Tepe, Jakiper Tepe, and another unnamed location have confirmed the existence of pottery production outside the walls (Simpson 2014: 18).

Near the north gate of Merv, an area known as the Millers' Quarter was explored, revealing a diverse array of artifacts such as Sasanian coins from the 4th to the 5th century CE, ostraca, seals, glassware, terracotta, bone pins, and deposits from the Achaemenid and Parthian periods (Varkhotova 1958; Katsuris and Buriakov 1963). The name of the quarter stems from the significant number of grinding stones and storage jars discovered there (Simpson 2017: 41). Watermills were common during Sasanian times. The most famous account of a watermill is related to the last Sasanian king, Yazdegard III. The historical accounts mention that the king sought refuge in a mill and was killed by the miller who wanted to rob him. Intriguing is the report by al-Baladhuri**,**

  '*The city [i.e., Merv] refused to open its gates; thus, he had to dismount at a miller's*

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[36] Thanks to Dr Nikolaus Schindel's talk 'Sasanian Numismatic' (*Ērān Research Forum. West & Central Asia in the First Millennium CE*. Université de Lille 15-19 July 2024).

house standing on the bank of al-Mirghab.' (tr. Hitti 1916: 492).

al-Dinawari's (tr.: 147) account does not highlight the proximity of the mill to the river, but only its location *inside* the city walls. As the city opened the gates, the king sought refuge for the night in a mill after walking for two *farsakh* within the city (c. 6 kilometres). According to al-Mustawfi (tr.: 208), the mill was upon the Murghab River, hence outside the walls of Gyaur Kala. Although no Sasanian example has been found so far, watermills in Iran were built mainly on the horizontal principle, meaning that the drive is direct from wheel to runner stone (Harverson 1993: 150). In the absence of archaeological evidence dating to the relevant period, the assumption is made that Sasanian watermills might likely have been constructed on the horizontal principle. This inference is drawn based on the observed transmission of architectural methods in analogous instances.

Textile production, including carpets, was another essential craft in Iran during this period. (Daryaee 2010b: 405). The famous 'Spring of Khosrow' is mentioned as being part of the booty captured when Heraclius looted Khosrow Parviz's royal treasury (Daryaee 2010b: 405). However, retrieving archaeological evidence of textiles is often challenging, and literary sources primarily focus on royal craftsmanship, providing little information on urban spaces dedicated to the textile industry.

Even if and when the exact location of industrial activities cannot be pinpointed, the material culture and its analysis provide valuable insights and assistance in understanding the industrial spaces of the Sasanian society. Historical sources and archaeological evidence point out that neighbourhoods featured concentrations of craftsmen, a division mirrored in marketplaces (Tafazzoli 1974: 192; Simpson 2000: 64). Besides the unsurprising correlation between commercial and industrial spaces, craftsmen's stalls were occasionally situated in residential areas. This, along with the hereditary transmission of craftsmanship within families, underscores the critical importance and interconnectedness of industry, commerce, and daily life within the social and familial fabric of Sasanian cities.

4.7. Commercial spaces

'And inferior work pertaining to trade,
in comparison with the work pertaining
to the profession of Vastarius,
is the very lowest in rank.'
Denkard III.69.

Data and evidence regarding both short and long-distance trade networks are essential for understanding the potential role of these cities as nodal points within regional interconnectivity systems. For this reason, this paragraph establishes a foundation for understanding long-distance trade, a topic that will be explored consistently throughout the dissertation. Knowledge regarding local and overseas and long trade during the Sasanian period is limited, but there are indications of significant commercial activities by Sasanian merchants trading with India (Daryaee 2010b; Simpson 2019b). Procopius (I.20.12) suggests the presence of a robust international maritime trade between the Sasanians and India. Additionally, historical and archaeological evidence suggests a thriving trade relationship between the Sasanians and Constantinople after the peace treaty of 561 CE (Morony 1984: 118). According to Sasanian law, merchants were responsible for the goods until the final transfer to the buyer (Elman 2015: 232-3). This suggests that only wealthier merchants would venture into the risky business of overseas and long trade. However, the archaeological and historical evidence is yet to be conclusive, and the scholarly debate on overseas trade is a substantial topic of Sasanian archaeology. Although overseas trade will be analysed in detail (see chapter 5.6), it is premised that new excavations targeting harbours, such as the city of Sohar in Oman, will potentially add further information. The economy of exchange was undoubtedly active and vibrant within the Sasanian Empire itself. For instance, excavations in Merv uncovered glass artifacts in a Late Sasanian house. While there is no evidence of local glass production, the presence of imported glassware from Mesopotamia increased during the final two centuries of the empire (Simpson 2004: 235).

The information collected from historical texts and presented in the next paragraphs helps to create a conceptual framework for understanding how commercial spaces functioned within

these cities. Returning to the specifics of urban spaces, no evidence exists to suggest that trade and craftsmanship operated without significant state regulation (Daryaee 2009: 137). However, there were attempts at control and regulation to some extent. Middle Persian legal texts employed the term *hambāyīh* to refer to the holder of a common share in a joint investment. These agreements were notified to the local *dīwān* and carried legal obligations (Daryaee 2009: 141; Daryaee 2010b: 403). Merchants, known as *wāzārgānān*, conducted trade in the *wāzār* (*bāzār*), overseen by a *wāzārbed*, as mentioned in Shapur's inscription at the Kaʿba-i Zartosht (line §35). These joint partnerships were based on religious associations (Daryaee 2010b: 403). Craftsmen traded their products locally in the *bazaars*, divided into sections corresponding to different types of trades (*Denkard* 38.21; cited from Tafazzoli 1974: 192). The commercial areas likely resembled modern *bazaars*, with stands and areas purposedly belonging to different trades (Simpson 2015a: 13). According to the *Denkard*, artisans had their own dedicated section for producing and selling their goods (Daryaee 2010: 404).

Interestingly, this vitality of trade contrasts with the disapproval of commerce in Zoroastrianism. According to Zoroastrian beliefs, commerce was considered the lowest-ranked profession due to its association with individualism and profiteering, which contradicted the virtues upheld by Zoroastrian thought (Tafazzoli 1984: 191). Literary evidence predominantly mentions Christian and Manichean merchants (Daryaee 2010b: 404). For example, *The Chronicle of Arbela* (tr.: 35) mentions that Rabban Job's father, a renowned pearl dealer from Rev Ardashir, owned a prosperous house filled with slaves. While the religious affiliation of Rabban Job's father is not explicitly stated, Rabban himself vowed to renounce the world when he fell ill. The fact that his family did not oppose this decision suggests that they were potentially already belonging to the Christian faith. Łazar P'arpecʻi (tr.: 143) mentions a merchant from Khuzestan who aided in locating relics of Armenian Christian martyrs during his travels in Armenia. Eḷishē (tr. Thomson 1982: 75)[37] reports the same story, with the difference that this individual was a man from Khuzestan 'in the royal army who secretly observed Christianity.' Interestingly, Łazar P'arpecʻi (tr.: 135) also reports that the martyrs' relics were sold to Armenian nobles in exchange for pearls,

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[37] This translation has been used throughout the text. Therefore, only the page number of the translation edition will be provided in brackets.

suggesting a long-distance trader who was in Armenia after purchasing the pearls in some locality along the shores of the Persian Gulf. The *Talmud* provides numerous examples of commercial matters hinting at the religious identity of the merchants. One noteworthy dispute mentioned is between established merchants and itinerant peddlers selling cosmetics, who were accused of unfair competition (Bava Basra 22a). This dispute was brought before the rabbis, indicating that the individuals involved belonged to the Jewish community. An important note to infer is that judicial processes were often tied to the religious affiliation of the disputants. However, it needs to be highlighted that they were still directly subject to Sasanian law, courts, and administration.[38]

After assessing the information related to the identities or potential identities of the merchants in the Sasanian Empire, it is important to explore the challenging reconstruction of the economic activities related to trade dynamics within Sasanian cities. For instance, the perishable nature of many products limits the understanding of good exchanges, further compounded by the little environmental archaeological data recovered due to a lack of extensive research. Likely, agricultural produce was not solely intended for local consumption but also distributed in urban markets, as suggested, and reconstructed through seals, literary sources, and bullae by Daryaee (2010b: 401-3). Certain fruits, such as Indian nuts, Hyrcanian pistachios, and dates from al-Hira, were in demand among the upper class and thus traded as mentioned in a late Sasanian text, *Khosrow and the Page* (Daryaee 2010b: 402)*.* However, the rural hinterland of the cities plausibly supported the urban population's food requirements, while self-sufficient sustenance within urban spaces is a less possible assumption.

Most of the information about Sasanian commercial spaces, both from historical and archaeological evidence, is from the administrative capital. According to the *Talmud*, a Jewish community lived in Mahoza, renowned for its merchants and the goods they sold. This city was potentially located on the west bank, while Ctesiphon was on the east bank. It appears that the merchants of Ctesiphon were familiar with the seals of the Mahozans but not vice

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[38] Thanks to Dr Simcha Gross' talk 'Minority Religious Groups in the Sasanian World and Beyond: New Directions' (*Ērān Research Forum. West & Central Asia in the First Millennium CE*. Université de Lille 15-19 July 2024).

versa (Gittin 6b; Elman 2015: 225). The *Talmud* mentions various goods sold by these merchants, including dried figs (Bava Metzia 22a), Zahanta Fish (Avodah Zarah 40a), and wine (Bava Metzia 83a; Avodah Zarah 57a-58a; Elman 2015: 229). However, as already premised, it is unclear whether Mahoza refers to a specific quarter within Veh-Ardashir or is the Jewish name for the city. Archaeological evidence consists of the results of the excavations carried out in the southern part of Veh-Ardashir, revealing the buildings of 'Area 1'. The lack of interconnections between the rooms indicates a separate function of these spaces and hence were interpreted as business shops and houses (Negro Pontini 1967a: 43; Simpson 2015a: 13). Business shops were typically located along street frontages, while the existence of open-air markets is suggested indirectly through sources (Negro Ponzi 1967a: 43; Simpson 2015a: 13). Simpson points out that these sources mention the open display of turnips (Bava Kama 20a), the transportation of wine kegs (Bava Metzia 83a), and complaints about untethered goats (Bava Kama 23b). Other historical evidence of the existence of open spaces used as a market is later. In 615 CE, a converted Iranian noble named Bishop Georgios of Izla was crucified in a straw or hay market in Veh-Ardashir (*A Short Chronicle* [tr.: 42]). In Veh-Ardashir, productive and commercial spaces were often interconnected, typically coexisting within the same urban area. It was likely more convenient for local crafts to be traded locally, as transporting manufactured goods over long distances would have been time-consuming, energy-intensive, and costly. On the other hand, trade with the countryside or more distant regions is supported by both archaeological and literary evidence. It is likely that, rather than long-distance trade routes with caravans traveling from two cities over vast distances, trade was conducted on a more local scale. This likely took the form of a 'nodal trade network' that interconnected smaller, local communities and operated as an organic network rather than a planned route (pers. comm. Dr. Khodadad Rezakhani).

Another overlap of functions was between religious and commercial spaces. These spaces were intertwined when fairs and markets were held in shrines or monasteries, particularly during saint holidays (Simpson 2013: 108). For example, *the Martyrdom of Qardagh* attests that,

> *'on each year on the day that Qardagh was crowned, the peoples gathered at the place for a festival (…). They began to sell and buy during these days (…) A great market was established in the place (…) namely, the Melqi hill, called the souk of*

Melqi.' (tr. Walker 2006: 68).[39]

The translator suggests the shrine may have replaced a former temple dedicated to Ishtar, and the festival might have had pagan origins (*Martyrdom of Mar Qardagh* [tr.: 282 ff.]). Markets have always been associated with crowds, so while the documented cases are related to rural environments, similar events plausibly took place in urban spaces as well.

To conclude this analysis of Sasanian commercial spaces, an important note is related to a class that is quite challenging to reconstruct: slaves. Historical sources mentioning slaves include *The Chronicle of Arbela* (tr.: 35) and legal documents involving slave girls and the status of the children their owners had from them (Daryaee 2009: 58). The mention of slaves and the existence of slavery and presumably of slave trade is hence confirmed by historical sources, especially legal texts (Daryaee 2009). The presence of large estates, industrial areas such as quarries, and the evidence of substantial infrastructure works might suggest the use of slave labour. However, their use as labour in such spaces is an assumption. In addition, there is no evidence of the trade of slaves during this period or whether slaves were considered as means of production has been found so far. The presence of slaves after the Arab-Muslim conquest is a field in considerable expansion, and it will be further analysed in the following chapters (5.6, 6.2). It is premised in this section that the substantial presence of slaves two centuries after the fall of the Sasanian Empire suggests that this practice was established during the rule of the house of Sasan. This key point could be the focus of further future research.

In summary, trade within and beyond the Sasanian Empire was dynamic and varied, reflecting the exchange of various goods, from perishable food items to, potentially, slaves. This discussion of short and long distance trade establishes how regional trading patterns directly shaped urban commercial development. A connection between commerce and religious spaces was highlighted with evidence of markets being held within shrines and during religious festivals. Archaeological findings add further information and suggest

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[39] This translation has been used throughout the text. Therefore, only the page number of the translation edition will be provided in brackets.

cityscapes characterised by closely interconnected commercial and industrial zones, and in the case of Veh-Ardashir with residential spaces as well. At the same time, some historical evidence suggests potentially higher participation of merchants outside the Zoroastrian faith, establishing this as a consistent rule is challenging due to limited evidence in one sense or another. Archaeological and historical evidence points out the possible overseas and long-distance trade. However, the time-consuming, energy-intensive, and costly transport of manufactured goods over long distances suggests a potential 'nodal trade network.'

4.8. Institutional spaces

'[The document] was written out, but not signed. Others say: It was also signed, but as he swallowed it, the signature was blotted out. Hence there are some people in the kingdom of Persia who are obliged to pay poll-tax, while others are free from it. And when I go forth, lo, the prince of Greece shall come. He cried and cried and none minded him.'

Mas. Yoma 77a.

This section has been included as preparation for the analysis in section 5.7. However, it should be noted that these spaces are among the least defined archaeologically, with a significant paucity of evidence—once again demonstrating the need for further archaeological investigation. During late antiquity, institutions were often affiliated with religious establishments. Although this is true for Sasanian times, the overlapping of institutional and religious functions will be particularly relevant following the Arab-Muslim conquest and will be further delineated in the following chapters (5.7, 6). However, the term 'institutional' or 'administrative' spaces encompassed all these connected to power and bureaucracy, such as judicial centres, prisons and police, post offices, and places linked to the elite, when and if present within cities. Maintaining security and enforcing the law was made possible through the presence of armed guards as, according to Nestorian sources, sentries or watchmen were stationed above the gate of the city of Nineveh (Morony 1984: 91-2). The policing functions were likely carried out by bodies connected to the army rather than municipal institutions.

This dissertation already mentioned that much of the current understanding of the Sasanian administration relies primarily on seals (see chapter 1.1). Thanks to the analysis of such seals, the significance of administration matters within the religious structure had been confirmed (Morony 1982: 2). Although the available evidence points to the presence of secular administrative institutions within urban centres, their roles and functions evolved over the four centuries of Sasanian rule. Much of the available data is extrapolated from religious historical sources that incidentally described judicial spaces, such as law courts and prisons while depicting persecution and martyrdoms.

An instance is from the Syrian *Act of Martyrs* dated 446 CE, which mentions the establishment of a 'house of judgment' outside the city while contextualising the Magian inquisitor interrogations of apostates in Kirkuk (Morony 1984: 84). An extract from the *Liber Turris*, partially translated by Harris as an appendix of the *Acts of Mar Mari*, further sheds light on religious assemblies,

> *'The Magians had the custom of convening an assembly, a convention in which people gathered with regard to religion accordingly to specific rules. The young had an assembly, as did the youth, and the elders, but he headed for the assembly of the elders, for they were more flexible.'* (*Liber Turris* [tr.: 85]).

This practice is echoed in the *Acts of Mar Mari* (tr.: 43), reporting that three assemblies for elders, youths, and children were organised in Seleucia. The *Talmud* attests to some communal entity that may be connected to these assemblies, stating that they may have owned items,

> *'[To sell] from a large town to a small one [is unobjectionable], because if it was holy to begin with, it is still holy now. But if it passes from a community to an individual, there is no holiness left.'* (Mas Magillah 27b).

Although the exact extent of function and duties of these assemblies is uncertain, they might have been connected with law courts, which constituted a significant part of institutional spaces in urban contexts. Law courts were present in each rural division of every district, as well as in the main towns of each district (Perikhanian 1983: 676). Judicial processes related to religious habits were often tied to the religious affiliation of the disputants. However,

individuals were still directly subject to Sasanian law, courts, and administration.[40] The

judicial process involved recording pleas, providing documentary evidence, proving the

parties' identity, and presenting lawyers' mandates, confirming the existence of

administrative offices associated with the law courts. Mentions of lay tribunals in

martyrologies are scarce, as martyrs were often judged in religious law courts. One such

instance emerges in the case of Mar Qardagh,

> *'And since they could not persuade him, they led him to the šaherkwast, the judge*
> *who had been given jurisdiction by the king over this business, namely, that every man*
> *who renounced Magianism should be handed over to him.'* (*Martyrdom of Mar*
> *Qardagh* [tr.: 57]).

The Book of the Thousand Judgements reveals that the prison keeper performed legislative

functions, suggesting a close connection between law courts and prisons (Madigan-i Hazar

Dadestan A28, 11-29, 5, cited from Jullien 2004: 249). Most of our insights into prisons come

from Christian authors, and it was not an ideal experience if John of Ephesus (tr. Brooks

1926: vol. 17, 153) describes imprisonments of Christians as 'without mercy' and

characterised by 'bitter confinement.' Some scattered glances at prisons and a more nuanced

understanding are given by Armenian sources. For example, when chronicling Yazdegerd II's

persecutions and incarceration of Armenian nobles, Łazar P'arpec'i (tr.: 302) and Eḷishē (tr.:

192) mention the fortress or dungeons of Nishapur, implying that this city hosted a prison,

possibly underground. In one instance, P'arpec'i (tr.: 155) notes that 'the inhabitants of the

shahrestan who were in Nishapur and Denshapu's command then permitted' the servants to

go on errands. Thus, a likely distinction in treatment is suggested, indicating that

imprisonments were not always excessively severe when nobles were involved. Mixed

outcomes could be the fate of kings. Sources described Kavadh's stay in the renowned

Oblivion fortress as fairly comfortable (Procopius V.7-15; al-Tabari 886-7 [tr. Bosworth 1999:

132-6]; Theophylact Simocatta 3.25.1-8). On the other hand, the *Epic Histories* (tr. Garsoïan

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[40] Thanks to Dr Simcha Gross' talk 'Minority Religious Groups in the Sasanian World and Beyond:
New Directions' (*Ērān Research Forum. West & Central Asia in the First Millennium CE*. Université de
Lille 15-19 July 2024).

1989: 173)[41] claimed that the former king Arshak of Armenia endured terrible tortures and eventually met his death in the Oblivion.

As regards the locations of prisons, historical sources mention a prison near the royal palace without confirming whether it was in Ctesiphon (al-Masʿudhi [tr. Barbier de Meynard and de Courteille: vol. III, 208]). However, Sozomen (2.9) refers to a prison near the palace in Ctesiphon during the reign of Shapur II, stating that 'when Symeon was conducted to prison, the eunuch Ustha Zanes, foster father of Shapur, happened to be sitting at the gates of the palace...'. This might be the same prison mentioned in the *Talmud*, described as 'the Fort of Turrets... [which] contains a residence-compartment for the keeper of the prison!' (Mas. Yoma 11a) and identified as the Fort of Be Koke (*Talmud* [tr. Epstein 1935-48: 1873, n. 10]). From the accounts of Mani's last days, the existence of a prison in Khuzestan, potentially in proximity to Gondeshapur, can be inferred (Gardner *et al*. 2015: 203-4).

Regardless of how the imprisonment was conducted, the outcome was often quite grim. The spaces for public executions were various but not as consistently conducted in open view as it can be expected. The martyrdom of Zuit illustrates the use of the public square for public shaming and as a form of tribunal, with the execution itself taking place in a separate location.

> *'They bought him in chains into the public square - the royal asked him to convert (...). When they came to the place of execution, (...)' (Epic Histories [tr.: 177]).*

Possibly, the existence of an open-air tribunal-like space was merely a recurring motif in Christian martyrdom accounts. However, it cannot be ruled out that specific administrative or institutional proceedings took place in public spaces, potentially in spaces associated with the *bazaar* or the town's main square. Executions could have been relocated to different sites to prevent potential conflicts or disturbances, as illustrated in Zuit's above-mentioned case. The executioner opted to move him to another location after Zuit offered a prayer before a gathering, and the audience's resounding response of 'Amen!' raised concerns (*Epic Histories* [tr.: 177]).

The sources' evidence that the elite likely received mild treatment in prison was possibly

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[41] This translation has been used throughout the text. Therefore, only the page number of the translation edition will be provided in brackets.

related to their role within the Sasanian administrative and institutional apparatus. Their residences, such as the palace of the *Marzbān*, 'protector of the frontiers', served as significant institutional spaces. However, most of the evidence points to these spaces being located outside the city walls. In Merv, sources mention a palace located to the west along the Majan canal, outside the city walls (Kennedy 1999). Comparative cases suggest that institutional palaces of the elite, including the residence of the *Shahrāb* ('governor of the province'), were generally situated outside the walls of the citadel (Whitcomb 2014: 211). This is supported by the two royal palaces in Ardashir-Xwarrah situated outside the city walls (Kennedy 2006: 13) and by the royal palace in Ctesiphon, identified by Islamic sources as the 'White Building,' or also as 'al-Qasr al-Abyad' (Callieri 2014: 55). The remaining structure, now known as the 'Taq-i Khosrow,' appears to be located outside the residential areas of one of the conurbation's cities, Aspanbar, and thus resembling a sort of garden suburb (Kennedy 2006: 13).

Among potential institutional places within cities, it is possible to tentatively include the podium uncovered at Qasr-i Abu Nasr, which had been interpreted as a potential administrative building (Whitcomb 1985: 108) or as a bastion overlooking the entrance (pers. comm. Dr. St John Simpson). Abu Nuʿaym al-Isfahani mentions the presence of a certain 'Sārūq' at Gayy, interpreted as an archive preserving astronomical tables (Kennedy 2006: 19). Whether it was an administrative or religious monument of some kind hosting a library or a library *per se* remains uncertain. However, Islamic sources mention a library or similar institution in Istakhr that preserved some ancient books (Gnoli 1971: 231), thus, potentially libraries were a possible type of institutional space. More challenging is the interpretation of the archaeological evidence from Ardashir-Xwarrah. Little is known about the tower referred to as the Tīrbal or *Minar,* which likely served as an institutional or religious building (see chapter 4.1). Recent research has revealed traces of steps, confirming the existence of a staircase within the tower (Mousavi 2008: 3). Another noteworthy feature within the city walls of Ardashir-Xwarrah are the wall paintings (see Figure 39) depicting figures described as 'royals,' attributed to Sasanian princes or dignitaries (Mousavi 2008: 3). It is suggested that the presence of administrative and institutional spaces within the city was potentially connected with the Tīrbal and the excavated room with frescos.

Another topic connected to the elite is taxation, as it played a pivotal role in the reconstruction of Sasanian rural life and was carried out by the rural gentry (Tafazzoli 2000: 38-59). However, less information is available on taxation in urban centres. The poll tax, initially a form of tribute imposed on the urban population to support non-agricultural sources of income and prevent land abandonment, eventually transformed into a religious tax (Morony 1984: 108). The overall sum was divided among the inhabitants of each town, village, or rural district and either paid by a local notable or collected directly by state officials (Morony 1984: 112). The *Talmud*'s extract mentioned at the beginning of the section provides insights into the poll tax, known as *kragā*, and the collective responsibility associated with its collection (Mas. Yoma 77a). This suggests the existence of some treasury and a hierarchical organisation of tax collection at the very minimum.

Concluding this analysis of Sasanian institutional spaces is the topic of education and schools, which presents another subject of exploration with limited evidence. Little information is available regarding who received instruction, where it took place, and the extent of education provided. Each religion likely had its own educational system, catering to aspiring clergy or offering a broader curriculum for worshipers. A Middle Persian text, the *Herbedestan*, is titled after the term used to designate Zoroastrian studies, and appears to serve as a handbook for educating Zoroastrian children (Elman 2019). According to Łazar P'arpec'i (tr.: 47, 51, 162), Armenian Christians received education from fellow Christians. As previously mentioned (chapter 4.3), the *Talmud* indicates that instruction took place at the synagogue, while rabbinic education took place in the courtyards of the rabbis' homes (Bava Batra 21a). A famous medical school mentioned in the historical sources is that of Gondeshapur. Gabriel of Shiggār allegedly participated in a medical dispute organised by Khosrow Parviz in 610 CE within this academic place (Richter-Bernburg 2012). Unfortunately, no archaeological evidence has been found so far.

The presence of law courts and their administrative support structures, the glimpses into imprisonment practices, and the interplay between religious and institutional spaces shed light on the complex dynamics of power, justice, and order within these urban environments. As this section has shown, these institutional spaces were not isolated entities but

interconnected elements that collectively contributed to the functioning and the multi-cultural identity of the Sasanian Empire.

Specifically, the available data on Sasanian cities suggests that the elite was likely predominantly rural, with institutional spaces associated with nobles' residences situated outside urban areas. A clear social gap is depicted by the evidence on imprisonments, as a captive's class could have influenced their treatment. Policing, along with its spaces, appears to have been connected to the army, suggesting a link between armed guards, the central power, and the elite. Historical sources hint at the presence within cities of prisons and other institutions, such as municipal assemblies and law courts. However, the exact functions of the assemblies, as well as the extent of executive power held by law courts and tribunals, remain unclear. The religious sphere was involved to some extent in law courts and was also present in some educational spaces.

4.9. Recreational spaces

> *'Each day a world of courtly income went*
> *On splendid banquets, wine, and merriment.'*
> *Vis and Ramin* (tr. Davis 2009: 71).

Evidence gleaned from a variety of sources (including texts, seals, and coins) provides insights into the leisure activities embraced by the elite and royalty of the Sasanian Empire. Gardens, pavilions, expansive estates called *dastkart*, and hunting grounds were favoured settings for their recreational pursuits (Kennedy 2011). The term *dastkart* encompasses an array of elements such as water supply networks, dwelling houses, and other structures such as polo grounds (Kennedy 2011: 55). An archaeological example of such properties is evident in the manor house at Hajjiabad, located in the eastern region of the Iranian province of Fars (Azarnoush 1994). This section has been included in order to frame the analysis in section 5.8. It is important to note that these spaces remain among the least defined archaeologically, with a significant scarcity of evidence—once again demonstrating the need for further investigation.

Among the recreational and leisure spaces commonly enjoyed by the elites or grandees, historical sources include the stadium for the game of polo. This game was played by horse riders armed with polo bats. The players were divided into two teams, each owning half of a rectangular field. The game aimed to send a ball to the edge of the adversaries' field with the help of their bats. In the *Martyrdom of Mar Qardagh* (tr.: 21, 25), two stadiums are mentioned - one near Shapur's palace and another in proximity to Arbela. These stadiums could have been associated with palaces and *dastkart*, or perhaps the use of this word might echo linguistic influence from Roman-Greek traditions, given the Syriac background of the source. Nonetheless, these recreational areas were situated outside the urban centres, serving as exclusive domains for the elite.

As for the entertainment of the common people, it appears to have been closely intertwined with religious observances. Nowruz celebrations, for instance, are attested in the *History of Gregory* and the *Martyrdom of Eustachius of Mtskheta* (Payne 2016: 120). However, the scarcity of comprehensive literary sources on this topic poses challenges to interpreting the available archaeological data pertaining to this and similar categories of recreational spaces.

Public baths present a particularly intriguing aspect, as they carry religious connotations. Although public bathhouses were not primarily recreational in the modern sense, their social, restorative, and gendered functions justify their inclusion in a broader discussion of recreational intended with their 'community' urban spaces. Sources indicate that baths fell out of use during the Sasanian era, likely due to Zoroastrian beliefs considering water as sacred and needing to be untainted by bodily impurities (Morony 1984: 268). According to Joshua the Stylite (tr.: 12), Balash encountered opposition from the priesthood because he sought to construct baths in the cities. Nevertheless, the use of private baths is attested among Christians and Jewish people. Public baths held significance for Jewish ritual purposes, such as women's purification after menstruation (*niddah*). The *Talmud* mentions a bathhouse named after its owner, Abuda Zara (Morony 1984: 268), and bath attendants tasked with providing women's bathing garments (Mas. Shabbath 147b). Bath time was considered a matter of the body not involving any spiritual component, as 'one may meditate [on learning] everywhere except at the baths and in a privy.' (Mas. Kiddushin 33a). Bathhouses became a focal point of contention between Jewish people and Zoroastrians, as

evidenced by the *Talmud* (Mas. Yebamoth 63b; Herman 2010: 42-3). The Zoroastrian sanctity of water was especially violated by Jewish women's ritual immersion to cleanse themselves of menstrual impurity (Kalmin 2006: 133-4). During the 6th century CE, however, public baths began to be constructed by royal decree, potentially reflecting the increasing interaction between the Sasanian and Roman Empires. According to sources, following the conquest of Amida in 503 CE, Kavadh's enthusiastic appreciation for baths prompted him to decree the construction of baths in Persian cities (Joshua the Stylite [tr.: 61]; Morony 1984: 269). Despite officially unfavourable Zoroastrian attitudes toward baths, the *Rivayat-i Hemit-i Ashawahistan* mentions that the bathhouses, known as *garmābag*, were situated near the fire temple in the cities and thus served as a venue for seasonal festivals (*Rivayat-i Hemit-i Ashawahistan*, Question 19, 145-6, cited from Daryaee 2009: 65). Regrettably, no additional evidence provides insight into the specific locations within cities where these fire temple-bathhouse complexes might have been situated, leaving this aspect as uncharted territory for the formulation of hypotheses.

This exploration of Sasanian leisure activities sheds light on the recreational pursuits of the elite and common people. Elite circles indulged in leisure within gardens, pavilions, hunting grounds, stadiums, and *dastkart*, exemplified by the Hajjiabad manor house. However, the elite and their recreational places were situated outside the cities. Common people's entertainment seems to have intertwined with religious practices, like Nowruz celebrations, and potentially carried out within urban spaces. Public baths, while significant, officially waned in Sasanian times due to religious beliefs, though private usage persisted among Christians and Jewish people. Interestingly, royal decrees fostered the 6th-century CE bathhouse establishment, possibly reflecting interactions with the Roman Empire. Although no clear evidence suggests the certain presence of these places within cities, Christian and Jewish communities consistently and substantially inhabited cities (see chapter 4.5). Hence, it can be inferred that bathhouses were potentially part of the urban recreational spaces.

To conclude, this chapter assessed the main characteristics of Sasanian cityscapes by collecting information from the selected sample of cities and cataloguing the data into functional categories. The analysis suggested that cities reflected the social fabric of this

multi-cultural, multi-religious society empire. However, it is intriguing that the main inhabitants of cities usually were not the upper and religious classes – the elite and the Zoroastrian priests. On the contrary, cities appear to be a hub of commercial and industrial activities, while religious spaces were often connected to communities belonging to other faiths rather than the Zoroastrians. This last outcome, however, must be taken into consideration without assuming that religion was the primary category of identity (see chapter 1.1). This chapter consisted of the assessment of the comparison baseline, while the processes and features of change brought by the transition will be discussed in the next.

5. **Discussion: Processes and Features of Change**

5.1.   Urban layouts

This chapter will identify and analyse the factors and changes or continuity within cities during and after the conquest. The layout will mirror that of chapter 4.1, by subdividing information on cityscapes' main characteristics into functional categories: residential, infrastructural, religious, industrial, commercial, institutional, and recreational spaces. Before examining these spaces in detail, the cities' urban layouts will first be analysed. Information on the urban layouts was extrapolated from the sample of cities selected: Veh-Ardashir, Merv, Nishapur, Gondeshapur, Bishapur, Ardashir-Xwarrah (Gur), Qasr-i Abu Nasr, Darabgerd, Istakhr, Rayy (Tehran), and Gayy (Isfahan) (chapters 4.1 and 4). The information was inferred by archaeological investigations and historical sources and enabled the assessment of changes in urban layouts (4.1), summarised in Table 4. The information on urban layouts gathered from archaeological investigations (second column) was used to undertake a comparative analysis aiming to identify the features of the transition displayed and recognisable in urbanism (third column). These features of urban layouts suggested a change in the urban landscape (fourth column). These urban changes resulted in an urban outcome (fifth column). Within the case study, the outcomes were classified into two main groups: '(potential) transformation from city to town' and 'transformation from city to metropolis.' As such, they are summarised in Table 4 and will be further discussed in this section. It must be emphasised that this assessment of urban change is preliminary, and the conclusions presented here remain open to revision should further evidence emerge. Additionally, it is

important to clarify that the relocation of urban spaces—even to nearby areas—does not constitute urban continuity. Such shifts disrupt spatial coherence and typically involve the reconstruction or reconfiguration of urban elements, thereby interrupting the historical and material continuity of the city.

Table 4. Case study cities and features of the transition (urban layouts):

City	Source	Features of the transition	Urban change	Urban outcome
Veh-Ardashir	Archaeological excavations	Islamic settlement potentially focusing on Tell Baruda, within the walls. *Futuh* narrative suggests the progressive abandonment of the conurbation with Basra and Kufa, and later Baghdad, replacing the former administrative capital as main focus of the region.	Shrinking of the urban texture	**Transformation from city to town**
Qasr-i Abu Nasr	Archaeological excavations	Islamic burials within the walls. Islamic occupation focusing on the western area and not in the citadel itself.	Potential shrinking of the urban texture	**Transformation from city to town**
Istakhr	Kennedy 2008: 104; Colliva and Rugiadi 2018: 144	The city was enclosed by a square-shaped wall measuring approximately 400 metres on each side, with a mosque and a *bazaar* at its centre. The eastern and southeastern mound show evidence of extensive Islamic occupation, potentially the focus of the former city was concentrated here.	Shrinking of the urban texture Not the whole area appears inhabited	**Transformation from city to town**
Bishapur	Kennedy 2008: 104	The Islamic settlement might have been located in the gardens situated to the west of the Sasanian city.	Shrinking of the urban texture	**Transformation from city to town**
Gur (former Ardashir-Xwarrah)	Kennedy 2008: 104; Rossi 2016	The Islamic settlement may have been situated in a restricted section of the	Shrinking of the urban texture	**Transformation from city to town**

		original enclosure. Potential abandonment of the inter-walls' settlement (although the role and chronology of the Dehr-i Shahr might be conclusive on this instance).		
Darabgerd	Morgan 2003: 331; Ibn al-Balkhi [tr.: 21]	Potential change of wall shapes. Abandonment around the 5th AH/11th century CE.	Potential shrinking of the urban texture	<u>**Potential transformation from city to town**</u>
Isfahan (former Gayy)	Gaube 2008: 163-5; Duva 2018: 166	Yahudiyya and Gayy appear to have merged or Gayy was abandoned and eventually incorporated into the evolving urban landscape. This transformation included the construction of a mosque in Gayy.	From two medium size settlements to one chief city	<u>**Transformation from city to metropolis**</u>
Rayy	al-Tabari 2655 [tr. Rex Smith 1994: 25]	The city was possibly destroyed and then rebuilt, with the destruction potentially localised to the governor's palace.	From a medium size settlement to a chief city	<u>**Transformation from city to metropolis**</u>
Nishapur	Kennedy 2008: 104	Suburbs expanded to establish a new centre of power.	From a medium size settlement to a chief city	<u>**Transformation from city to metropolis**</u>
Merv	Archaeological excavations	The first citadel, Gyaur Kala, saw a contraction in its early Islamic occupation (Herrmann *et al.* 1993: 43). Subsequently, a new citadel (Sultan Kala) was constructed.	From a medium size settlement to a chief city	<u>**Transformation from city to metropolis**</u>
Gondeshapur	Yaqut ar-Rumi [tr.: 169]	Despite being chosen as a residence by the Saffavid Yaqub ibn Leiss in 262-3 AH/883-4 CE, this location was soon abandoned.	Abandonment during the 4th AH/10th CE century	<u>**Transformation from city to town**</u>

Even though the case study does not encompass all the settlements within the former Sasanian territories, the primary observation is that many urban spaces in Fars underwent a

significant transformation. At least five Fars' cities lost their status as important urban centres and transitioned into towns. Additionally, as mentioned when focusing on overseas trade (chapter 3.5), there was a notable shift in power towards Siraf and Shiraz in the Fars region. While this dissertation does not aim to contribute to the debate on Indian Ocean trade and cannot assess with certainty whether this trade began in Sasanian times, the growing significance of Siraf and Shiraz after the conquest is an element to consider within this examination of urban spaces. A decline in the status of cities like Ardashir-Xwarrah and Bishapur is potentially linked to shifts in communication routes based on economic transitions. This is suggested by Shiraz and Siraf's commercial and economic role, coupled with the diminishing importance of other cities. The role of Fars within the Sasanian apparatus likely had strong symbolic value, given that it was the dynasty's place of origin, and this symbolism contributed to the ideological power of place. The association with a mythological past and grandiose dynasties may have bolstered their authority or may have been a reason to move away from these cities and their symbolic bond with the Sasanians. However, after the religious transformation, this role waned within the Caliphate's apparatus, only re-emerging within the smaller Persian dynasties that sought to legitimise their rule by drawing on this historical connection (Zychowicz-Coghill 2022). This possible reduction in size is also observable in Gondeshapur. Khuzestan's significance in trade networks seems to have shifted towards the Mesopotamian coast and Kufa and Basra, with connections within the Gulf region, indicating a growing reliance on sea travel rather than traversing the Khuzestan mountains. Another consideration is related to the meaning of 'trade.' This word and related discussions are prevalently considering trading routes as a series of roads connecting two cities, for example, Istakhr and Samarkand, which were used by merchants from the starting to the ending points. In the examined period, trade was likely carried out on a more local scale, and it consisted of a 'nodal trade network' which interconnected more single local realities and was not a planned route (pers. comm. Dr. Khodadad Rezakhani; see chapter 4.7).

Therefore, the change in extension of the Caliphate transformed the degree of importance of regions. Khorasan was no longer the easternmost region of the empire as it was during Sasanian times. The Caliphate extended even further east, with trade links to east Asia, which resulted in enriching cities like Merv and Nishapur. New research confirmed that the

main road from Merv to Transoxiana runs through Amul and Farab and that interactions between settlements and trade corridors were numerous and varied (Wordsworth 2015: 60-1). The economic prosperity that led to the growth of Rayy and Gayy ultimately transforming them into the metropolises of Tehran and Isfahan respectively, underscores the increasing significance of the al-Jibal region, which became the core of the Caliphate. Basra and Kufa, and later Baghdad, replaced the conurbation as nodal points of administration and trade corridors. The distancing from formerly significant Sasanian centres in this region becomes even more evident with the gradual abandonment of al-Madaʾin, a process that affected Veh-Ardashir and the other cities of the conurbation at the heart of Sasanian power.

5.2.   Residential spaces

'Umar had enjoined the delegation to carry out what he had said, and he ordered the people (in Iraq) not to construct buildings that were higher than the "norm." "But what is this 'norm'?" they had asked. "The 'norm,'" ʿUmar said, "is that which keeps you well away from wastefulness but, at the same time, won't make you lose sight of what you are aiming at".'
al-Tabari (2488 [tr. Juynboll 1989: 68]).

The importance of construction materials in shaping urban development in Sasanian times had been previously discussed (see chapter 4.3). The choice of materials was connected to the wealth of the owner, as less available materials or more complex technologies were often used to display the status quo. Mudbrick was largely and commonly used, and the presence of adjustments homogeneous with the planning asset suggested some form of municipal control and regulation. The main religious influence in Sasanian households was exemplified by gender division. The merging of religious, institutional (schools), domestic, and economic aspects were merged in residential spaces. Regarding residential spaces after the conquest, factors of continuity regarded the use of mudbrick as the main building material, the importance of regional availability, the presence and potential function of courtyards, and gender division.

The earthen architecture, especially mudbrick, continued to be the preferred choice for constructing residential dwellings in cities that remained continually occupied. Its durability and thermal properties made it a standard construction material in arid environments. Mudbrick was likely indicative of their suitability within the environment (Simpson 2019b: 290). As a building material, mudbrick had the added advantage of being easy to use and not requiring specialised craftsmanship. In the case of Kufa, mudbrick was used in place of wood because fires occasionally occurred and destroyed wood' roofs (al-Tabari 2487 [tr. Juynboll 1989: 67]; see chapter 3.4). The earthen architecture used in compact settlements reduces the number of exposed walls, protecting from the heat. Despite requiring long-term maintenance, mudbrick offered several advantages over-fired bricks, including flexible floorplans and the absence of a need for expensive equipment or tools. In comparison to wooden structures, mudbrick provided several benefits: water resistance, reduced sound transmission, and increased durability.

Another factor of continuity was the importance of regional availability in the choice of building materials. However, the regional variations in construction materials were not solely determined by geographical factors within the Caliphate. Even within the same region, such as Fars, the availability of clay for mudbrick construction could differ significantly from the presence of suitable building stones, creating variations in material use. Additionally, the choice of one building material over another most likely conveyed differences in social status, as is still observed today and was already observed in the case of Qasr-i Abu Nasr. Historical records suggest that buildings in Shiraz were reputedly constructed with meticulously laid stones (al-Maqdisi [tr.: 388]). The Zagros Mountains are predominantly characterised by limestone, with areas featuring clay deposits resulting from mountain erosion. Hence, it is not surprising that the use of limestone is confirmed in the Fars region. This observation is supported by evidence from Ardashir-Xwarrah. Limestone fragments are scattered within the city walls, similar to those used in the standing Sasanian monuments. This evidence might be related to a possible reuse of building stones, which would have limited quarrying efforts. However, this interpretation is speculative, as there is no supporting archaeological evidence. More data from extensive excavations might shed light on eventual differences in neighbourhoods and whether stone-footed structures claiming a wealthier status were located in different areas of the cities. The matter remains inconclusive without excavations

to clarify the function and chronology of these structures.

A factor of architectural continuity that assumed a new meaning is embodied by the courtyard. Historical sources used the description of Muhammad's house to speculate that its square-shaped courtyard influenced the basic module for domestic architecture (Hakim 2008: 76). Nonetheless, this design was not unique, as courtyards of all shapes and sizes were a consistent feature in Sasanian domestic architecture – except for Merv (see chapter 4.3). Courtyards provided numerous advantages beyond providing space for economic household activities; they also served as temperature regulators and provided further interior lighting (Dunham 1961). Courtyards hence held a pivotal role in the architecture of hot, arid regions and, although not a consistent change with the conquest, assumed a new significance by being connected to Muhammad's house.

Another factor of continuity that assumed a different nuanced meaning is the concept of gendered spaces. Regrettably, limited archaeological and historical evidence addresses this aspect, highlighting a noticeable absence of documented female presence within the domestic spaces of the early Caliphate. Considering the previously discussed existence of secluded spaces in Jewish and Zoroastrian residential spaces (see chapter 4.3), there were likely few substantial changes in women's spatial arrangements with the advent of the new religion. However, the reasons behind the seclusion shifted nuances, with the focus being on the household's privacy rather than on the impurity of the women.

Besides these factors of continuity, two new crucial aspects were brought about by the conquest. These aspects are related to the role of construction materials in both repurposing existing settlements and establishing garrison cities like Kufa and Basra. In the second case, a new factor to be considered was the expected longevity of the settlement. Cities could have been established as temporary, for instance, the first urban phases of the garrison cities (chapter 3.4). Other cities, such as Baghdad, were meant to be long-term urban centres (chapter 3.1). The factor of expected longevity influenced decisions about the type of materials used for construction. The utilisation of reed as a building material during the nascent phases of Kufa and Basra likely stemmed from considerations of expediency, as corroborated by historical accounts (al-Tabari 2487 [tr. Juynboll 1989: 67]). Despite the discussion on reed construction (see chapter 3.4) implying the willingness of temporary

habitation as opposed to the more enduring mudbrick architecture, historical sources also mention the existence of wooden architecture. The use of wood in domestic architecture persisted into later phases in Basra, as exemplified by a notable incident involving Sunbil's house. The historical account revolves around the Civil War or *Fitna* (36-40 AH/656-61 CE). Some groups, led by the future Umayyad founder, Muʿawiya, were against the election of ʿAli as the fourth Rashidun Caliph. To oppose ʿAli, Muʿawiya appointed one of his supporters, Ibn al-Hadrami, as governor of Basra. Ibn al-Hadrami was defeated by ʿAli during the Battle of the Camel (36 AH/656 CE) and sought refuge in Basra, in Sunbil's house. This house, reportedly accommodating either seventy or forty individuals, was set on fire by ʿAli's order to definitely get rid of Ibn al-Hadrami (al-Tabari 3417 [tr. Hawting 1996: 170]). A dwelling capable of hosting so many occupants goes beyond the classification of a typical domestic residence. While the count of occupants may not have been exact, this episode highlights the use of wood as construction material, even in the context of spacious residences. No archaeological or historical evidence suggests the presence of wood in domestic architecture in the former Sasanian Empire. Due to the organic nature of woods, preservation factors might also be a cause of this absence of evidence. However, wooden fibres would have been discovered in archaeological excavations, or hints of using wood would have been mentioned in historical sources. Thus, this lack of evidence potentially implies the post-conquest introduction of wood as a building material.

The second factor introduced after the conquest was the trend of new people inhabiting urban spaces vacated by prior inhabitants. One of the most famous examples is provided by the Sasanian administrative capital. Following its conquest, al-Saʿd distributed the houses of al-Madaʾin among the people and made them move into them' (al-Tabari 2451 [tr. Juynboll 1989: 30]). Another report suggests that these conquerors subsequently relocated to Kufa during its early stages (see chapter 3.4). This movement potentially offers insights into the gradual abandonment of al-Madaʾin as documented by al-Tabari (2451 [tr. Juynboll 1989: 31]) and the above-mentioned shift of power from the former capital to the south. While definitive evidence eludes us, the question arises whether conquerors opted to repurpose existing dwellings or embark on new structures construction. Arguably, the former scenario holds greater plausibility, as it would have bypassed the time-intensive process of erecting new structures. An intriguing testament to a partial repurposing of former spaces is found in

al-Tabari's account, which states,

> *'When the ground plan of al-Kufa had been laid out, and the people had obtained permission to start building their dwelling places, they carried their doors with them from al-Madā'in to al-Kufa and hung them in their new homes.'* (2497 [tr. Juynboll 1989: 78]).

The absence of explicit references to construction workers suggests a preference for individuals constructing their own homes. Moreover, the extract highlights intriguing hypotheses regarding the significance of al-Madaʾin's doors by raising questions about whether symbolic or pragmatic considerations drove their use. It could have been possibly rooted in the quality of the doors or the scarcity of wood, and solid doors were regarded as valuable furniture items and often subject to scavenging (Simpson 2022: 178). However, the symbolic connection to the previous Sasanian administrative capital is a noteworthy hypothesis, proposing that the appropriation of doors from al-Madaʾin established a link between Kufa and its predecessor. Whether driven by practical considerations, such as the quality of available materials or symbolic gestures connecting Kufa to the Sasanian administrative capital, these hypotheses contribute to a more nuanced understanding of the choices made in the homes' construction in this historical context.

An interesting observation about building materials can be made in 'Area 2' of Veh-Ardashir. Here, the Islamic settlement appears to have employed fired bricks, while the Sasanian structures in the same area were constructed using mudbrick (Cavallero 1966; Venco Ricciardi 1973-4: 18). This is confirmed by historical sources, as the late author al-Maqdisi (tr.: 111) described al-Madaʾin as built in fired bricks. This difference in building materials could have been due to new owners wealthier than the former Sasanian ones, or the prevailing influence of what was considered to be elite and stylish. Given the limited information available for other cities, a consistent pattern is challenging to identify and hypothesise. To assert that the use of fired bricks was a characteristic introduced by the conquest, alongside the increased use of wood, is not supported by substantial evidence.

The introduction of more details on architectonic elements in sources is potentially determined by the fact that urbanism and cities were an important part of the process of constructing the conquest narrative. Although not all sources would help assess the change factors due to the absence of details in Sasanian sources, the extracts help ascertain some

glimpses within the conquerors' residences. For instance, 'Saʿd ibn abi Wakkas made a wooden door for his mansion which he surrounded with a fence of reeds' (al-Baladhuri 276 [tr. Hitti 1916: 438]). Another detail is found in al-Tabari's account of an affair. In this case, people managed to observe two lovers through a curtain, serving as a makeshift door (al-Tabari 2529 [tr. Juynboll 1989: 110]). al-Tabari also reports another version of the story:

> 'At the time, both lived in al-Basrah, they were each other's neighbours, with a road separating their houses. Both used to spend time sitting behind their latticed windows opposite one another in their respective houses. Both lattices were fitted with peepholes, the one exactly opposite the other. One day, some people came together in Abu Bakrah's house for a chat at his lattice, when a (sudden) gust of wind opened the peephole. Abu Bakrah stood up in order to close it. Then – the wind having also opened the peephole of the lattice window opposite – he saw al-Mughirah lying between the legs of a woman.' (2530 [tr. Juynboll 1989: 111-2]).

al-Tabari (2530 [tr. Juynboll 1989: 111-2]) thus describes latticed windows, known as *mashrabah*, crafted from woodwork. These windows prevented passers-by from peering inside but allowed those within to see outside, featuring small peepholes. Although al-Baladhuri (345 [tr. Murgotten 1924: 57-9]) also recounts this story, he does not mention the door or the windows. While it is challenging to ascertain whether these windows constitute an anachronism, the translator points out that it is not an implausible scenario (al-Tabari 2530 [tr. Juynboll 1989: 111, n. 379]). In addition to the significance of affairs for leaders' reputations in the early years of the conquest, another detail that can be ascertained from the aforementioned story is the proximity of houses to each other, with windows often situated at corresponding positions in neighbouring houses. Archaeological evidence on windows glass has been excavated Merv, dating to the early Islamic period. This discovery suggests the possible existence of a local glass industry, as the fragile nature of glass would have likely necessitated on-site production (Simpson 2004: 235). The adoption of this technology was likely driven by the winter temperatures in the region, which can drop as low as -7°C. At the current state of knowledge, the evidence is too scarce to assess whether glass and windows were elements introduced after the conquest.

While the archaeological data available for Nishapur pertains to a later chronology and lacks information prior to the 4th AH/10th CE century, some insights into the residential neighbourhood are worth exploring. For instance, many rooms featured fireplaces, typically consisting of a 'raised rectangular curb or molding in the middle of the floor, with a sunken

pot in the centre' (Wilkinson 1986: 223). Additionally, there have been discoveries of sunken storage jars and cellars (Wilkinson 1986: 223, 226). Noteworthy is the presence of *mihrab*, a religious architectural element used to orientate toward Mecca's location, which has been identified near corners in several rooms (Wilkinson 1986: 223). The incorporation of religious spaces into domestic environments is hence archaeologically documented as early as the 4th AH/10th CE century.

The archaeological and historical data concerning domestic spaces during this transitional period in the case study cities is summarised in Table 5:

Table 5. Case study cities and features of the transition (residential spaces):

City	Archaeological or historical data regarding alterations to residential spaces within inherited city following the conquest
Darabgerd	No historical sources mention residential urban spaces on Darabgerd, and no excavations had been carried out within this city.
al-Madaʾin	'al-Saʿd distributed the houses of al-Madaʾin among the people and made them move into them.' (al-Tabari 2451 [tr. Juynboll 1989: 30]). In 'Area 2' of Veh-Ardashir, the Islamic settlement employed fired bricks, while the Sasanian structures in the same area were constructed using mudbrick (Cavallero 1966; Venco Ricciardi 1973-4: 18). **Potential change of status of these domestic spaces.**
Isfahan (former Gayy)	No historical sources mention residential urban spaces on Isfahan, and no excavations had been carried out within this city.
Firuzabad	No historical sources mention residential urban spaces on Firuzabad, and no excavations had been carried out within residential spaces in this city.
Rayy	No historical sources mention residential urban spaces on Rayy, and no excavations had been carried out within residential spaces in this city.
Nishapur	The presence of fireplaces (potentially indicating a new introduction post-conquest?), sunken storage jars, cellars, and *mihrab* (indicating a religious introduction post-conquest) has been noted (Wilkinson 1986: 223, 226). **Archaeological evidence of incorporation of religious spaces into domestic environment.**
Merv	Possible new introduction of glass windows (Simpson 2004: 235; Simpson 2022: 173). **Potential change of status of these domestic spaces.**
Gondeshapur	No historical sources mention residential urban spaces on Gondeshapur, and no excavations had been carried out within residential spaces in this city in this city.
Qasr-i Abu Nasr	No major alterations within the urban spaces noted by the excavators as the settlement shifted from the Sasanian Citadel to the western area.
Istakhr	No historical sources mention residential urban spaces on Istakhr, and no

	excavations had been carried out within residential spaces in this city.
Bishapur	No historical sources mention residential urban spaces on Bishapur, and no excavations had been carried out within residential spaces in this city in this city.

While it is important to approach generalisations cautiously, some conclusions can be drawn from the comparisons of residential spaces in Sasanian times and after the conquest. Regarding residential spaces after the conquest, factors of continuity regarded the use of mudbrick as the main building material, the importance of regional availability, courtyards, and gender division (see chapter 4.3). The insights inferred from historical and archaeological sources suggest a potential shift in architectural details. Those details include potentially wooden and glassed windows and potentially greater utilisation of fired bricks. The changes observed in residential spaces may be attributed to the new technologies' availability or may be a result of chance evidence. Certain changes particularly affected aspects related to the role of construction materials. The reuse of existing settlements or architectural elements, such as doors, suggests a symbolic repurposing. Possibly related to this concept is the new symbolic meaning of courtyards assumed by being connected to Muhammad's house. In garrison cities like Kufa and Basra, where settlements were expected to be more temporary, construction materials often varied accordingly. In this regard, it is important to consider the gradual pace of conversion, which likely accounts for the minimal changes observed in domestic spaces. The impact of the conquest was not immediately reflected within the residences of the conquered population—particularly not within the first two to three centuries following the event.

5.3. Infrastructural spaces – between the spaces

'If you are in disagreement about the width of a street,
Make this of seven cubits.'
Hadith of Muslim

The importance of infrastructures in shaping urban development in Sasanian times had been

previously discussed (see chapter 4.4). The infrastructure's construction was primarily associated with the royal family and occasionally with nobles. Evidence suggested that municipal agencies within cities potentially maintained and regulated water supply networks and damps. With the conquest, little substantial change in infrastructure was identified. Although the significance of water in human settlements is self-evident, with the advent of Islam, water and hence water supply networks assumed a different level of importance due to water's role in the ablutions preceding the five daily *salat* prayers. However, the most substantial and definitive change relates to the increased availability of information on infrastructure following the conquest, which does not necessarily imply a rise in construction. One of the issues, exemplified by Gondeshapur and Darabgerd's cases, is the uncertainty of chronological attribution (see chapter 4.4).

One factor of change could be related to the agency behind the construction and maintenance of water-related infrastructures. For instance, canals that supplied water to the city often fell under the jurisdiction of governors rather than the royal family. This is exemplified by the case of Basra's canals, which were managed by its governors (al-Baladhuri 357-8 [tr. Murgotten 1924: 78-81]). However, there are instances of canals being commissioned by the chiefs of guards (al-Baladhuri 359 [tr. Murgotten 1924: 82]) and even private individuals (al-Baladhuri 360-1 [tr. Murgotten 1924: 84-5]). Although canals on the external area of Kufa which supplied the city are mentioned (al-Tabari 3362 [tr. Hawting 1996: 113]), the responsible agency is not specified. Other historical instances on canals are vaguer and focusing on the supplying rivers. For instance, the city of Isfahan, its outskirts, and the surrounding villages were supplied with water from the Zandarud River (ibn Rusta [tr.: 180]), while most of Nishapur's supplied water 'is from the springs and has been conducted under the earth' (*Hudud al-ʿAlam* [tr.: 102]), and Firuzabad's 'drinking water is derived from a stream, and from clean canals' (al-Maqdisi [tr.: 382]). Archaeological evidence does not shed further light on water supply and their agency. Usually, the evidence cannot be clearly chronologically defined, such as the example of the Istakhr's water wells (Colliva and Rugiadi 2018: 139). This scattered evidence, which mostly does not highlight the construction of new infrastructures except for Basra, suggests the potential continuity of use of Sasanian infrastructures.

Information about streets is also substantially increased in number. According to Hakim (2008: 76), the street system was categorised into two types: open-ended streets, sufficiently wide for two camels to pass, and cul-de-sacs, considered private property under Islamic law. In the early years of Kufa, al-Tabari (2488 [tr. Juynboll 1989: 68)] mentions five main streets known as *manahej*, situated north of the *sahah*, 'the place of the mosque.' These streets were complemented by side streets (9 metres wide) and a network of *zuqaqs*, 'narrow lanes' (3 metres wide) (al-Tabari 2488 [tr. Juynboll 1989: 68]; al-Sayyad 1991: 58). The dwellings of the conquerors were primarily located 'in the space beyond and in between these roads' (al-Tabari 2489 [tr. Juynboll 1989: 70]), suggesting a degree of adherence to the established street grid. al-Baladhuri provides toponyms for lanes in Kufa, such as 'Kukak ʿAmr,' named after a *Bānū*, a lady (al-Baladhuri 276 [tr. Hitti 1916: 436]), hinting at the potential relevance of some women. He mentions, 'There is a path in al-Kufah named after ʿAmirah ibn Shihab' (al-Baladhuri 285 [tr. Hitti 1916: 444]). This information not only potentially suggests the existence of a well-organised infrastructural road system during the first years of the conquest but also suggests a deliberate initiative to identify and assign names to these thoroughfares. This nomenclature might have denoted a certain level of significance or recognition within the community, as evidenced by the practice of naming lanes after individuals. Additionally, a noteworthy reference to infrastructure is found in Mosul, where the city was paved with stone on the orders of ibn Talid, the master of the guard of Muhammad ibn Marwan ibn al-Hakam, who served as the governor of Mosul, Jazira, Armenia, and Azerbaijan (al-Baladhuri 332 [tr. Murgotten 1924: 33]). The available information suggests that during the 2ⁿᵈ AH/8ᵗʰ CE century, Mosul held sufficient importance to warrant an administration interested in developing paved roads as opposed to compacted earth. Paved roads, especially compared to compacted earth, indicate a certain level of sophistication in urban planning and infrastructure management. Furthermore, it implies that municipal decisions may have been executed by guards. The naming of lanes, of which there is no known instance in Sasanian times, indicates the community's effort to identify and designate significance to these roads, potentially related to cultural recognition. In infrastructural spaces, more than in residential, changes in urban planimetry can be observed thanks to the substantial information available on garrison cities, their foundation, and evolution. Cities like Kufa and Basra are vital in identifying the transitional elements, and urban spaces like roads and squares appear to be strictly connected to religious spaces,

which will be analysed in the next section. No archaeological or historical evidence supports the notion of 'decadence' in road infrastructure, confirming the decadent use of 'decadence' as already observed in Roman spaces (see chapter 3.3). The absence of such evidence may be attributed to the limited archaeological information available. However, examining the concept of privatisation of former monumental and public spaces suggests that there is no discernible 'pattern of decadence' in infrastructures, apart from specific regional economic problems (see chapter 3.4).

A potential factor in discontinuity regards the interesting mention of a dump, as reported by al-al-Baladhuri,

> *'Dār ar-Rumiyin was a dunghill where the inhabitants of al-Kufa cast their rubbish and which was taken as fief from Yazid ibn ʿAbd al-Malik by ʿAnbasah ibn Saʿid ibn al-Asi, who removed the soil in it for 150,000 dirhams.'* (281 [tr. Hitti 1916: 442]).

The excerpt alludes to the concepts of leasing and utilising private spaces for public purposes, in this case, waste management. However, it should be noted that there is insufficient evidence pre-conquest to draw a meaningful comparison on this matter.

The archaeological and historical data concerning infrastructural spaces during this transitional period in the case study cities is summarised in Table 6:

Table 6. Case study cities and features of the transition (infrastructural spaces):

City	Archaeological or historical data regarding alterations to infrastructural spaces within inherited city following the conquest
Darabgerd	Morgan's survey (2003) identifies water supply system, potentially reused after the transition. However, the continuity of use might be ascertained with certainty only following excavations. **Potential continuity of use of water system.**
al-Madaʾin	Correlation of taxes and bridges. **Reconstruction of bridges due to destruction during the conquest.**
Isfahan (former Gayy)	Reference to water system (ibn Rusta [tr.: 180]). **Potential continuity of use of water system.**
Firuzabad	Reference to water system (al-Maqdisi [tr.: 382]). **Potential continuity of use of water system.**
Rayy	No historical sources mention residential urban spaces on Rayy, and no excavations had been carried out within infrastructural spaces in this city
Nishapur	Reference to water system (*Hudud al-ʿAlam* [tr.: 102]). **Potential continuity of use of water system.**

Merv	No major alterations noted by the excavators.
Gondeshapur	Adams and Hansen's survey (1968) identifies water supply system, potentially reused after the transition. However, the continuity of use might be ascertained with certainty only following excavations. **Potential continuity of use of water system.**
Qasr-i Abu Nasr	No major alterations within the urban spaces noted by the excavators as the settlement shifted from the Sasanian Citadel to the western area.
Istakhr	No major alterations noted by the excavators. **Potential continuity of use of water system.**
Bishapur	No major alterations noted by the excavators, as Ghirshman was very much more focused on palaces and monumental evidence.

In conclusion, in the early Islamic urban environments, water assumed heightened importance due to its integral role in the ablutions preceding the daily prayers, and a religious significance in the water supply schemes needs to be emphasised. However, the already advanced technology used by Sasanians formed the basis of the new Caliphate infrastructural spaces, and especially in Iraq, there is evidence of continuity for at least one century and a half after the conquest (Simpson 2014: 22). Although some instances of reconstructions are evident in sources, there is substantial evidence of the continued use of water supply infrastructure and its potential expansions only determined by the needs of increased urban growth.

The early Islamic period witnessed the meticulous planning and development of urban infrastructure, including streets and water systems, essential components of flourishing cities in this era. No major change from the late Sasanian period has been found within the known archaeological evidence, so it is reasonable to assume that the urban infrastructure systems were preexisting and were managed and maintained after the conquest, and in some areas, the Sasanian infrastructures formed the basis for improvements and enhancements. The primary factor of change is the increased mention of institutional agencies less connected to the elites, with examples such as chiefs of guards and private individuals acting as driving forces behind the construction. However, these instances mainly regarded Basra and Kufa, newly founded cities that were not provided with former Sasanian infrastructures.

5.4.   Religious spaces

*'The formation of social boundaries along religious lines
in late Sasanian and early Islamic Iraq is an undeniable fact.
The question is what it signifies. (...)'*
Morony 1984: 19.

*'The first Friday prayer ritual held in Iraq was the one held in congregation
In al-Madā'in in Safar of the year 16 (March 637).'*
al-Tabari (2444 [tr. Juynboll 1989: 23]).

*'Ziyad built in honor of Allah an edifice
Of stones; 'twas not made of clay.
If human hands had not labored to raise it,
Verily we should call it a work of the Satans.'*
al-Baladhuri (347 [tr. Murgotten 1924: 62]).

The available data from archaeological and historical evidence show the tolerance between religions, which potentially characterised Sasanian times (see chapter 1.1). Cities were characterised by Jewish and Christian religious spaces, while the urban Zoroastrian spaces were likely connected to Anahid and water rituals. Burials were mostly out of the city walls, mainly for credence purposes. One of the biases associated with the Arab-Muslim conquest is the tendency to attribute Islam as the primary cause and explanation for all changes undergone by conquered cultures, spanning from linguistic alterations to transformations in urban landscapes. This simplifying and reductive perspective fails to acknowledge the multifaceted nature of social and economic changes during this period. While religion undoubtedly played a significant role and acted as a catalyst for transforming all cities and cultures, these changes occurred in conjunction with various other social, economic, and cultural factors. Islam was not the exclusive religion practiced within the Islamic Caliphate. A factor of continuity was the multi-religious scene within urban spaces, with the introduction of Islam as one factor of change. However, Islam brought two important factors of change, which will be explored substantially in this section, together with the concept of repurposing religious spaces. The correlation between masjid/*dār al-ʿimāra* and the Believers'

community, the *umma*, is introduced by Islam. There is only a potential reference to intra-mural burials, not enough to consist of a certain factor of change, but indeed important for further future discussion. In al-Tabari's (3210 [tr. Brockett 1997: 151]) account, one of the key figures in the Battle of the Camel '...died in that ruin [a ruined house of Basra] and was buried in the quarter of Banū Saʿd'. Interestingly, the cemeteries (*jabbanahs*) in Kufa appear to have functioned as communal gathering spaces within each tribal quarter (al-Tabari [tr. Hawting 1996: 138, n. 573]).
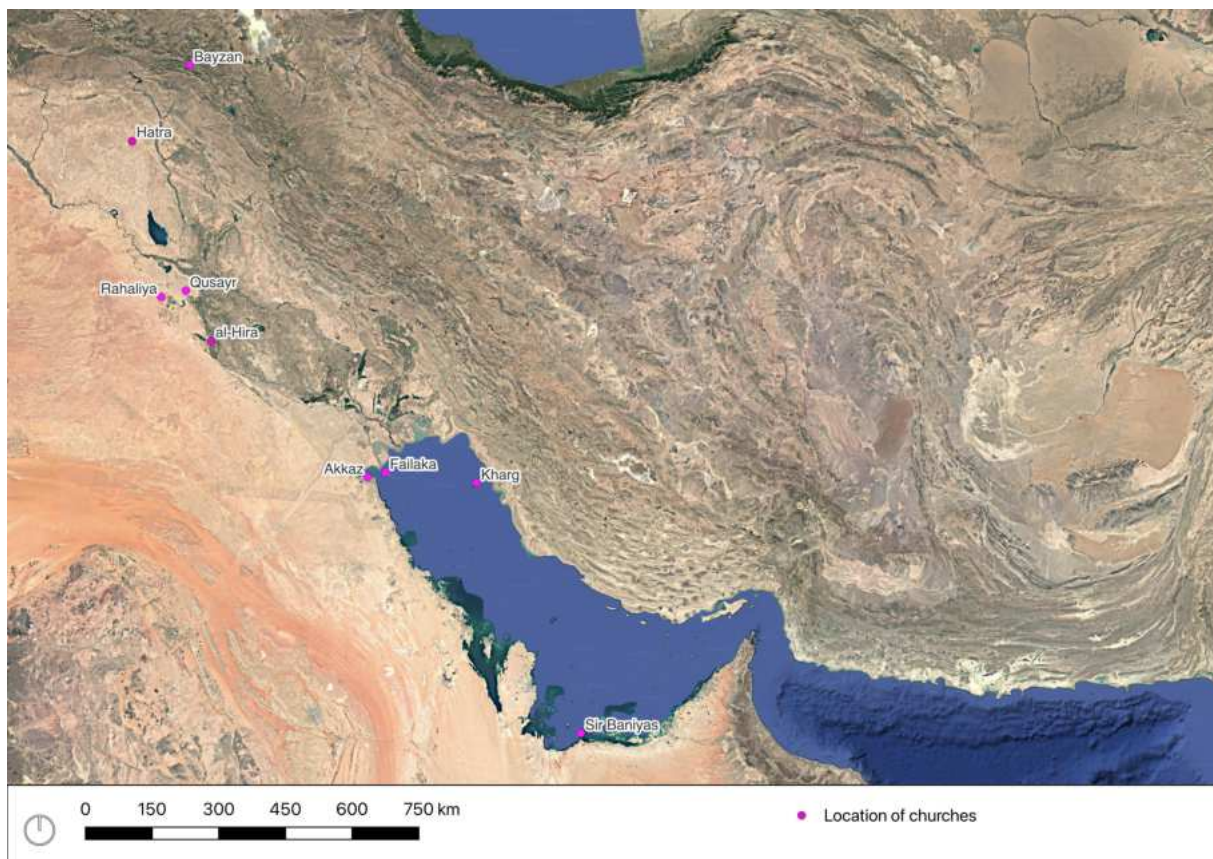
Figure 57. Annotated satellite image by the author showing the location of the churches mentioned in Simpson (2018).

Starting from the multi-religious scene as a factor of continuity, Christian legal sources, such as the *Book of Judgements*, confirm that bishops and Christian landed elites dominated Christian communities in Mesopotamia and Fars because of a status already established during the late Sasanian period (Payne 2014: 5-6). The Sasanian legal codes suggest that laymen possessed slaves for both domestic services and agricultural labour, owned landed properties, had access to cash, and invested capital in trade (Payne 2014: 14). The survival and continuity of these communities were linked to the patrilinear transmission of wealth

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and social status characteristic of Iranian law. The East Syrian Christian elites and sub-elites certainly maintained their lands, status, and estates after the conquest. Archaeological evidence suggests that Christianity continued to leave its mark within the fabric of the Caliphate. New research pushes forward the chronology of many churches (Figure 57) that were initially dated to the Sasanian period to the first centuries following the Arab-Muslim conquest (Simpson 2018: 21). This implies a substantial effort in constructing Christian religious spaces within the Caliphate. However, these changes and the presence of Christianity do not appear to have significantly affected urban cityscapes, as the archaeological evidence for churches discovered thus far places them outside the city walls.

Turning to the other monotheistic religions present in the former Sasanian Empire, the historical and archaeological sources regarding Jewish life are quite scarce and more focused on the coexistence of people believing in different religions rather than on places where they used to live. The scale and location of Jewish religious buildings were potentially not central enough to ensure their survival, suggesting that they were situated more in suburban rather than urban areas. The city of Medina consisted of Arab and Jewish populations, and after the advent of Islam, both were considered among the people of the book *ahl al-kitāb* (see chapter 4). According to Donner (2010: 70), some Jewish and Christian people were considered as belonging to the *umma* among the Believers, given their righteousness. Although the *Talmud* was compiled during the Sasanian era, it continued to be edited during the successive centuries. If significant alterations were made to religious architecture following the Arab-Muslim conquest, such changes would likely have been documented. This scattered evidence points out a continuity of multi-religious coexistence, with no information regarding the religious Jewish spaces within the cities. More information is available on the presence of Zoroastrian buildings. This raises several significant questions regarding the period during which Zoroastrian religious spaces were tolerated, the extent of this tolerance, and how the Zoroastrian cult and spirituality evolved following the conquest. A small clue in al-Maqdisi's work (tr.: 324), as he writes in 741 AH/1340 CE and notes, 'The practices of the Magians are in the open in Fars.' This statement suggests a level of tolerance within Islam towards Zoroastrian religious practices in Fars even after the end of the Abbasid Caliphate. This implies a continuity of religious practices and, hence, of religious spaces in certain regions of Fars. For instance, the *Hudud al-ʿAlam* (tr.: 126) reported the presence of

'two venerated fire temples' in the newly built Shiraz. Also, Zoroastrian continuity is observed in Takht-i Sulaiman (Huff 2002).

Despite Islam's religious tolerance, when the expression 'religious spaces' is mentioned in the context of 'Islamic cities,' the predominant image that comes to mind is that of the mosque or masjid. The statement that an Islamic city is such because of the presence of a mosque is probably related to the perception of the *futuh* narrative, which underlines the relation between the construction of mosques and the 'Islamic identity' of a city. Most of the narrative connects the act of building mosques with the conquest itself, for instance,

> *'According to the account of Abu-Mikhnaf, ʿUthman ibn Abu-l-ʿAsi himself crossed the sea to Fars and landed to Tawwaj, conquered it, built the mosques, made it a dwelling for the Moslems, and settled the ʿAbd al-Kais and other tribes there.'* (al-Baladhuri 386 [tr. Murgotten 1924: 128]).

In this simple extract, the function of Islamisation is embodied by the construction of mosques – i.e., the main requirement for making it 'a dwelling for the Moslems'. Another instance is during the conquest of Sind, when Muhammad ibn al-Khasim conquered Ad-Daibul (c. 92 AH/712 CE), 'marked out a quarter for the Moslems, built a mosque, and settled 4,000 colonists there' (al-Baladhuri 437 [tr. Murgotten 1924: 218]).

It is important to note that the mosque's function extended beyond religious purposes. Moreover, it was often considered a 'hybrid' space, as Ugo Monneret de Villard argued in his posthumous work. Monneret de Villard (1968) emphasised the political significance of the mosque, particularly its connection with the caliphal residence. In the proto-Islamic cityscape, mosques were frequently positioned adjacent to the *dār al-ʿimāra*, which served as the residence of either the central power's representative or the sovereign and thus housed state administrative offices. This architectural relationship was first observed in Kufa, and it then endured for over two centuries and became a widespread feature across Islamised territories (Santi 2018). The correlation between masjid/*dār al-ʿimāra* has been extensively examined by Santi (2018) in her doctoral dissertation, employing three case studies: Medina, Anjar, and Kufa. Among these, the latter two lend themselves more readily to a methodological approach that combines literary sources with archaeological evidence (Santi 2018: 44). An analysis of the buildings constructed in Medina during the early Islamic phase reveals the predominant urban character of this religion. According to Santi's research,

the strategic placement of the masjid played a pivotal role. The previously disjointed city of Medina transformed into a more cohesive urban entity. The Prophet's redefinition of this oasis, guided by new spatial policies aligned with his religious and political authority, made this possible. Additionally, these religious urban spaces assumed a new ritual and congregational significance (Santi 2018: 105). This urbanistic program carried strong symbolic weight, a hallmark of Islam, even though this characteristic became particularly pronounced throughout the Umayyad era (Santi 2018: 117).

The conceptual separation between secular and religious authority, housed in distinct buildings, was not a characteristic of early Islam (Santi 2018: 310). Instead, the masjid served as both a religious and administrative urban space, involving the entire community of Believers (*umma*) in political affairs (Santi 2018: 312). The multifunctional masjid served as both the religious and administrative nucleus of the settlement; hence, urban spaces were reconfigured in relation to the masjid (Santi 2018: 113). The concept of the *dār al-ʿimāra* as an administrative space and the dissolution of the masjid's civic functions occurred with the advent of the Umayyad dynasty (Santi 2018: 312). The amalgamation of administrative and religious authority in the urban life of early Islamic cities is exemplified by the roles of the governors of two key garrison cities in Iraq, Kufa, and Basra. Whether titled *Amir al Basra* or *Amir al-Kufa*, these officials bore responsibilities that encompassed upholding the law through shariʿa's (system of principles and rules) implementation, tax administration, treasury management, religious leadership, including leading public prayers and delivering sermons and organising the hajj pilgrimage (al-Sayyad 1991: 66). They also held judicial authority, a role that endured until caliph ʿUmar introduced the position of qadi, or judge (al-Sayyad 1991: 68). On at least one occasion, Kufa's governor al-Hajjaj distributed stipends within the masjid in Kufa in 75 AH/694 CE (Morony 1984: 60-1). It is imperative to recognise the role of the masjid as assembly places where tribal councils (majlis) persisted, now infused with a religious component (Morony 1984: 83). This non-religious facet is pivotal as it attests that the function of the masjid transcended religious purposes (Morony 1984: 432, 503). This not-sanctified feature, even though somehow similar to synagogues' functions, is indeed a unicum (Morony 1984: 432, 503). Together with the evolving urban character of mosques, this acquired new meaning of religious spaces contributed to shaping a new cityscape that evolved following the Arab-Muslim conquest.

By examining the first mosques' history and their evolution, an insightful understanding of the dynamics between religious spaces and societal changes can be inferred. At the time of the conquest, pre-existing places of worship were not employed for Islamic rituals (Morony 1984: 432). The first mosque was established in Iraq in 16 AH/637 CE, following the conquest of the administrative capital. al-Saʿd installed a minbar (pulpit) in the White Hall of Ctesiphon's palace, symbolising the transition of power (al-Tabari 2441, 2443 [tr: Juynboll 1989: 21, 23]; Morony 1984: 432). al-Baladhuri (289 [tr. Hitti 1916: 449]) briefly mentions that al-Saʿd and his companions constructed the first *masjid-i jami* in al-Madaʾin, possibly referring to this repurposing rather than construction *ex novo*. On the other hand, the earliest mosque in Basra was an open space situated at the city's centre, enclosed by a reed fence, which was later replaced with mud brick three years after its establishment (c. 17 AH/638 CE) (Morony 1984: 74). It is also conceivable to deduce the significance of infrastructure spaces, such as roads and open areas, in the establishment of urban planning around the mosques.

According to our primary literary source on the conquest, al-Tabari (2488-9 [tr: Juynboll 1989: 69]), the earliest record of a mosque's construction in Kufa dates to the establishment of the city itself, where the masjid initially comprised a reed roof structure devoid of walls, designed to accommodate congregants without overcrowding. Following the Battle of the Camel (c. 35 AH/656 CE),

> *''Ali ordered the remaining possessions in the camp to be transported to the mosque in Basra, where the rightful owners could reclaim their lost items.'* (al-Tabari 3223 [tr. Brockett 1997: 151]).

This episode underscores the significance of the mosque within the *umma* and demonstrates the multifaceted functions that mosques served during ʿAli's Caliphate. Notably, during the initial stages of the *Fitna*, announcements of the deaths of adversaries were made from the minbar within the mosque (al-Tabari 3411 [tr. Hawting 1996: 163]), further emphasising the pragmatic role of the mosque within this military and social context. From these first attestations, it becomes evident that as the 1st AH/7th CE century progressed, congregational mosques underwent significant transformations, evolving into monumental structures that adopted traditional architectural features such as the *maqṣūra*, minaret, and mihrab (Morony 1984: 433). The most peculiar structural modification in the architectural fabric of

Basra's Mosque was motivated by pragmatic reasons as,

> *'Pebbles were spread in this mosque [Kufa's] and in that of al-Basrah, because when people prayed their hands were covered with dust, which they used to remove by clapping their hands. This made Ziyad say, "I am afraid that in course of time, the clapping of hands will be taken for a part of the religious ceremony."'* (al-Baladhuri 277 [tr. Hitti 1916: 436-7]).

The first mosque built in Gayy/Isfahan was called 'Khushainan.' It was attributed to a possible directive of Abu Musa, although the precise chronology and location remain undetermined (ibn Rusta [tr.: 234]). Historical sources, as reported by Duva (2015: 43), establish a connection between the Gayy mosque and a structure called 'the home of the *kharaj* tax.' This linkage underscores another instance wherein the religious role of mosques is tied to the economic function of managing the financial aspects associated with the administration of the extensive newly conquered territories. At the same time, it was also linked with tradition, as the Islamic basic plans of the masjid were based on Muhammad's house (Kleiss 2015: 160).

The subject of religious repurposing during the early Islamic period is also vital for understanding the factors of change. Numerous existing structures of religious and secular nature underwent conversions into mosques. This practice, including the transformation of *chahār-ṭāq*, was especially prominent in smaller towns where mosques needed to accommodate larger congregations (O'Kane and Huff 1990: 634-6). At the time of the conquest, pre-existing places of worship in cities were generally not repurposed for Islamic religious practices (Morony 1984: 432). While the destruction of fire temples was not uncommon, exemplified by Ziyad appointing ʿUbaydullah ibn Abi Bakra to dismantle them and seize their wealth, there are also instances of peaceful coexistence between religions (Morony 1984: 257). Under ʿUthman's rule, the Fars governor Abu Ubaidah Ibn ʿAmir appointed Sharik ibn al-Aʿwar as his deputy in Istakhr, where he initiated the construction of a masjid (al-Tabari 2884 [tr. Humphreys 1990: 90]). The Iranian-Italian mission in 2012 conducted excavations on ruins believed to be associated with the mosque after re-examining literary sources, European travellers' descriptions, and recent scholarship (ed. Fontana 2018). Di Cesare and Ebanista (2018: 272) concluded that 'a definitive interpretation of the excavated structures and the identification of their use is still a long way off.' Although a mosque certainly existed within the walls, it remains unclear whether this building was

constructed entirely anew or if it was a former fire temple that underwent conversion. Thus, the process of appropriation, achieved by converting pre-existing structures in the regions analysed in this dissertation, whether religious or secular, into mosques, is well-documented later on. Several years after the conquest, the practice of appropriating religious buildings from earlier religions became commonplace (al-Sayyad 1990: 156). Notably, al-Baladhuri's account reports that,

> *'The cathedral mosque in al-Kufa was built with material taken from the ruins of the castles in al-Hirah that belonged to the al-Mundhir clan, the price of that material constituting a part of the tax paid by the people of al-Hirah.'* (286 [tr. Hitti 1916: 444]).

This extract indicates that local communities were often not inclined to preserve remnants of the past. Interestingly, the process of appropriation involved the same Islamic spaces, for instance, the 1st AH/7th CE century *dār al-ʿimāra* found in Bishapur was later altered and used as a mosque (Mehryar 1999).

An aspect of appropriation discernible during the transition is the incorporation of some Sasanian dynasty characters into religious legends. This is the case of Shahrbānū, the daughter of Yazdgerd III, who allegedly married Husayn, the prophet's grandson. The tombs of her descendants became a sacred place in Shiraz (Aigle 2018: 148). The creation of this legend can be interpreted at various levels. Firstly, it is possible to discern the intention to sacralise the Fars province by merging Sasanian and Islamic values. Zoroastrian presence was stronger in Fars than in other places even after the conquest, and this element is crucial for this interpretation (Daryaee 2003). Secondly, the legend may echo the dynasty's sacred nature. The previous ruling power was perceived as inherently holy. The appropriation of Sasan's descendants as religious figures embodies the shift of power by employing the same symbols. This parallels what al-Saʿd achieved by utilising the White Hall to foster communal prayer, thereby transferring the dimension of sacredness from the Sasan House to the act of praying itself.

The archaeological and historical data concerning religious spaces during this transitional period in the case study cities is summarised in Table 7:

Table 7. Case study cities and features of the transition (religious spaces):

City	Archaeological or historical data regarding alterations to religious spaces within inherited cities following the conquest
Darabgerd	No religious space was mentioned and/or excavated, to the best of the author's knowledge.
al-Madaʾin	al-Baladhuri (289 [tr. Hitti 1916: 449]) mentions that al-Saʿd and his companions constructed the first *masjid-i jami* in al-Madaʾin. al-Saʿd installed a minbar in the Ivān-i Khosrow, symbolising the transition of power (al-Tabari 2441, 2443 [tr: Juynboll 1989: 21, 23]; Morony 1984: 432). **Potentially, the symbolic role of Sasanian dynasty transferred to its places.**
Isfahan (former Gayy)	The first mosque built in Isfahan was called Khushainan. It was attributed to possibly directive of Abu Musa although the precise chronology and location remain undetermined (ibn Rusta [tr.: 234]). Historical sources, as reported by Duva (2015: 43), establish a connection between the Gayy mosque and 'the home of the *kharaj* tax'. **Religious role of mosques tied to the economic function.**
Firuzabad	Construction of much later shrines within the city walls (Rossi 2016). Confusion around Zoroastrian places, as Ardashir's palace was known as *ātashkada.* **Potentially, the symbolic role of Sasanian dynasty transferred to its places.**
Rayy	No religious space was mentioned and/or excavated, to the best of the author's knowledge.
Nishapur	No religious space was mentioned and/or excavated, to the best of the author's knowledge.
Merv	Masjid 'Beni Makhan' built in the 5th-6th AH/11th-12th CE century.
Gondeshapur	No religious space was mentioned and/or excavated, to the best of the author's knowledge.
Qasr-i Abu Nasr	No major alterations within the urban spaces noted by the excavators as the settlement shifted from the Sasanian Citadel to the western area. Mosque built in Shiraz (**potential indicator of the shifting of importance to this newly built city**).
Istakhr	There was certainly a mosque within the walls; however, it is not clear if the building was built *ex-novo.*
Bishapur	'There are two fire-temples in it to which people go in pilgrimage' (*Hudud al-ʿAlam* [tr.: 128]). Conversion of the Palace (temple?) in masjid (Ghirshman 1971: 17). **Potentially, the symbolic role of Sasanian dynasty transferred to its places.**

To sum up, the reasons behind mosques' construction can be categorised into two typologies. The first one is that of the building *ex-novo*, a process started with the conquest itself to answer to the social need of having a place to congregate and pray. At first, the

building material was simple and temporary, e.g., reeds. Little by little, as the conquest proceeded, it was possible to observe the shift to a more permanent material. All these constructions are within an urban environment and typical of garrison cities, as previously analysed (see chapter 3.4). The second typology lies within the appropriation and repurposing processes finalised by converting pre-existing structures. The use of secular buildings was due to practical reasons, but potentially to a symbolic one as well. The first converted building, the Great Hall of the Ctesiphon's palace, was likely chosen for two primary pragmatic reasons. Firstly, its strategic position within the headquarters' encampment, i.e., the White Palace. The second pragmatic consideration was the size of the Great Hall (43.50 metres deep by 25.50 metres wide) (Keall 1987: 155-9), possibly the only place capable of accommodating most of the Arab-Muslim army. It could also be argued that the probable good acoustic of the imponent parabolic vault was optimal for the call to prayer. On the other hand, the occupation of the former Sasanian dynasty residence potentially served as a symbolic act. Mainly, converted structures of the former Sasanian religion were located in rural settings, and thus, much of the religiously converted spaces lie beyond the scope of this dissertation.

Drawing from al-Sayyad's insightful work, two key conclusions emerge from the analysis of Islamic urban spaces. Firstly, a substantial surge in urbanisation characterised the territories of the *dār al-Islam* for nearly three centuries (al-Sayyad 1991: 3-4). Secondly, all cities initially possessed only one mosque in the early stages of their existence under the new regime (al-Sayyad 1991: 154) – although, according to the scholar, this religious element did not invariably occupy the central and vital hub of the city (al-Sayyad 1991: 4-5). Therefore, mosques and the increased urbanisation represent major transformations brought about by the Arab-Muslim conquest. The role played by urban religious spaces in the surge of urbanisation has often been conflated with the urbanisation process itself due to their intricate interconnection.

Most religious Sasanian buildings were outside the city walls, and hence, most of the repurposed mosques were located in rural settings. The Arab-Muslim conquest brought progressive urbanisation and abandonment of rural settlements. A change in society might explain this process, with the establishment of conquerors' new social classes. This new

society, consisting of the conquerors and the former inhabitants of the Sasanian Empire, needed a new urban pole. The rural dimension of monumental religious Sasanian buildings seems to have been related to the religious hierarchy and the aristocratic families. Hence, an important feature in the social change consisted of the loss of power of the rural aristocratic families who refused to convert. However, the social change was not limited to the rural aristocracy's loss of power. Another factor was the arrival of soldiers from Arabia during the conquest and their settlement in newly founded garrison cities. The soldiers needed supplies and items for their new houses. This contributed to a new trade development, which was boosted due to the increased extension of the territory ruled by the Caliphs. The increased flow of goods and money enriched the urban markets. The religious spaces were mainly located in intramural buildings, not only because of a possible will to distance from the rural dimension of fire temples but also because of this new urbanisation process. Mosques were built *ex novo* in newly founded settlements and former Sasanian cities because their raison d'être was connected to the urban environment.

Not surprisingly, the mosques kept a duality of secular and sacred functions thanks to their physical closeness to the *dār al-ʿimāra* (Morony 1984: 74). This double function was also due to the closeness of tribal council and religion, and immediately after the Arab-Muslim conquest the *futuh* narrative appears to concentrate in the institutional role of the mosques, as Ziyad judged people at one of the gates of Kufa's mosque, and he and other governors used the masjid to hold majlis, tribal councils (Morony 1984: 84-5).

In conclusion, the Islamic identity of cities and settlements has been frequently associated with mosques by Islamic sources themselves. The current knowledge on the location of fire temples within the city walls is scarce - although the absence of evidence does not mean no evidence. However, possibly the main significant change brought about by the conquest was the relocation of religious spaces from rural to urban settings. These religious urban spaces assumed a new ritual and congregational significance, hence multifunctionality, which fulfilled and represented a change within the context of an 'Islamic identity.' The community of Believers, the *umma,* became a new social force that increasingly shaped urban spaces not only for religious purposes but also congregational. The motivations behind both the

construction of new mosques and the conversion of former administrative and religious buildings often seem to carry symbolic significance yet are consistently secondary to practical considerations. However, it should be noted that this topic encompasses a broader scope and warrants further investigation and analysis. Incorporating case studies from other cities or settlements—such as Bukhara, Balkh, and Takht-i Sulaiman —would serve to enhance and nuance the discussion.

5.5. Industrial spaces

It was assessed in this dissertation that even if the location of Sasanian urban industrial activities cannot always be found, valuable insights are provided by the material culture and its analysis (see chapter 4.6). Neighbourhoods and marketplaces featured concentrations of craftsmen, and industrial spaces showed a correlation with commercial and residential spaces. Practices evidenced in Sasanian cities are also the hereditary transmission of craftsmanship within families and multi-skilled artisans. The challenge of evaluating and distinguishing material culture between the late Sasanian and early Islamic periods has already been acknowledged (see chapter 1.2). Despite this difficulty, assessing the extent of continuity and changes in various other instances is possible. Most material culture can be categorised as an indicator of continuity because it underwent minimal alteration until the end of the Umayyad dynasty. The multi-specialisation seems to continue during the transition year, as reported by al-Tabari when he mentions the meeting of ʿUmar, before his assassination, with the young Christian slave who is 'a carpenter, stone mason, and smith' (2722 [tr. Rex Smith 1994: 90]).

Before analysing the continuity factors, archaeological evidence of notable significance consists of the mill and millstones (Figure 50-Figure 51) near the Tīrbal of Ardashir-Xwarrah, as recorded by the author during a survey of the city (Rossi 2016). This evidence of mill production stands as the sole documented instance of such an industrial structure within the boundaries of a Sasanian city in Fars so far. While their dating remains currently undetermined, the preservation and construction technique suggests a post-conquest origin and potential evidence of change after the conquest. Another archaeological piece of

evidence, this one found in Merv, needs to be promised (Figure 25). Within 'Area 4', a steel workshop constructed with wood and mudbrick was unearthed. The discovery included two circular sunken furnaces and associated industrial refuse pits (Herrmann and Kurbansakhatov 1995: 32). The excavators propose that pyro-industrial activities, which were previously limited to areas beyond the walls during the Sasanian period, appear to have potentially shifted within the citadel following the Arab-Muslim conquest (Herrmann *et al.* 1993: 43; Simpson 2014: 19). Although the production of crucible steel is reliably dated to the early 3rd AH/9th CE century, a transformation in urban spaces cannot be ascertained for certain as the prospect of a pre-existing Sasanian industry cannot be entirely ruled out (Simpson 2014: 19).

As mentioned previously, most of the gathered information on material culture suggests a substantial continuity. This is the case of metal-working. The minting industry has been included in this section for practical reasons—both due to its relevance to the previous chapter 4.6 and because the operation of mints relies on a consistent supply of refined metal and requires the establishment of industrial facilities, such as furnaces and metallurgical workshops. These installations are considered industrial in nature, even when they are associated with palatial or religious contexts. Minting coins, which constituted one of the financial responsibilities of early Islamic governors (Morony 1984: 38). The imitation of Sasanian coins is attested in the eastern religions, as the rulers used Parviz's coins occasionally replacing his name with that of the governors and incorporated the date in the era of the hijra (Morony 1984: 39, 45). al-Baladhuri reported that when al-Hajjaj became governor of Iraq (75 AH/694 CE), he made use of the Sasanian mint (Morony 1984: 47). The element of continuity also involved the raw metals, as silver mines were attested in Isfahan, reportedly exploited up to the Islamic era (ibn Rusta [tr.: 181]) and Istakhr (*Hudud al-ʿAlam* [tr.: 126]). The *Hudud al-ʿAlam* (tr.: 102) mentioned the trade from Nishapur of gold mines, silver mines, gems (especially turquoises), and horses. This suggests that Nishapur, and by extension potentially Khorasan, held significance as a source for these metals, which was also true during Sasanian times.

The close connection of industrial and commercial urban spaces is a constant element even after the fall of the Umayyad dynasty. Even though the Abbasid dynasty is out of the scope of this dissertation, the relevant information is used to illustrate that this connection was still in

place after the conquest and beyond. In Basra, the coppersmiths, cup-makers, and glass vendors and makers were in the Great Suq on the Bilal canal (Simpson 2019c: 41). The *Ahsan al-Taqasim fi Maʿrifat al-Aqalim* written by al-Maqdisi in the 4th AH/10th CE century mentions that Mosul had, among its main roads:

> *'al-Jassāsīn (the sellers of gypsum), al jassāsa* (the gypsum quarry), *the road of the Millstone of the Amir al-Muʾminīn, of al-Dabbāghīn (the tanners).'* (al-Maqdisi [tr.: 127]).

Given the limited archaeological and industrial information available on changes in industrial spaces, Table 8 compiles a list of products typical of the cities examined by two contemporaneous sources, the *Hudud al-ʿAlam* and al-Maqdisi. Several conclusions can be drawn from these lists. The first pertains to methodological considerations, previously discussed, highlighting the more detailed description provided by al-Maqdisi, who distinguishes between productivity and trades (see chapter 2.4). The second conclusion relates to the nature of the goods produced and traded from these cities, predominantly involving food items, and only textiles can be categorised as 'industrial items.' Food items may not be easily discerned through archaeological evidence, and since there is no equivalent list available for the Sasanian period, the table does not serve as a suitable criterion for comparison but rather provides a snapshot of daily life within these cities after the transition.

Table 8. Excursus - Productivity and Trades in the cities studied as mentioned in the sources:

City	*Hudud al-ʿAlam* by **Anonymous** (372 AH/982 CE)	*Ahsan al-Taqasim fi Maʿrifat al-Aqalim* by **al-Maqdisi** (375 AH/985 CE) who does differentiate between productivity and **trade** (in bold)
Shiraz	• Sweet basil called *sūsan*	• **Date palms, walnuts, almonds** • **Citrus, olives** • **Bitumen** • **Cloaks, silk fabrics, rugs, cloths, garments, draperies**
Istakhr	• Apples half sour half sweet • Iron[42] and silver mines (surroundings)	• **Rice, food stuffs**

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[42] Also, in Yaqut ar-Rumi (tr.: 50).

Gūr	• *Jūri*[43] (rose water) • Palm-blossom water (*ab-i tal'*) • Santoline-water	• Blossoms • Fruits • **Rose water** • **Clothing**
Bishapur	Not mentioned	• Olives, citrus • **Ten oils (violet, water lily, narcissus, palm oil, lily of the valley, iris, myrtle, marjoram, citron, bitter orange)** – to far away • **Walnuts, olive oil, sugar cane** – to the metropolis • **Boots made of sarcocolla gum**
Darabgerd	• Bitumen • Mountains of salt of different colours	• Dates, bitumen • **Cloth, mats, carpets, needlework, curtains** • **Aromatic seeds, dates, syrup, jasmine**
Isfahan	• Silk textiles of different kinds	• Cloaks, padlocks • Salted meat, dairy products
Rayy	• Cotton stuffs, Cloaks • China • Oil • Wine	• **Garments, cloth, cotton** • **Large bowls** • **Large needles** • **Combs** • Plums, watermelons
Basra	• Shoes • Apron • Linen and cotton stuffs	• Silk and linens • Pearls and gems, antimony • Cinnamon, Verdigris • **Dates, henna** • **Silk** • **Essence of violet** • **Rosewater**
Kufa	Not mentioned	• Turbans of silk • Essence of dates and violet
Gondeshapur	Not mentioned	• Pickles • Confections • **Sugar**
Nishapur	• Textiles, silk, and cotton	Not mentioned
Merv	• Good cotton, textiles of silk • Root of asafoetida, vinegar, condiments	Not mentioned

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[43] Yaqut ar-Rumi (tr.: 176) mentioned just the typology of roses.

In summary, we can identify that the urban centres in the early Islamic period witnessed a diverse array of specialised craftsmanship and industrial activities, contributing significantly to the economic vibrancy and functionality of the Caliphate's cities. Notably, the practice of multiple specialisations continued during the transitional period, and there is also evidence of the continuity of use of Sasanian mints, coins, and mines. The close relationship between industrial and commercial urban spaces represents another noteworthy element of continuity. An element of discontinuity is potentially the agency of minting, as the Sasanian evidence suggests a more centralised agency. However, there is not enough information on the Sasanian aristocracy and their agency to be conclusive in this regard. Evidence of industrial activities within cities is documented in Merv in the form of iron forging and crucible steel production since at least the Abbasid period.

Overall, the urban landscapes of early Islamic cities were characterised by a rich tapestry of specialised crafts and industries that significantly contributed to their economic prosperity and development. However, it is crucial to acknowledge that the available archaeological and historical data predominantly focus on later periods. This may suggest a stronger continuity within industrial spaces, and it could also be attributed to a lack of information from earlier periods.

5.6. Commercial spaces

> *'Markets are to follow the tradition of mosques:*
> *whoever proceeds to a space,*
> *That space becomes his until he leaves it to home*
> *or finishes what he is selling.'*
> Words allegedly pronounced by ʿUmar according
> to al-Tabari (2491 [tr. Juynboll 1989: 71]).

Trade within the Sasanian territories was characterised by the exchange of various goods, potentially including slaves (see chapter 4.7). Historical sources highlight the connection

between commerce and religious spaces, while archaeological findings suggest cityscapes featuring closely associated commercial and industrial spaces, and in the case of Veh-Ardashir residential spaces as well. Establishing traders' religious identity as not belonging to the Zoroastrian faith was challenging. Overseas and long-distance trade likely operated as a 'nodal trade network' rather than involving caravans traveling entire routes from start to finish. Considering if and how these aspects typical of Sasanian cities changed in Islamic cities, it is essential to move beyond the stereotypical Orientalist imagery of bustling markets filled with spices, colourful rugs, and a cacophony of sounds, as critiqued by Edward Said (1978) in his seminal work, *Orientalism*. Instead, crucial is the exploration of how trade influenced the spatial organisation of these urban environments and their evolution over time. Some practical elements of commerce and trade recurred after the transition. Features of continuity were the connections with industrial spaces (chapter 5.5) and the occurrence of seasonal markets documented in the Sasanian sources in conjunction with religious celebrations (see chapter 4.7). Such seasonal markets in al-Madaʾin are potentially inferred by historical sources; for instance, the mention that the people of al-Hira allegedly said to al-Muthanna:

> *'Near us there is a town in which a great market takes place once every month and the merchants of Persia, Ahwaz, and other countries go there. (..) They meant the market of Baghdad (…)'* (al-Dinawari [tr. 121-2]).

However, similarly to what resulted from the analysis of the religious spaces (see chapter 5.4), the conquest introduced new factors in commercial spaces. This is exemplified by the suq's importance during the earliest stages of the Rashidun Caliphate: the conquest itself. During the Arab-Muslim conquest, the markets' pivotal role was due to their double function, serving as sources of booty and as a means to disrupt the flow of goods and money within the empire. For instance,

> *'someone pointed out to him [Khalid ibn al-Walid] a market above al-Anbar in which the Kalb, Bakr ibn-Waʾil and other from the tribe of Kudaʾah used to meet. Khalid despatched against this place al-Muthanna ibn-Harithah who made a raid against it, carried as booty what there was in it, slaughtered and took captives.'* (al-Baladhuri 246 [tr. Hitti 1916: 395]).

Moreover, the economic significance of commerce during the conquest and its immediate aftermath played a decisive role in the construction of suq within garrison cities, paralleling

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the importance given to building mosques. The earliest suq in Kufa was situated in the *Sahah*, the square outside the mosque, and it is reported that,

> *'there was nothing there but the mosque, the citadel, and the markets, which were devoid of buildings or even markings (for buildings).'* (al-Tabari 2491 [tr. Juynboll 1989: 71]; al-Sayyad 1991: 58).

A substantial, albeit not comprehensive, reconstruction of Kufa's earliest suq is enhanced by al-Yaʾaqubi (tr. Juynboll 1861: 95), who mentions that the sellers erected daily temporary shades. From this snapshot of the early commercial spaces, over time, Kufa substantially changed. Its importance related to its economic role in the Caliphate grows increasingly as al-Maqdisi, at the end of the 4th AH/10th CE century, will describe it as a city,

> *'with lofty buildings, very fine markets, and an abundance of supplies: it is a well-populated, prosperous place (…) at one time it was as great as Baghdad.'* (tr.: 106).

Basra, on the other hand, became the largest city in the Ard Maisan region soon after the Arab-Muslim conquest. The commercial significance of the city is related to overseas trade, and it increased and focalised over the urban centre despite the presence of several market towns in its hinterland – Amara, Suq ash-Shuyukh, Qal'at Salih, and Qurna (Simpson 2019c: 36). The economic importance of the region is confirmed by the narrative around the conquest of the former Sasanian Ubulla as,

> *'ʿUtbah ibn Ghazwan assailed al-Ubullah and took it by storm and wrote to 'Umar to tell him about it, informing him that al-Ubullah was the port to al-Bahrein, 'Uman, al Hind [India], and as-Sin [China] (…).'* (al-Baladhuri 341 [tr.: Murgotten 1924: 53]).

The likely reason for the foundation of Basra was thus economic and related to overseas trade. Not surprisingly, its location is 45 kilometres south of another famous port of antiquity, Charax Spasinou, which was abandoned in the 3rd AH/9th CE century due to consistent flooding. Other, more pragmatic reasons for Basra's foundation were contemplated. According to the *futuh* narrative, when learning about the advantages of Basra's region, 'Umar commented, 'This land is verdant, near to watering and grazing places and fire-wood' (al-Baladhuri 346 [tr. Murgotten 1924: 60]). Regardless of the initial motive behind the establishment of Basra, its role in overseas trade quickly burgeoned. The presence of numerous bazaars proved Basra's economic role in the region of Ard Maisan (Simpson 2019c: 41). A pottery suq was placed in the southeast corner of the city, near a fish market by the Sayhan canal, while the Suq al-Mirbad included vendors of camel halters,

sheep, bird, fat and perfumes and drugs (Simpson 2019c: 41). Among the items traded here, al-Masʿudhi, in his *Muruj al-Dhahab wa Maʿadin al-Jawahir* (tr. Barbier de Meynard and de Courteille: vol. III, 12), mentioned the trade of teak wood from the rest of Iraq and Egypt.

Trade and trade routes were part of the 'circulatory system' of the Caliphate, with the movement of goods keeping the empire's economy alive. The degree of local commerce and long-distance and overseas trade has been and will be further discussed within this dissertation. A capillary scale road system connected all the major metropolises and the minor towns down to the little villages and settlements, enhanced by a system of caravanserais and inns. The increasing presence of similar structures consists of evidence for the increase of long-distance trade and allows the identification of urban commercial prominences. For instance, the constructions of hotels in Kufa and Basra by Obeid Allah et Teimi and Zobeir ibn Awwam were mentioned by al-Masʿudhi (tr. Barbier de Meynard and de Courteille: vol. IV, 253-4). The essential relevance of trade and commerce within the Caliphate was summarised with the following proverbial expression: 'They came to trade with you or to rule you' (al-Maqdisi [tr.: 90]).

Two instances of potential growth of local and long-distance trade in case-study cities are exemplified by Nishapur and Ardashir Xwarrah. In Nishapur, cotton processing was carried out in the countryside (Bulliet 2009). According to Bulliet (2009) demand for this textile was driven by Arabs' preference for cotton over silk. This 'cotton boom' was inferred by this scholar thanks to a place-name analysis, tax data, and the increase of cotton-related tradenames in biographical dictionaries (Bulliet 2009: 42-68). Hence, he attributed the increase in cotton trade in the Nishapur area and Nishapur's urban growth to the increased importance of cotton. Although more research on this topic is needed, it is true that the commercial importance of this city was due to Khorasan's strategic position within long-distance trade, and its industrial remarkability was related to the presence of many important raw materials (see previous section 5.5).

Following the Arab-Muslim conquest, Gur, as Ardashir-Xwarrah became known after the conquest, underwent this renaming attributed to the exportation of *gūri* rose water (*Hudud al-ʿAlam* [tr.: 127]). The prominence of this distinctive essence was so pronounced that the city underwent a name change, emphasising once more the significance of trade within the

Caliphate. Unfortunately, little is known about the cultivation of the roses or the eventual impact of this cultivation and trade over urban spaces. Surely, from historical sources, it is possible to infer the diminished importance of Firuzabad/Gur compared to its role in the Sasanian period, with Siraf taking over this role (see chapter 3.5). It is suggested that the roses' cultivation and commerce alone did not contribute to the urban evolution of this city. By comparing this case to Nishapur's, it is inferred that Ardashir-Xwarrah was in a less strategic position.

The archaeological and historical data concerning commercial spaces during this transitional period in the case study cities is summarised in Table 9:

Table 9. Case study cities and features of the transition (commercial spaces):

City	Archaeological or historical data regarding alterations to commercial spaces within inherited cities following the conquest
Darabgerd	No commercial space was mentioned and/or excavated, to the best of the author's knowledge.
al-Madaʾin	Seasonal market potentially mentioned (al-Dinawari [tr.: 121-2]). There appears to be a shift in commercial focus, starting with Basra and Kufa before extending to Baghdad. **Economic and commercial factors may be implicated in the transformation of a city into a town**.
Isfahan (former Gayy)	Development of the city becoming a metropolis, due also to intensification of trades. **Economic and commercial elements involved within the evolution of a metropolis.**
Firuzabad	Ardashir-Xwarrah was known as Gur after the Arab-Muslim conquest. It was renamed as such for the exportation of the *gūri* rose water (*Hudud al-ʿAlam* [tr.: 127]).
Rayy	Development of the city, becoming a metropolis, due also to intensification of trades. **Economic and commercial elements involved within the evolution of a metropolis.**
Nishapur	Development of the city, becoming a metropolis, due also to intensification of trades. **Economic and commercial elements involved within the evolution of a metropolis.**
Merv	Crucible steel production inside the walls found – Sasanian antecedents found in norther Iran (Simpson 2008: 252).
Gondeshapur	No commercial space was mentioned and/or excavated, to the best of the author's knowledge.
Qasr-i Abu Nasr	There appears to be a shift in commercial focus to Shiraz. **Economic and**

	commercial factors may be implicated in the transformation of a city into a town.
Istakhr	No commercial space was mentioned and/or excavated, to the best of the author's knowledge.
Bishapur	Modest habitation and artisan shops covering the central monument of Bishapur (Ghirshman 1971: 35).

Commerce and trade substantially changed after the Arab-Muslim conquest, both in terms of impact on urban spaces and regional predominance, which will be further explored (chapter 6). However, it should be noted that there is no concrete evidence for transformation within individual cities—only indications of broader systemic change. The importance of commercial spaces is exemplified by their role as depicted in the newly founded Kufa and Basra. This section also identified two main changing factors influencing overseas and long-distance trade, which were the enlarged extent of the Caliphate and the absence of the Sasanian law regarding the loss of trade items covered by the merchants without benefiting from any insurance (chapter 4.7).

However, some practical elements recurred after the transition. Aspects of continuity in commercial spaces after the conquest are evident in the seasonal markets' existence and the linkages between industrial and commercial spaces, previously examined (see chapter 5.5). Similarly to what happened in Sasanian time, trade routes potentially consisted of a potential 'nodal trade network,' which was enhanced with the construction of inns and other infrastructures.

5.7. Institutional spaces

The available data on the Sasanian elite and their residences, used as administrative spaces, suggests their association predominantly with rural areas (see chapter 4.8). Policing was linked to the army and, therefore, potentially to the central power and the elite. Historical evidence mentions the urban presence of prisons and other institutions, such as municipal assemblies and law courts, with limited clarity on their exact functions and the extent of executive power. Law courts and educational spaces were, to some extent, connected with

the different religious communities.

The comparison of spaces related to power before and after the conquest must be introduced by a reflection on the Sasanian state of power to further frame the evidence. Although the post-conquest narrative strongly suggests a profound shift from the Sasanian centralisation, the mythification process initiated by the Sasanian dynasty and perpetuated even after its fall must be considered. As previously discussed (see chapter 1.1), the dominance of aristocratic families was so pronounced that the Sasanian Empire, in essence, might have been politically and economically more akin to a confederation than a centralised empire. This political and economic role made the elite a powerful social force primarily located outside the city walls (see chapter 4.8). This location could be attributed to their residences' defensive role as strongholds and a potentially political landscape more turbulent than the common notion. Slowly passing through the years of the Rashidun Caliphate, the conquest established a new status quo, and a noticeable transformation can hence be observed. The new governors appear to be more urban and less 'rural.' This shift is not solely due to a potential reallocation of economic power from rural areas to cities but also reflects a diminished need for fortifications and defences, which are more strategically relevant in remote localities. Institutional spaces play a pivotal role in shaping the identity of the Caliphate. Alongside mosques, these spaces exhibit a notable degree of observable change.

This relation between the Caliphate's narrative and these spaces is suggested by the fact that the governors' residences, alongside suq and mosques, were specifically mentioned as constructed during the conquest and in its immediate aftermath. For instance, al-Baladhuri (392 [tr. Hitti 1916: 138]) concludes the account of the Kirman's conquest by stating that the appointed governor of Kirman and Fars 'built the mosque of Arrajan and the official residence (*dār al-ʿimāra*).' During the conquest years, the earliest *dār al-ʿimāra* at Basra was built of reeds and replaced three years later (17 AH/638 CE) by mudbrick (al-Baladhuri 346-7 [tr. Murgotten 1924: 61]). The choice of temporary building materials is connected to the topic of the short and long-term planning already discussed (see chapter 5.2). Moreover, Basra's *dār al-ʿimāra* contained the prison and the *dīwān* (al-Baladhuri 346-7 [tr. Murgotten 1924: 61]; Morony 1984: 74). According to the references on Ziyad's administration, it can be inferred that this *dīwān* was the military register on the income from the conquered

territories and underlining the administrative and taxation role of this region (Morony 1984: 56). The available evidence does not confirm whether Sasanian institutional spaces served as a combination of taxation offices, prisons, and legislative centres, making it impossible to determine whether this aspect represents continuity or discontinuity following the conquest. However, the establishment of the *dār al-ʿimāra* played a pivotal role in the framework of the new authority.

Different is the case of the earliest *dār al-ʿimāra* in Kufa, which was constructed at the behest of al-Saʿd and called *dār Saʿd*. This designation suggests that al-Saʿd used it more as a residence rather than as a long-term government seat (al-Sayyad 1991: 57). It is described as built with fired bricks coming from al-Hira's buildings and was not well-seen by ʿUmar, who disliked settlements, an approach that will be further analysed in chapter 6 (al-Tabari 2489, 2493 [tr. Juynboll 1989: 70, 73-4]). This mention of repurposing building materials might have been related to pragmatic reasons but could conceal symbolic reasons related to the conquest. Other instances of repurposing involved the spaces of the central former authority, such as the White Palace, which were reportedly utilised after the Arab-Muslim conquest (Morony 1984: 74). The former Sasanian administrative capital was the focus of other symbolic transfers of power. Among other examples, it needs to be noted the relocation of the gates of the Sasanian administrative capital to Kufa (Kennedy 2008: 102). The use of buildings or materials from Sasanian monumental structures had practical and symbolic dimensions; by appropriating architectural symbolism, the new rulers asserted their identification while replacing the previous dynasty (Morony 1984: 79). This process also involved former religious spaces, for instance Istakhri's description of the *dār al-ʿimāra* of Abu Muslim at Merv in 132 AH/750 CE as a *chahār-ṭāq* implies a potential repurposing of Zoroastrian spaces (O'Kane 1990: 636-42). On the same note of reuse, it cannot be ruled out that the fortification standing within the centre of Darabgerd, known as *kandhaq* (see Figure 40-Figure 41), might have been used during Islamic times. Places of power and fortresses were often reused, to the point that, in comparison, there are very few references to newly built fortifications. The historical sources report of a fortification built by one of the new governors when Ziyad was sent to Fars (c. 39 AH/660 CE), and 'he took up residence and fortified a castle there between Bayda Istakhr and Istakhr which became famous as Qal'at Ziyad' (al-Tabari 3450 [tr. Hawting 1996: 204]).

Among the analysis of other instances of discontinuity, al-Baladhuri lists instances of repurposing structures and building materials while describing places of interest and their names. Notably, the account concerning a post station stands out as a suggestion to be substantially due to pragmatic reasons since,

> 'Sikkat al-Barid [post-office] in al-Kufah was once a church built by Khalid ibn Abdallah of the Bajilah for his mother, who was a Christian.' al-Baladhuri (286 [tr. Hitti 1916: 445]).

This excerpt prompts a significant consideration, as it suggests the potential privatisation of post offices and related matters, which appears to have been under royal control during Sasanian times. Further evidence of discontinuity within the institutional spaces is connected to the previously discussed secular use of the mosque by institutions, particularly in the immediate aftermath of the Arab-Muslim conquest (chapter 5.4). A notable example is the case of Ziyad's legal proceedings at the gate of the masjid in Kufa (Morony 1984: 84). The intertwining of religion and justice is evident in the roles of the local judge, *qadi*, and the ʿ*amīr*, leaders of local communities appointed to administer justice. These positions emerged during the 1st AH/7th CE century due to the redistribution of duties and responsibilities of governors (Morony 1984: 437). Ibn Rusta provides the names of the first judges in al-Madaʾin, Kufa, and Basra, affirming the simultaneous establishment of a new judiciary apparatus with the conquest, potentially gradually supplanting the differentiated religious judiciary apparatus characteristic of the Sasanian Empire (see chapter 4.8).

In addition to the symbolic shift of power, there are indications of potential administrative continuity. The encouragement of continuity among individuals involved in administration post-conquest suggests that, despite the initial elimination and subsequent re-establishment of the hierarchical structure of the royal court under the Umayyad dynasty, the nature of the institutions and their challenges largely persisted, despite the change in religion (Morony 1984: 97-8). The other factor of continuity is related to the urban police force, known as *shurta*, traced back to the rule of ʿUthman (Morony 1984: 93). Although the exact locations of the garrisons are not specified, reasonably, they were situated in proximity to the defensive walls (Morony 1984: 93-5). The urban police played a significant role in various events during the *Fitna* and were utilised by the Umayyads. According to the *futuh* narrative, there is an indication that these urban police forces originated in Kufa and Basra. Initially, its

purposes were to quell disturbances and establish a night-watch system. This relationship with the army mirrors the information available on the police force in Sasanian times (chapter 4.8).

The archaeological and historical data concerning administrative spaces during this transitional period in the case study cities is summarised in Table 10:

Table 10. Case study cities and features of the transition (administrative spaces):

City	Archaeological or historical data regarding alterations to administrative spaces within inherited cities following the conquest
Darabgerd	It cannot be ruled out that the fortification standing within the centre of Darabgerd might have been used during Islamic times. **Potential repurposing of Sasanian spaces as a symbol of power shift.**
al-Madaʾin	Surely the White Palace and the Taq-i Khosrow had been used after the Arab-Muslim conquest by the first rulers (Morony 1984: 74). Sasanian capital's gates are said to be brought to Kufa (Kennedy 2008: 102). **Potential repurposing of Sasanian spaces as a symbol of power shift.**
Isfahan (former Gayy)	No administrative space was mentioned and/or excavated, to the best of the author's knowledge.
Firuzabad	No administrative space was mentioned and/or excavated, to the best of the author's knowledge
Rayy	No administrative space was mentioned and/or excavated, to the best of the author's knowledge
Nishapur	No administrative space was mentioned and/or excavated, to the best of the author's knowledge
Merv	Great Kyz Kala in Merv was a possible suburban residence of the governor of Merv (Williams *et al.* 2018). Istakhri described the *dār al-ʿimāra* of Abu Muslim at Merv (132 AH/750 CE) as a *chahār-ṭāq* (O'Kane 1990: 636-42). **Potential repurposing of Sasanian spaces as a symbol of power shift.**
Gondeshapur	No administrative space was mentioned and/or excavated, to the best of the author's knowledge
Qasr-i Abu Nasr	No major alterations within the urban spaces noted by the excavators as the settlement shifted from the Sasanian Citadel to the western area.
Istakhr	Ziyad was sent to Fars (c. 39 AH/660 CE) and 'he took up residence and fortified a castle there between Bayda Istakhr and Istakhr which became famous as Qal'at Ziyad' (al-Tabari 3450 [tr. Hawting 1996: 204]).
Bishapur	Construction of an Umayyad Palace within the southern section of the city, formerly potentially left open for a park (Ghirshman 1971: 35). **Potential repurposing of Sasanian spaces as a symbol of power shift?**

An intriguing aspect underlined by this comparative analysis lies in the relationship between 'religion and punishment.' As highlighted previously (see chapter 4.8), the diverse religious landscape played a crucial role in shaping the judiciary apparatus within the Sasanian Empire. The establishment of a judicial system that differentiated between various religions was a distinct feature of this period. A notable expression of change is evident in the gradual replacement of this diverse judiciary apparatus following the conquest. A single apparatus centred on the conquerors' religion supplanted the communitarian courts led by different religious leaders. This shift reflects a transformation in the intersection of religious beliefs and legal structures, marking a significant departure from the multi-religious judicial framework characteristic of the Sasanian Empire.

The introduction of the *dār al-ʿimāra* was another important feature of the new power, which brought substantial changes. Mentions of repurposing processes were often linked to these institutional spaces, making it difficult to separate the two discussions. This analysis suggests that the motivations behind the reuse of structures were primarily practical, while symbolic reasons were tied to the previous function of the structure. For example, repurposing a former church as a post office likely lacked the symbolic weight of converting the palace of the Sasanian dynasty into a mosque.

The factors of continuity, such as the nature of the institutions, their challenges, and the police's relationship with the army, appear similarly pragmatic. These aspects align with the limited information available on the Sasanian Empire, reflecting comparable functional and pragmatical dynamics causing some elements of continuity in institutional spaces.

5.8. Recreational spaces

> *'The first Bath which was erected in al-Basrah was the Bath*
> *Of Abdallah ibn ʿUthman ibn Abu-l-ʿAsi ath-Thakafi,*
> *Located in the garden of Sufyan*
> *ibn Muawiyah in al-Khuraibah,*
> *near the castle of Isa ibn Jaʿfar.'*
> al-Baladhuri (353 [tr. Murgotten 1924: 72]).

This exploration of Sasanian leisure activities highlights the recreational practices of both the elite and the general populace. The elite often engaged in leisure activities within spaces like gardens, pavilions, hunting grounds, stadiums, and *dastkarts*—agricultural or recreational estates—typically located outside urban centres and hence out of this dissertation's scope. In contrast, the leisure activities of common people appeared to be more intertwined with religious practices and likely took place within city confines. Although there is no definitive evidence of bathhouses within Sasanian cities, the consistent and substantial presence of Christian and Jewish communities in urban areas (see chapter 4.5) supports the inference that bathhouses may have been part of the urban recreational landscape, as such facilities were integral to communal life in these religious traditions. Since there is virtually little evidence of religious festivals within the cities after the conquest, this analysis will focus on the role of bathhouses, which functioned as central hubs of community life (Paul 2018: 36). Evidence for the development of bathhouses in the conquest's aftermath includes the construction of the first bath in Basra, located within a garden in a suburban area (al-Baladhuri 353 [tr. Murgotten 1924: 72]; Morony 1984: 270). Three other baths were built in Basra during the rules of ʿUthman and ʿUmar (Morony 1984: 270). This early development confirms the significance of bathhouses, along with suq, masjid, and *dār al-ʿimāra*, in shaping the cityscape. These structures collectively played a vital role in defining the urban landscape and reflecting the cultural and communal priorities within the evolving city of Basra during that period. One of the earliest archaeological pieces of evidence of an Islamic bathhouse is found in Siraf, dated 441 AH/1050 CE (Floor and Kleiss 1988: 863-9). However, it cannot be considered paradigmatic for all other bathhouses due to insufficient archaeological evidence and the lack of a comprehensive study on bathhouses (Floor and

Kleiss 1988: 863-9). The bathhouse complex discovered in Qanat Tepe of Nishapur has been dated to a broad 'early Islamic period,' with no further specifications (Wilkinson 1986: 266). While this finding is noteworthy, especially within the context of the specific case study city, it may not be directly applicable to the current comparison since a chronological attribution is too vague and potentially post-4th AH/10th CE century.

Another consideration related to the bathhouse is their profitability, as 'I reap me from this Bath of mine every day a thousand dirhams and many dainties' (al-Baladhuri 353 [tr. Murgotten 1924: 72]). The mention of needing permission from the governor to build a bathhouse indicates that these establishments were subject to regulation and control by the authorities (al-Baladhuri 353 [tr. Murgotten 1924: 72]). Although this was potentially related to their lucrative nature, the bathhouse also held social and religious functions as the Believers gathered there for the ablutions.

The need for social spaces and the use of recreational moments to meet this need is exemplified by references to ʿAbd al-Malik ibn ʿUmair's house in Kufa. This house, mentioned in the context of hosting and entertaining guests, suggests a dual role for such spaces, combining recreational and social functions with institutional purposes. This demonstrates the interplay between private settings and their broader social and political significance in early Islamic urban life. According to al-Baladhuri,

> '*The house of ʿAbd al-Malik ibn ʿUmair [in Kufa] was used for entertaining guests, 'Umar having ordered that some houses be put to that use for those who came from the different provinces.*' (277 [tr. Hitti 1916: 438]).

The multifunctionality observed in institutional spaces underscores the significance of recreation activities within power dynamics. Beyond serving utilitarian functions, these spaces played a role in fostering social connections, hosting guests, and facilitating leisure activities. This integration of recreational elements into the institutional framework provides a nuanced understanding of how these spaces contributed to both governance and community engagement.

The archaeological and historical data concerning recreational spaces during this transitional period in the case study cities is summarised in Table 11:

Table 11. Case study cities and features of the transition (recreational spaces):

City	Archaeological or historical data regarding alterations to recreational spaces within inherited cities following the conquest
Darabgerd	No recreational space was mentioned and/or excavated, to the best of the author's knowledge.
al-Madaʾin	No recreational space was mentioned and/or excavated, to the best of the author's knowledge.
Isfahan (former Gayy)	No recreational space was mentioned and/or excavated, to the best of the author's knowledge.
Firuzabad	No recreational space was mentioned and/or excavated, to the best of the author's knowledge.
Rayy	No recreational space was mentioned and/or excavated, to the best of the author's knowledge.
Nishapur	Bathhouse complex found a Nishapur (Wilkinson 1986: 266).
Merv	No recreational space was mentioned and/or excavated, to the best of the author's knowledge.
Gondeshapur	No recreational space was mentioned and/or excavated, to the best of the author's knowledge.
Qasr-i Abu Nasr	No major alterations within the urban spaces noted by the excavators as the settlement shifted from the Sasanian Citadel to the western area.
Istakhr	No recreational space was mentioned and/or excavated, to the best of the author's knowledge.
Bishapur	No recreational space was mentioned and/or excavated, to the best of the author's knowledge.

Although there is limited evidence of bathhouses during the Sasanian period, with the advent of Islam, ritual purity through ablutions became a religious requirement (Floor and Kleiss 1988: 863). However, bathhouse construction is documented in the former Sasanian Empire, especially after increased contact with the Roman Empire. The religious significance introduced by the conquest further enhanced the importance of bathhouses, even if they already existed. The fact that the earliest bathhouse in Basra was located in a garden within a suburban area might have been influenced by the Sasanian concept of elite estates.

A significant post-conquest change is marked by an enhanced interconnection between religious and recreational activities. The bathhouse, now imbued with further significance within religious rituals, becomes a focal point in this dynamic. This evolution further enhances the relationship dynamics between power and recreational activities in the societal

landscape. This is exemplified by the significance of hosting and entertaining distinguished guests, as well as the municipal administration's oversight of bathhouse licenses. The authorities' role in supervising and controlling public establishments so significant for ritual and religious purposes emphasises the interconnectedness of power structures and recreational pursuits.

6. Conclusions: Long-Term Trends in Urban Growth through a Comparative Approach

The preceding chapters of this dissertation identified and analysed the degree of change involved in the evolution of urban spaces after the Arab-Muslim conquest. The methodology involved a multidisciplinary approach and engaged historical and archaeological sources. The method employed to address this research question and evaluate the extent of change involved a detailed analysis of urbanism. The Arab-Muslim conquest prompted religious, political, cultural, and social changes within the former Sasanian and Roman territories. The years of the conquest (c. 30-132 AH/650-750 CE) have been defined as a transition during which a process called 'Islamisation' took place. The theoretical framework used in this dissertation proposed that urban spaces are shaped by the people living in these, and hence, the social changes involved urbanism as well. However, changes in political, social, cultural, and religious systems varied substantially from region to region. For instance, the Islamisation process was slower in areas such as central Iranian regions, which held on to post-Sasanian political systems and Iranian aspects in their culture. This survival of 'Iranianness' was observed in linguistic studies and suggested by the emergence of New Persian as the administrative language of former Sasanian territories in the 4th AH/10th CE century (see chapter 1). Another aspect of this cultural Persianate Renaissance was highlighted by Kennedy (2009: 20). He points out how a pre-Islamic past was considered prestigious in former Sasanian areas, while the Roman or Visigoth past was forgotten in former Roman territories (see chapter 1). Contemporary concepts of identity were established in different ways, depending on regionality. However, these were connected to some degree to the Islamisation process carried out during and after the transition years.

The opinions and focus of the scholarly debate regarding the transition are diverse. While some topics discussed by modern scholarship may appear to be little connected and centred around specific issues, for instance, the significance of the nobility and its role in the final centuries of the Sasanian Empire, each point of discussion serves as a piece aimed at reconstructing the larger picture. The decline in the authority of the centralised Sasanian

court and its satellite vassal states; the overseas and long-distance trade, the interference and military organisation of the Sasanian army; the involvement of Arab ethnic groups in the Romano-Persian Wars of the 6th and 7th century CE; the role of royal women; the variations in coin issues; and the distinctions in material culture are all topics that collectively contribute to a multi-faceted understanding of the transition period. These elements not only address why the transition occurred but also shed light on how it unfolded and progressed. Not all mentioned implications were examined within this dissertation, as it would have caused a lack of focus. However, all these discussion points were considered while defining urbanism as a tool for comparisons of change. Cities and urban spaces were used to clarify if and to what extent the transition occurred. Relevant research questions were related to cityscapes, particularly to the evolution of urbanism during the late Sasanian times and if and how it changed after the conquest. Structural comparison of cityscapes was used to add further information to the broad picture in reconstructing religious, political, cultural, and social changes.

The present state of literature addressing the Arab-Muslim conquest has been developed using a similar approach of using urbanism to analyse the social changes. However, the studies focused on regions other than the former Sasanian territory and examined the Roman cities conquered by the Arab-Muslim army. The paper by Kennedy (1985) and subsequent scholarly works inspired by this approach employed urbanism and the study of urban changes as tools to comprehend and elucidate the transition within formerly Roman cityscapes. One significant revelation from these studies is that the stereotypical notion of a 'narrowed alley' and 'mosque-focused' Islamic city was influenced by a western bias (see chapter 3.1). Additionally, the depiction of 'decadence' was found to be a Hellenistic reminiscence of order and tidiness linked to a specific typology of urbanistic patterns (see chapter 3).

An additional consideration of the urban spaces' categorisation is needed. While the practical division in functional spaces used in this dissertation served well for organisational purposes for the dataset comparison (see chapters 4 and 5), people and cultures do not shape spaces with such rigid distinctions as implied by the theoretical approach of *habitus* used in this dissertation. 'A generative and structuring principle of both collective strategies

and social practices; people use *habitus* to reproduce existing structures without being fully aware of how structures are in turn affected' (Bourdieu 1977: 72; Lawrence and Low 1990: 469). Therefore, in the subsequent discussion, although the labels will still be used, the trends and identified factors of change will be associated with broader concepts and overarching themes.

A key point that emerged during the research on urban spaces was the need to define what to be considered a city without retrospective assumptions. In particular, it was important to establish what distinguished cities from towns and settlements. It was evidenced (see chapter 2.1) that cities were defined based on two main features. Considering the emphasis on fortifying urban centres, the first feature was to be large, fortified centres. The second, last but not least, feature was that the economic functions were not reliant on rural-based sustenance but rather on industrial and commercial activities. Settlements that showed these features were Veh-Ardashir, Merv, Nishapur, Gondeshapur, Bishapur, Ardashir-Xwarrah, Darabgerd, Qasr-i Abu Nasr, Istakhr, Rayy, and Gayy, which were hence considered cities. The availability of information on these cities, along with the fact that they were predominantly inhabited in Sasanian and Islamic times rather than earlier periods, are the reasons they were chosen as the primary case studies for this dissertation.

By answering the research questions, the final purpose of this dissertation has been to fill gaps in the current state of knowledge and provide an updated insight into the evolution of urban spaces during Sasanian times and their transformation after the conquest. The various aspects of this transition, including its causes and evolution, represent key points in the ongoing scholarly debate on which features were part of the Islamisation process. The material compiled within this dissertation adds a further layer of understanding on this process by looking at the degree of change undergone by the Sasanian cities. Moreover, it opens new areas of discussion related to urbanisation processes and the social forces behind them, mirroring the direction initiated by the scholarship in examining former Roman cityscapes. Urbanism can provide additional support for more historically centred issues. An instance could be Rezakhani's (2020) hypothesis, asserting that a significant portion of territories, especially in Iraq, were no longer under Sasanian control following the execution of Khosrow Parviz in 6-7 AH/628 CE. This topic can be supported by two key factors related

to urbanism inferred from the analysis carried out in the preceding chapters. Firstly, the Arab-Muslim army encountered relatively minimal resistance in Iraq, especially when compared to the conflicts in Fars (see chapter 3.5). This facilitated the establishment of garrison cities like Kufa and Basra, which quickly gained substantial importance. Secondly, there is little evidence of substantial habitation in the former Sasanian administrative capital which appeared not to endure splendours and glories (see chapter 3.4). Instead, it was soon supplanted by other centres – Kufa and Basra first, and later Baghdad. These two factors suggest one of the results of this dissertation: that an abandonment process of the Sasanian administrative urban centre of al-Madaʾin conurbation may have already commenced prior to the conquest.

Gaps in the understanding of the Sasanian and transitional periods are evident in archaeological and historical sources (see chapter 2). The analysis carried out in this dissertation also highlighted crucial gaps in the knowledge of Sasanian period urbanism and social structures. This resulted in difficulties in organising and carrying out an urbanistic nomology. Hence, this dissertation cannot provide a comprehensive study of urban spaces pre- and post-conquest. Nevertheless, another result of this dissertation was the fact that archaeological and historical sources have been woven together here to present a framework of knowledge that can be implemented and expanded over time. This helped to create a firmer understanding of the urban landscape of the Sasanian period. Drawing further parallels with Roman cities might help achieve a broader level of understanding. Although this exercise had been preliminarily discussed (see chapter 3.3), future comparisons of transitional features within Roman and Sasanian inherited cities could further enhance the comprehension of urban landscapes.

Comparing the currently available datasets on urban spaces during the Sasanian period and the post-conquest period determined the degree of the observable alterations in the urban areas (see chapter 5). As mentioned (see chapter 2.3), further results were obtained by addressing these questions in the following sections:
- What changed.
- How it changed.
- The direction of change.

- The rate of change.

- Causes or conditions for change.

- The causal importance of individuals and ideas.

(Gerth and Mills 1953: 377-9).

6.1.   What and how it changed

Regarding the questions of what changed and how it occurred, various forms of transformation have been identified in previous chapters through a comparative analysis of cities before and after the Islamic conquest. It is important to emphasise that Sasanian cities were dynamic entities characterised by their multicultural and multireligious populations. While Islamic cities did not become entirely homogenised under the umbrella of Islam, the rapid rate of conversion introduced a new social dynamic: the *umma* community of Believers. This added another layer to pre-existing divisions within society, which were already stratified into elites, craftsmen and traders, and the impoverished or enslaved populations. These main changes identified in urbanism can be summarised in the reduction from multireligious judiciary background to a singular focus (see chapters 4.8 and 5.7); a noticeable surge in urbanisation within specific regions of the Caliphate (see chapters 3.5 and 5); symbolic repurposing (see chapters 5.4 and 5.7); and the cityscape modulated by masjid, *dār al-ʿimāra*, bathhouse, and suq (see chapter 5).

While the first two elements are self-evident, further elaboration is required for the latter two. Symbolic repurposing can be elusive and abstract, existing primarily in the realm of hypothesis. However, certain actions, such as repurposing and reusing former administrative and religious spaces, may be motivated by something more than just pragmatic considerations. Some monumental structures, like churches or judicial basilicas (see chapter 3.3), were repurposed as mosques or palaces (see chapters 5.4 and 5.7). Instances of such alterations ranged from repurposing the former Sasanian administrative capital's doors to establishing the first prayer room in the former royal palace in Ctesiphon. The symbolic reuse of spaces is a phenomenon with numerous examples throughout history, representing a common attitude among human societies. The significance attributed to specific spaces,

whether natural or urban, is intertwined with the power associated with these spaces. The act of repurposing is a symbolic gesture often made by conquerors, marking the change that their conquest will impose upon the conquered. This association with a mythological past and grandiose dynasties was potentially already put in place by the Sasanian kings, and it is observable also during the Caliphate. The main evidence is the process of renaming ancient places with mythological and legendary characters, although the reasons behind this practice are complex to identify. One issue consists of the difficulty of establishing whether the toponyms were used in Sasanian times or after the conquest. Another issue is connected to the loss of memory of the original Achaemenid or Arsacid toponyms. It has been argued that Sasanian used places like Persepolis or the Kaʿba-i Zartosht to be associated with the former dynasties and bolster their authority (Canepa 2010). If this is confirmed to be true, it cannot be assumed that repurposing always entails disdain or, worse, hatred for the conquerors' predecessors. In some cases, symbolic repurposing may be accompanied by a degree of respect. An element that suggests the presence of this respect after the conquest is the later rise of legends and associations with the former ruling house. Immediately after the religious change, the symbolic role of past places waned within the Caliphate's apparatus, which was creating its own narrative and symbols, only re-emerging within the smaller Persian dynasties that sought to legitimise their rule by drawing on this historical connection (Zychowicz-Coghill 2022). However, respect alone cannot explain why a Persianate Renaissance was mainly founded on cultural aspects derived by the 'Irianianness' in the 3rd AH/9th CE century (see chapter 1.1). It is suggested that future scholarship might further analyse and discuss the symbolism behind the repurposing and the creation of a mythical Persianate past.

The last expression of change to be analysed in this section involves the introduction of the masjid, *dār al-ʿimāra*, bathhouse, and suq within the inherited and new cities (see chapters 5.4, 5.7, 5.8, 5.6). These buildings held aggregative and social roles within the *umma*. Masjid was a place of collective prayer; people engaged in ritual ablutions in bathhouses; carried out transactions in expanding suq, which offered items and goods from around the world; and were governed by the *dār al-ʿimāra*. These structures emerged as influential forces in the urbanisation process, hence actively contributing to the construction of a shared identity within Islamic cities. Collectively, these urban spaces played a pivotal role in shaping the

cityscape and fostered a sense of communal identity within Islamic cities. It has been outlined here that the Rashidun Caliphate (11-40 AH/632-61 CE) and the first four Caliphs played a key role in establishing the foundations for a common cultural language, which became evident and discernible within urban spaces with the construction of these typologies of spaces (see chapter 5). During the Umayyad period, the evolution of this common language unfolds within the cities themselves. Building upon the foundations laid during the Rashidun Caliphate, new categories and urban typologies emerged increasingly evident within the cities. A preliminary framework for the cityscape was established during the transition period, marking the delineation and evolution of various elements. This includes administrative spaces embodied by the *dār al-ʿimāra*, the religious and administrative significance symbolised by the masjid, the bathhouses serving a recreational function closely tied to their religious role, and the commercial role played by the suq (see chapter 5). An essential aspect to consider in the ultimate evolution of these urban spaces is that, except for *dār al-ʿimāra*, all serve communal purposes. These are places where people come together to pray, bathe, and engage in commercial transactions. Establishing these communal spaces underscores a growing emphasis on the need for spaces to be used by urban communities and the social relations associated with gatherings within the *umma*. Interestingly, the former needs for community and gatherings, previously fulfilled in the al-Hijaz culture through tribal reunions (see chapter 5.4), transformed during the Umayyad period. The functions of the previously utilised spaces decline with the establishment of Caliphal courts and more private *dār al-ʿimāra*. Nevertheless, the social need for gathering persists, influencing the shaping of other places to serve this purpose.

Hence, the result related to what and how it changed as proposed by this dissertation consists in the establishment of four main factors of changes: the reduction from a multireligious judiciary background to a singular focus, a noticeable surge in urbanisation within specific regions of the Caliphate; symbolic repurposing; and the cityscapes modulated by masjid, *dār al-ʿimāra*, bathhouses, and suq. These factors consist of a starting point for reflecting on what the Arab-Muslim conquest changed within the former Sasanian Empire, as identifiable within the urban spaces.

6.2. The direction of change

This result consists of the discernment of three main directions of change through the datasets presented in this dissertation. The analysis highlighted some characteristics of Sasanian settlement patterns. Some institutional and religious spaces during Sasanian times were localised within rural areas (chapters 4.5 and 4.8). The fact that the urban sphere was secondary within this empire is also suggested by the cities' sizes, which were not as substantial as after the conquest (chapters 4.1, 3.5, 4.1, and 5.1). This dissertation also analysed the prominence of some regions and discussed the long-distance trade (chapters 1.3, 3.5, 4.7, and 5.6).

The first direction is the urbanisation process, which is closely linked to the internal shift and evolution towards cities and metropolises and is related to the regional variations of Islamisation in the aftermath of conquest, especially regarding settlement patterns (Daryaee 2019). The second direction of change is the process of 'rurbanisation,' a term used in this section to denote the transition from small rural spaces to bigger settlements. Urbanisation is distinguished from rurbanisation as it includes the evolution of cities and their urban spaces, while the second emphasises the abandonment of small rural settlements in favour of bigger entities, although rural. The third direction of change is the movement toward regions with easier access to internal and long-distance trade, such as Iraq and Khorasan. These three directions are deeply interconnected and challenging to evaluate separately; hence, this section will be structured as an intertwined discourse.

The datasets presented in this dissertation showed an evolution of the case study cities: Veh-Ardashir, Merv, Nishapur, Gondeshapur, Bishapur, Ardashir-Xwarrah, Qasr-i Abu Nasr, and Darabgerd, Rayy, and Gayy. The cities identified as showing a possible transformation in metropolises are located in al-Jibal and Khorasan (Table 4). Although Khorasan was not the easternmost region of the Caliphate, trade links to eastern Asia enriched cities like Merv and, notably, Nishapur (Wordsworth 2015; see chapter 3.5). The significance of Khorasan is suggested by the display of urban continuity and urban enhancement across the period of transition and afterward. Similarly, the economic prosperity that fuelled the growth of Rayy and Gayy eventually transforming them into the metropolises of Tehran and Isfahan, highlights the growing importance of the al-Jibal region, which became the core of the

Caliphate (see chapter 3.5). This region lies along the trade routes from the east and within the axis connecting the Caucasus with the shores of Iraq. Significantly, the once-prominent cities of Fars declined, possibly due to the increasing influence of Shiraz and Siraf (see chapter 3.5). This transition could be associated with the diminishing symbolic roles of cities like Ardashir-Xwarrah and Bishapur from the conquest onwards.

In Iraq, the situation is markedly different, with Veh-Ardashir losing power alongside the dynasty while Basra and Kufa expanded, possibly owing to their proximity to the Gulf shores (see chapter 3.4). Both practical and symbolic reasons have been identified in relation to the garrison cities and actions associated with the urbanisation within this region. The growing importance of cities and the expansion of newly founded cities not only underscores Iraq's significance during Sasanian times but also validates its strategic location. These territories comprise fertile lands, have access to the sea, and are situated at central crossroads within both the Caliphate and international contexts (see chapter 3.5). Returning to the broader regional picture, the one-century-long Umayyad parenthesis focused on Damascus, likely influenced by that dynasty's interest in the Mediterranean and the former Roman Empire. However, the change in dynasty to the Abbasids marked a return to Iraq, exemplified by Baghdad's foundation. Although the Abbasid dynasty was not a focus of this dissertation, the shift could provide further clues about the long-term processes related to international trade, particularly focusing on the maritime side. These processes slowly evolved during the Umayyad period and reached their peak in the following dynasty.

Factors contributing to the urban transformation were the conquerors' immigration and settlement, which primarily focused on cities rather than the rural environment (al-Sayyad 1991: 83). The overarching, long-term trend observed after the Arab-Muslim conquest is hence characterised as a shift away from small rural settlements, which saw an increased expansion. This concept has been termed here as 'rurbanisation,' in contrast to an evident increase in urbanisation. Numerous indicators support this trend, including the abrupt decline of many Sasanian settlements in the Bushehr area and the notable growth of the primary urban settlement, Tawwaj, as evidenced in the 2004 survey conducted by the Iranian-British Archaeological mission (Carter *et al.* 2006). The concept of 'city' experienced a significant transformation after the conquest, and it is posited here that urbanisation and

rurbanisation are closely tied to the surge in trade toward international shores. This direction of change is suggested by the increased prominence of Basra and the expansion of cities such as Shiraz and Siraf (see chapter 3.5). Evidence of the slave trade in Basra was analysed, together with the potential that the consequent economic development of this city might have been partly connected to this trade (see chapter 3.5). Unfortunately, the scant evidence on the enslaved does not allow a clear assessment of the degree of importance of this social class as a social force. The analysis of urban spaces, particularly the potential role of slaves in the growing prominence of Basra as a commercial hub, suggests that the enslaved could have been a social force of change (Richardson forthcoming). However, their impact on the cityscape was largely passive, contrasting with the more active influence exerted by other social groups.

The substantial expansion of numerous Sasanian cities situated at pivotal crossroads and strategic locations, such as the case of Isfahan, Tehran, Nishapur, and Shiraz (Table 4), suggests that heightened international trade played a central role in the urbanisation process and the development of certain cities into metropolises. Long-distance trade involved not only the maritime increased connections with the Indian shores but also a further emphasis on already known trade routes across Central Asia and exchanges with the European and African kingdoms. At its peak, the Umayyad Caliphate included part of the Iberian Peninsula, the former Roman north African provinces, and advanced further within eastern Asia. The unification under the same ruler and the consequent elimination of taxes, customs fees, and other potential disturbances and challenges for long-distance traders resulted in strengthened and simplified access to further away trade destinations (see chapter 5.6). The growing trade with increasingly distant locations, often involving items deemed valuable due to their rarity, amplified the financial gains of fortunate merchants who successfully engaged in these transactions, accumulating increasing wealth over time. The accumulated wealth was subsequently reinvested to expand and organise additional caravans, creating a positive feedback loop that generated even more prosperity. This prosperity is evident in urban spaces and material culture, marked by the increased discovery of far-away items within Islamic stratigraphical layers (see chapter 5.6). The expansion of certain strategic cities further underscores this era of affluence and growth.

Regrettably, there is scant archaeological evidence of urban spaces linked to the transition in cities that were later abandoned or reduced in size. The challenge arises from the difficulty of pinpointing the Sasanian core within larger metropolises like present-day Tehran, Isfahan, and Nishapur (see chapter 4.1). The absence of identifiable Sasanian remnants in these cities, likely erased over centuries of habitation, contrasts with their enduring significance today. However, their role within the former empire, as inferred by historical sources, suggests continuities in regional power based on dynastic centres related to the house of Sasan, even after the Sasanians' fall. Comparing the size and extent of Sasanian cities with those post-conquest presents challenges, as there is no term for comparison. The hypothesis that these cities evolved into metropolises lacks archaeological evidence and measurable data for direct assessment. However, this absence itself may serve as a hint towards the ongoing trend of development of these cities in metropolises, as other cities did not experience the same expansion and do not hold the same importance nowadays.

Tehran, Isfahan, Basra, Kufa, and the later Baghdad were among the Hajj stops in the former Sasanian territories. The hajj was the pilgrimage to the Kaʿba in Mecca and constituted the fifth pillar of Islam. This pilgrimage and its routes were a factor in the direction of change, but at the same time, the routes were constructed from key population bases of active Muslims. The pilgrimage routes marked the territories of the Caliphate and informed which cities had significant populations. The primary routes, five in total, largely followed former trade routes: the Yemeni, Omani, Egyptian, Syrian, and Iraqi routes. The Darb Zubaidah, as the Iraqi route was known, notably connected many of the former Sasanian territories with the Arabian Peninsula. In addition to the spiritual shift, potentially from the heartland of the Sasanian dynasty in Fars to Mecca and Medina, the increased flow of people along former trading routes led to increased trade activities. It is suggested that the utilisation and intensification of the hajj routes, along with the consequent expansion of international trade, were linked to the growth of certain cities along the most prominent routes.

To conclude, this section's result was assessed thanks to the analysis of the direction of change in urban spaces. The three directions identified, urbanisation, rurbanisation, and the movement towards international shores, highlight the social and economic transformations brought about by the conquest, which influenced regional prominence both within and

beyond the Caliphate's boundaries. These shifts of importance are assessed thanks to the study of the cities. The enhancement of already existing trade routes, the introduction of pilgrimage routes, and the abandonment of other routes were mirrored in the evolution and shrinking of the cities.

6.3.   The rate of change

Gaps in the archaeological and historical record present significant challenges to achieving a thorough comparison of all Sasanian urban spaces before and after the Arab-Muslim conquest (see chapter 2). While some evidence of Sasanian urban spaces during the transitional period has been identified (see chapter 5), the limited scope of archaeological investigations and available findings makes it particularly difficult to evaluate the rate of this change. Comprehensive studies dedicated to establishing timelines for shifts in the uses and practices of urban spaces would greatly enhance and nuance the understanding of the broader picture.

Therefore, this section will analyse the continuity factors that can be extrapolated from the available datasets. The elements of continuity are an indicator of the rate of change, as it shows the areas where the change was slower or absent. The continuity of spaces and material culture was not uniformly constant. Certain regions within the former Sasanian Empire experienced decline or witnessed transformations identifiable thanks to these elements, which were sometimes related to their economies and their role in long-distance trade (see chapter 5). Nonetheless, the overarching outcomes endorse the hypothesis that elements of continuity could be used to assess the degrees of change within the developing early Islamic period. An element of continuity, for instance, is reflected in the lasting impact of Sasanian technologies and customs on subsequent Abbasid practices across diverse fields, ranging from glass-working to cookery (Simpson 2014: 22). This lasting impact, which is possible to associate with concepts such as cultural assimilation, was discussed by Morony regarding Iraq, who highlighted that:

> *'Assimilation and continuation of local customs by Arab Muslims was most successful when local Iraqi culture coincided with or was reinforced by Arab or Islamic attitudes*

and practices.' (1984: 263).

This dissertation emphasised that certain elements of continuity can be discerned within urban spaces (see chapter 5). In line with Morony's observations regarding Iraq, from this dissertation, it emerged that these continuity elements often correspond with functional attitudes and practices. In particular, the comparison between urban spaces (see chapter 5) reveals that continuity elements are more prominent in domestic spaces (chapter 5.2). This includes the continued use of earthen architecture, layout elements like courtyards, and women's seclusion. These elements were continuous because of coinciding practices, such as women's seclusion (see chapter 5.2) or pragmatic factors. For example, courtyards have been utilised worldwide for their ability to naturally ventilate and cool adjacent interior spaces (see chapter 5.2). Additionally, they offer the advantage of providing natural lighting, thus reducing the need for additional openings.

Another significant continuity is present in infrastructure, with Sasanian technology providing the sound basis for the Caliphate's street and water systems (see chapter 5.3). In commercial and industrial areas, continuity is similarly observed in pragmatic elements such as multi-specialisation, metal-derived elements such as coins and mines, the close interrelation between crafts and trades, and seasonal markets (see chapters 5.5 and 5.6).

The most significant indication of continuity not related to coinciding practices or pragmatic factors is the presence of religious diversity that persists over time, suggesting that the conquest was not solely focused on religious conversion (see chapter 5.4). Conversely, recreational facilities such as bathhouses and administrative buildings undergo significant changes, serving as prominent indicators of Islamisation alongside the establishment of mosques (see chapters 5.8, 5.7, and 5.4). Meanwhile, the most noticeable ruptures, dating to the years of the conquest, are evident in administrative spaces and, less obviously, in the function of gathering places (see chapters 5.7 and 5.5).

The emerging result related to the rate of change is linked to the role of the continuity elements within the developing early Islamic period. This continuity is observable across regions. Domestic spaces exhibit the highest degree of continuity due to pragmatic functions and coinciding practices. In commercial and industrial areas, the religious diversity and

infrastructure elements of continuity are similarly observed to be carried out due to pragmatic reasons. The most noticeable rate of change, dating to the first years of transition and hence quite early, is evident in institutional spaces and, less obviously, in the function of gathering and recreational places. Changes to institutional places assumed both a symbolic and pragmatic nature and, unsurprisingly, consisted of one of the first concerns of the conquerors. However, the increasing importance of new gathering and recreational spaces is significant, as it suggests the growing role of the *umma* as a social force shaping urban spaces. Further results on the *umma* are described in the next section.

6.4.   Causes or conditions for change

The result related to the causes for change could be viewed as the focal point of the dissertation, as it seeks to address the fundamental question of how the Arab-Muslim conquest rapidly altered the course of history. However, this question has been reevaluated within the context of urban spaces and reframed. How did the Arab-Muslim conquest transform urban landscapes? What were the underlying conditions that facilitated these changes? The inherited cities were already well-established entities functioning effectively within their 'city-systems.' This term is coined in this section to deliver the concept of cities as living elements, mirroring the ecosystems and their delicate balances and equilibria. The main variability and cause of change are characterised by introducing elements 'foreign' to the original city-systems. The first foreign element introduced by the conquest was the establishment of garrison cities. Much had been written on the arrival of the Muslim Arabs and their foundation of new garrison cities where they settled. For instance, the role played by Basra, Kufa, and Shiraz was firstly mainly military and subsequently had economic and religious functions (Morony 1984: 236) (see chapter 3.4). Morony (1984: 239) underlines that al-Saʿd established a congregational masjid connected with the *dār al-ʿimāra* and the suq. A second foreign element was related to the influences of other cityscapes in the form of inherited formerly Roman cities (see chapter 3.3). However, the primary foreign element introduced in cities was undoubtedly the new religion, Islam. Islam's features encompass more than just a spiritual essence, the reading of holy texts, or the name of the main god. Similarly to all religions, Islam imposes duties and obligations, establishes forbidden customs,

and fosters a sense of community. Hence, the community, the *umma*, of Believers and its needs can be regarded as the principal driving force behind the shaping of urban spaces. The study of the *umma* as the principal cause behind the change has been highlighted by Wheatley (see chapter 3.5),

> *'By the mid-eighth century [CE] the Muslim communities within this realm had been constituted as vehicles of the living Faith (…) [and] the duties and obligations laid upon the Muslim could be performed fully and correctly only within the ambience of an organised community of Believers.'* (2001: 39).

The introduction of the *umma* into the inherited cities, the amalgamation of territories beforehand considered 'enemies,' and the introduction of garrison cities created a novel 'hybrid' city-system and state structure, which significantly influenced the urban landscape of the emerging Caliphate cities. Focusing on *umma*'s needs and its contribution to the new city-systems, two factors united the diverse populations residing in various urban landscapes, spanning from Andalusia to Khorasan, north Africa, Syria, Egypt, and the former Sasanian Empire: their worship of the same God and adherence to the same laws, which consequently established similar needs. The key to understanding the *umma* as cityscapes' shaping force is once again emphasised by Wheatley,

> *'This is not to imply that the Middle Eastern city was everywhere the vehicle of a uniform lifestyle, but rather that it provided the framework within which diverse cultures absorbed and internalized the various duties of the Faith as expressed in the five pillars of Islam.'* (2001: 39).

Therefore, it raises the need to reformulate the precedent sentence: the five pillars of Islam were the primary foreign element introduced in the citysystems. These fundamental and obligatory acts of worship consist of *shahada*, the declaration of faith; salat, the performance of ritual prayers five times a day; zakat, charity to those in need; ṣawm, the fasting during the month of Ramadan; and the abovementioned hajj.

The religious obligations inherent in these faith duties significantly impact urban spaces, necessitating the shaping of certain areas to facilitate their precise performance. The evidence presented in this dissertation emphasises the importance of bathhouses for ablution rituals (see chapter 5.8). The preceding section added how the substantial surge in long-distance trade has spurred urban development in cities and settlements along the hajj Route.

Other substantial changes, as evidenced in this dissertation, are related to administrative buildings, suq, and mosques, which encompass various aspects of daily life beyond just religious practices (see chapter 5). These changes reflect Islam's progression as a cultural, social, and communal movement rather than merely religious, as individuals sought to engage in communal activities and establish a sense of community by joining the *umma*. This aspect of Islamisation goes beyond mere taxation or prayers; it addresses the fundamental human need for social interaction and belonging. This is not to suggest that other faiths, such as Judaism, Christianity, or Zoroastrianism, lack a focus on community. However, the rituals of these faiths primarily centre around a central figure—the rabbi, the priest, or the *mowbed*—while the religious audience mainly assumes the role of listeners. In contrast, the salat engages all participants in prayer as active participants throughout the majority of the ritual, with the imam serving as a guide.

The decline of other religions within the former Sasanian territories was also influenced by changes belonging to the judicial sphere and protocols (see chapter 5.7). During Sasanian times, each religious community had the authority and resources to adjudicate and penalise individuals according to their religious laws (see chapter 4.8). Although the exact extent of state influence is unclear, it is evident that these judiciary figures are mentioned less frequently with the rise of the new Caliphate's administrative apparatus. Hence, it can be inferred that this judicial autonomy diminished. As other religious communities lost the ability to enforce their own customary laws, it likely facilitated conversions, as this 'judgment and punishment gap' created a void that Islam and its *umma* were able to fill. On the one hand, the strengthening of the *umma* community and the loosening of religious control over other aspects, on the other, contributed to the rise of Islam as the dominant religion and the *umma* as a driving force in shaping urban spaces and changing city-systems.

Hence, this result is directly connected to viewing the cities as cityscapes and considering the concept of *umma* as a driving force. The causes and conditions of the Islamisation process and the main principal condition of change in the cityscapes are not driven only by the Islamic religion per se but by the evolution of a community with different habits and needs. These religious habits and needs were the basis for the construction of a new society, which in turn shaped urban spaces. It must be emphasised, however, that this transformation

occurred gradually over several centuries, with the precise timeframe varying across different contexts and locations

6.5.   The causal importance of individuals and ideas

A final and conclusive observation is the mention that no particular causal importance of individuals and ideas, besides the sense of community of the *umma*, had been identified. Not even ʿUmar's aversion to settlement and construction, a theme that was referenced throughout the dissertation (see chapters 3.4 and 5). The Caliph ʿUmar was the second Rashidun Caliph after Abu Bakr and ruled from 13 to 23 AH (634-44 CE). Before his conversion and the later rise to Caliphate, ʿUmar was a successful merchant. Although it is not clear whether he visited the former territories of the Sasanian and Roman Empires, he surely gained significant experience and insight from his travels. Upon becoming the second Caliph, his leadership and military prowess were instrumental in expanding the Islamic Caliphate, establishing it as a major world power during his reign.

In conclusion, analysing cities and urbanism is a particularly apt tool to identify social changes as they serve as a manifestation of human interaction and community. This dissertation compared urban elements extrapolated from archaeological and historical sources to present a framework of knowledge that can be implemented and expanded over time. The data collected and the subsequent analysis of the characteristics of change demonstrated that Sasanian urbanism evolved after the Arab-Muslim conquest, influenced by the introduction of new social elements whose impact varied across different regions. This process unfolded over an extensive timeframe spanning some centuries, with its precise duration varying significantly across different geographical regions.

Some social changes were already in place during the last years of the Sasanian Empire, as suggested by the abandonment process of the administrative urban centre of al-Madaʾin

conurbation potentially already begun before the conquest. Under the Caliphate, the conglomerations of people identified themselves as belonging to a religious community, the *umma*. This religious community was the social force that dictated the needs of daily life habits, which, in turn, changed some urban spaces. This dissertation identified four main factors of changes that demonstrated the social needs shaping urban spaces: the reduction from a multireligious judiciary background to a singular focus; a noticeable surge in urbanisation within specific regions of the Caliphate; symbolic repurposing; and the cityscapes modulated by masjid, *dār al-ʿimāra*, bathhouses, and suq. The data presented in this dissertation suggested that the surge in urbanisation was caused by the fact that urban spaces and cities well-fit the needs of the *umma*. This increasing importance of cities is inferred by the three main directions of change: urbanisation; 'rurbanisation,' and the movement toward long-distance trade. By considering the concept of *umma* as a driving force, the causes and conditions of the Islamisation process and the main principal condition of change in the cityscapes are not driven only by the Islamic religion per se but by the evolution of a community with different habits and needs. These religious habits and needs were the basis for constructing a new society, which in turn shaped urban spaces. The central role that urbanism and cityscapes played within the Caliphate challenges the conventional notion of an Islamic city as being solely centred around a mosque, instead emphasising the significance of the entire urban environment and the dynamic forces driving its development as a cohesive entity. Conversely, Sasanian society did not have a similar unifying social force, and urban spaces were mainly shaped by mirroring more regional variabilities.

Glossary

ʿ**Abd al-Malik (ibn Marwan)** – (r. 65-86 AH/685-705 CE) fifth **Caliph** of the **Umayyad Caliphate**. Son of Marwan I, he ascended to the Caliphate after the death of his brother, Caliph Abd al-Aziz.

ʿ**Adud al-Dawla** (r. 337-72 AH/949-83 CE) emir of the **Buyid Dynasty**.

ʿ**Ali (ibn Abu Talib ibn Abd al-Muttalib)** – (r. 35-40 AH/656-61 CE) fourth and last **Caliph** of the **Rashidun Caliphate**. A close companion, cousin, and son-in-law of Prophet Muhammad, he is considered by Shia Muslims to be the first legitimate Imam. His election to Caliphate following ʿUthman's assassination coincided with the beginning of the Civil Wars (**Fitna**).

Abbasids – name of the ruling dynasty of the Caliphate from 132 to 656 AH (750 - 1258 CE). Their power diminished since the 3rd AH/9th CE century because of emerging local elites in various areas of the *dār al-Islam*. Their capital, Baghdad, become the most important cultural centre during the dynasty's rule.

Abu Bakr (Abd Allah ibn Abi Quhafa) – (11–3 AH/632–4 CE) first **Rashidun Caliph**, was a close companion of the Prophet Muhammad. He played a crucial role in the early development and expansion of Islam after the death of the Prophet.

Abu al-Hayyaj (ibn Malik al-Asadi) – first known urban planner of the Islamic period. He is credited with organising the different quarters of Kufa around a centrally located mosque (al-Sayyad 1991: 56; Wheatley 2001: 45).

Abu Jaʿfar al-Mansur – Abbasid Caliph (r. 136-58 AH/754-5 CE) ruled after his brother al-Saffah. He founded *Madinat al-Salam* (later Baghdad) in 144 AH/762 CE and is known as the 'stabiliser' of the **Abbasid** dynasty.

Abu Musa (al-Ashʿari) – (d. 41 or 52 AH/662 or 672 CE) companion of Muhammad. Known for his military role in conquering the Sasanian Empire. al-Dinawari (tr.: 124-5) mentions him as Basra's founder, he was also one of Kufa's governors, from which he was exiled when he did not support ʿAli during the **Civil Wars (Fitna)**.

Abu Muslim (al Khorasani) – (c. 101-37 AH/720-55 CE) general who led the **Abbasid** coupe, resulting in the downfall of the **Umayyads** and the establishment of the **Abbasid Caliphate**. He conquered Khorasan and its cities, such as Merv and Balkh. **Abu Jaʿfar al-Mansur** ordered his death for heresy, as he was wary of **Abu Muslim**'s rising influence and popularity.

Abu Ubaidah Ibn ʿAmir (ibn Abdallah ibn al-Jarrah) – (583 CE- 639 CE/18 AH) a companion of Prophet Muhammad and one of the generals of the **Caliph ʿUmar**.

Agora – Greek term ἀγορά for central public space in ancient Greek city-states. This urban space also characterises similar spaces found in urban typologies influenced by the Greek archetype, including Hellenistic and Roman contexts.

al-Ahnaf – companion of Prophet Muhammad. He later became known for his military role in conquering the Sasanian territories.

Ahl al-kitāb – Arabic term translated as 'People of the Book'. Used for communities or individuals who adhere to monotheistic faiths based on divine scriptures, primarily referring to Jews and Christians.

Aisha (bint Abu Bakr) – (c. 614 CE – 58 AH/678 CE) one of the wives of the Prophet Muhammad, as well as the daughter of **Abu Bakr**, the first **Caliph** of the **Rashidun Caliphate**. Her marriage to Muhammad, which took place when she was young, led her to be directly involved in the political, religious, and social events of the formative years of Islam as her role in the **Civil Wars** (**Fitna**) and opposition to **ʿAli.**

Amir (sing.) – Arabic for 'commander.' The Arabic composed expression *Amir al-muʿminin* means 'commander of the faithful' or 'the one who gives orders to the Believers'. See also **ʿUmar**. The meaning of this expression hints at the military character of this title.

Ammianus Marcellinus – was a Roman historian who lived during the 4th century CE. He wrote the *Res Gestae* ('The Things Accomplished'), which consisted of a detailed historical account covering the period from 96 CE to 378 CE.

Anastasius of Sinai – Christian monk, priest, and theologian who lived during the 7th century CE. He wrote the *Hexaemeron* ('Six Days'), a series of homilies or commentaries on the Book of Genesis narrative.

Aʿrāb (pl.) – dwellers of the al-Hijaz region who lived in portable tents houses (Wheatley 2001: 8).

Ardashir I – (r. 224-40 CE) founder and first king of the Sassanian Empire after defeating the **Arsacids** and potentially his older brother Shapur (al-Tabari 817-8 [tr. Bosworth 1999: 11-2]).

Arsacids – also known as **Parthians**, a prominent dynasty that ruled from approximately 247 BCE to 224 CE. Originating from northeastern Iran, the **Arsacids** rose to power by challenging the **Seleucid Empire**'s control over the region. The last king, Ardavan, was defeated by **Ardashir I**.

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***Astodānān* (pl.)** – Persian word for bone-receptacle, ossuary. Used in Avestan and Zoroastrian rituals to store the bones of the dead after exposing them.

***Ātashkada* (sing.)** – Persian word for 'fire temple'. According to Choksy (2003: 27), it could be better translated with 'fire temple complex'. See chapter 4.5.

Avesta – collection of religious texts in an ancient Iranian language (Avestan), likely spoken in the second to the first millennium BCE. These texts were likely transcribed during the rule of **Khosrow Anushirvan** (531-79 CE), although possibly later. Regarded as Zoroastrian texts, they feature Zoroaster as a quasi-Saviour.

Bahram Chobin – a prominent military commander of the Sasanian Empire, belonging to the **Mihran** family. He is best known for his brief usurpation of **Khosrow Parviz's** throne during the 6th century CE.

***Bālad* (sing.)** – Arabic for 'town or district,' often translated in Persian as *shahr* (Mottahedeh 2018: 468).

***Bānū* (sing.)** – New Persian for 'lady'.

Bazaar (sing.) – New Persian for 'market' (MP, *Wāzār*).

***Bema* (sing.)** – platform comprising five steps, served as a display for an effigy of Mani (Gardner and Lieu 2004: 93).

***Bilād al-Islam* (sing.)** – Arabic composed expression for 'the country of Islam.' See also *Mamlakat al-Islam* and *Dār al-Islam*.

***Burj* (sing.; *burūj* pl.)** – Arabic for 'tower' (Mottahedeh 2018: 470). See *köşk*.

Buyids – (r. 322-420 AH/934-1029 CE) ruling dynasty that ruled the Iranian. Marked by robust familial connections and rooted in Persian culture and the 'Persianate Renaissance.' The opportunity for the ascent was due to the political vacuum within the **Abbasid Caliphate** during the 4th AH/10th CE century. Their dominion persisted until Rayy succumbed to Maḥmud the Ghaznavid (Kennedy 1986: 212-49).

***Chahār-ṭāq* (sing.)** – 'Four arches' in New Persian. It typically refers to architectural structures featuring four arches or vaults.

Caliph (sing.) – see *khalifa*.

***Caput mundi* (sing.)** – Latin expression meaning 'head of the world,' used to imply that Rome is and will be the capital of the world.

Cassius Dio (Lucius Cassius Dio Cocceianus) – a Roman historian and senator who lived during the 2nd and 3rd centuries CE. He wrote a *Roman History*, a comprehensive text covering Rome's legendary origins to the early 3rd century CE.

Civil Wars (*Fitna*) – Term used for the political and military disorders in the Islamic community, distinguished into First and Second Fitna. In this dissertation, the First Fitna was always mentioned as **Civil Wars** or Fitna, which marked the end of the **Rashidun Caliphate**. The major events are the Battle of the Camel (36 AH/656 CE), which took place in Basra and involved forces led by Caliph ʿ**Ali** against those led by Aisha, Talha, and Zubair; the Battle of Siffin (37 AH/657 CE) between the forces of ʿ**Ali** and those led by **Muʿawiyah**, the governor of Syria; the arbitration at Adhruh (38 AH/658 CE) consisting of unsuccessful attempts to resolve the conflict between the parties involved; the Battle of Nahrawan (38 AH/658 CE) between ʿ**Ali** and the Kharijites (a faction that had initially supported ʿ**Ali** but later turned against him) led by Abdullah ibn Wahb; and the assassination of ʿ**Ali** (40 AH/661 CE) in Kufa, marking the end of the **Fitna** and the **Rashidun Caliphate**. These events significantly contributed to the establishment of the **Umayyad Caliphate**. The Second Fitna followed the death of the first Umayyad Caliph **Muʿawiyah** in 60 AH/680 CE and lasted twelve years. It involved, among the other events, the assassination of ʿ**Ali**'s son Husayn at the Battle of Karbala (61 AH/680 CE).

Darab – name of two Persian kings. Used to refer either to Dara the son of Dara, ergo the Achaemenid Darius II (*Shahrenstaniha-i-Eranshahr* [tr.: 20]), or Dara, the son of Bahman ibn Isfandiyar, a character from Persian mythology and literature portrayed in the *Shahnama*.

Dastkart (sing.) – Middle Persian term used for a noble estate encompassing water supply networks, dwelling houses, and other structures (Kennedy 2011: 55).

Dār al-Islam (sing.) – Arabic composed expression literally meaning 'the house of Islam'. Used in political ideology to describe the Islamic world and the territories ruled by the **Caliph**.

Dār al-ʿimāra (sing.) – Arabic composed expression literally meaning 'House of Administration' or 'Seat of Government.' See chapters 5.4 and 5.7.

Darb Zubaidah (sing.) –historical caravan route or road used from the Abbasid period in the 2nd AH/8th CE century. It is named after Zubaidah bint Jaʿfar, the wife of the **Abbasid Caliph** Harun al-Rashid. The route stretched from Kufa in present-day Iraq to Mecca in modern-day Saudi Arabia, facilitating the hajj pilgrimage and trade.

Decumanus (sing.) – Latin word for the east-west oriented road in a Roman city or military camp.

Deh (sing.) – Persian administrative unit consisting of a village headed by a *dehqān* (Daryaee 2013:

197).

Dehr-i Shahr (sing.) – Presian composed expression used by Stein (1936: 117) when reporting the existence of ruins along the northern edge of Ardashir-Xwarrah. Literally 'city village' in Persian. See chapters 3.5 and 4.1.

***Dīwān* (sing.)** – term used for an individual in the Middle Persian legal administration who notified *hambāyīh* investment (Daryaee 2009: 137). During the transition, the records from **Ziyad**'s administration suggest that the *dīwān* in Basra was the military register on the income from the conquered territories (Morony 1984: 56).

***Dīwāri naw* (sing.)** – New Persian composed expression literally meaning 'third wall or the new walls' (Adle and Kossari 1990).

***Farsakh* (sing.)** – ancient unit of distance equivalent to approximately 6 kilometres or 3.77 miles.

***al-Fatūḥāt al-Islāmiyya* (sing.)** – Arabic composed expression; the first word has the 'fth' root which implies 'opening', therefore a literal translation could be 'the opening to the Islam.' This expression is used to indicate the Arab-Muslim conquest (Kennedy 2007: 6).

***Frigidarium* (sing.)** – Latin word for the room of Roman bathhouses characterised by cold waters. The *frigidarium* was designed to promote relaxation and refreshment after the hot and steamy experiences in the heated chambers. Not present in Eastern Roman and Islamic bathhouses.

***Fusṭaṭ* (sing.; *fasaṭit* pl.)** – Arabic for encampments.

***Futuh* (sing.)** – Arabic word for 'openings' as in 'liberation,' this term is used to indicate the early Arab-Muslim conquest of the 1st AH/7th century CE and hence all the narrative and literature connecting to it. See *al-Fatūḥāt al-Islāmiyya*.

***Garmsīr* (sing.)** – see *Sardsīr*.

***Gūri* (sing.)** – specific type of rose water, which was so widespread that the production site, Ardashir-Xwarrah, had its name changed in Gur.

***Habitus* (sing.)** – 'a generative and structuring principle of both collective strategies and social practices; people use *habitus* to reproduce existing structures without being fully aware of how structures are in turn affected.' (Bourdieu 1977: 72; Lawrence and Low 1990: 469).

***Hadarī* (pl.)** – Arabic for the farmers of al-Hijaz living in permanent houses (Wheatley 2001: 8).

Hajj (sing.) – annual Islamic pilgrimage to the holy cities of Mecca and Medina in modern Saudi Arabia, which is obligatory for all adult Muslims who are physically and financially capable of undertaking the journey. It is one of the Five Pillars of Islam, and it occurs from the 8th to the 12th of the Islamic month of Dhu al-Hijjah.

***Hambāyīh* (sing.)** – Middle Persian legal term to refer to the holder of a common share in a joint investment (Daryaee 2009: 137).

***Ḥaram* (sing.)** – Arabic, literally translated as 'prohibited' or 'illicit', it can also mean 'saintly' or 'consecrated' (Aigle 2018: 146, n. 16).

***Herbedestan* (sing.)** – Middle Persian term used to designate Zoroastrian studies.

Herodian – also known as Herodianus, Roman historian who lived during the 2nd and 3rd centuries CE. He is best known for his *History of the Empire from the Death of Marcus*.

Hijra (sing.) – Arabic for 'emigration' or 'taking refuge'. Used in the *Qu'ran* to express the leaving for a nomadic life and the migration for a safer place, e.g., the first Believers went to Abyssinia (Donner 2010: 86). The date when Muhammad and his emigrants went to Yathrib is considered a benchmark of political independence of the Believers, adopted as a marking of the Islamic calendar, 1 AH (Donner 2010: 43).

***Hutuxshān* (sing.)** – Middle Persian term used to refer to the craftsmen (Simpson 2000: 64; Daryaee 2009: 47).

***Īrānshahr* (sing.)** – literally, 'land of Aryans' in Middle Persian. This expression was used by Sasanians to describe their kingdom, involving also an ethnic, linguistic, and religious value. al-Masʿudi's *Tandih* (tr. Carra de Veux 1847: 59) reports a fake etymology which well-described the Arab sources' mindset: the word would mean 'pays des gens de bien' because 'Īr' meant in Ancient Persian 'bon, excellent'.

***Īrīh* (sing.)** – Middle Persian term translatable as 'Irianianness' and used with an ethnic value as it includes 'all the characteristics typical of an inhabitant of *Īrānshahr* (Daryaee 2009: 5).

***Ivān* (sing.)** – Persian word for open arch looking out on a courtyard. The first examples are at Nippur, as at Seleucia and Hatra during **Arsacid** times (Curtis 2000: 29.). The most typical Sasanian architectural unit is the *ivān* and a domed chamber (Kennedy 2009: 27; Callieri 2014: 63-4).

Ivān Girda (sing.) – Arabic-Persian composed expression meaning 'the circular hall,' used by Ibn al-Balkhi (tr.: 325) for the Tīrbal in Ardashir-Xwarrah, see chapter 4.1. He potentially confused the Tīrbal with the Takht-i Nashin.

Isnad (sing.) – Arabic term referring to a concept within Islamic scholarship, particularly in Hadith studies (saying or tradition of the Prophet Muhammad). It denotes the chain of transmitters or narrators who have transmitted a particular information from one generation to the next.

Jizya (sing.) – Arabic for a financial obligation imposed on non-Muslims during the early stages of the Arab-Muslim conquest. This tax was seemingly interchangeable with the concept of tribute (Kennedy 2007: 8; Donner 2010: 117).

Kaʿba (sing.) – originally, large cubical structure in Mecca containing idol statues, a sanctuary of the pagan gods (Donner 2010: 35). Then a stone building within the Mecca's mosque, determining the qibla (direction of prayer) for Muslims.

Kaʿba-i Zartosht – see Shapur I.

Kerdir – see *mowbedān mowbed*.

Khalifa (sing.) – Arabic for 'successor,' used as a title (Caliph).

Kirrōg (sing.) – means 'artisan' in Middle Persian. From this word is derived *kirrōgbad,* an appointed chief administrating guild (Tafazzoli 1984: 192).

Kishwar (sing.) – a Persian word that translates to 'territory' or 'region.' Often used to refer to a geographical area or a specific territory within a country or region. In a broader sense, it can also denote a domain or sphere of influence.

Klimates (pl.) – Greek word κλίματες means 'zones' or 'regions.' In ancient Greek geography, *klimates* referred to the divisions of the Earth's surface based on latitudinal bands or zones defined by their climates.

Kharaj (sing.) – Arabic term for a tax or tribute levied on non-Muslims living in an Islamic state. It differentiates from the *jizya* because the *kharaj* was primarily applied to agricultural land owned by non-Muslims.

Khosrow Anushirvan (Khosrow I) – (r. 531-79 CE) one of the most celebrated rulers of the Sasanian Empire, known for his administrative reforms, military campaigns, and patronage of the arts and sciences.

Khosrow Parviz (Khosrow II) – (r. 590- 628 CE/6 AH) 'the Victorious.' Son of Hormizd IV and grandson of Khosrow Anushirvan, he is considered to be the last great Sasanian king.

Khudai Namah – literary work, called the Book of Kings or Book of Lords, not surviving but passed down through later texts. It has been suggested that it was composed in Middle Persian during the Sasanian Empire. This text was significant for its portrayal of ancient Iranian history and mythology.

***Khutat* (sing.)** – Arabic for geometric planning units, although not necessarily orthogonal, used as land subdivisions along ethnic and tribal lines, but not consisting of stereotypical, socially bound units (al-Sayyad 1991: 72-3).

***Kragā* (sing.)** – Middle Persian for Sasanian poll tax as known in the *Talmud* (Mas. Yoma 77a).

***Köşk* (sing.)** – meaning 'pavilion' or 'palace' in Turkish, used to translate the Arabic words *qaṣr*, *burj*, and *jawsaw* (Mottahedeh 2018: 470).

***Kust* (sing.)** – Middle Persian for 'quarter' or 'side.' Used for the four sides of the **Īrānshahr** after the division by **Khosrow Anushirvan**. The word *kust* can refer to both regions and directions.

***Kust-i ādurbādagān* (sing.)** – Middle Persian geographical term for 'quarter' or 'side' of the north.

***Kust-i khwarāsān* (sing.)** – Middle Persian geographical term for 'quarter' or 'side' of the east.

***al-Madina* (sing.)** – Arab word for city, often translated in Persian as *shahr*.

Madinat al-Salam – literally, the 'City of Peace' in Arabic, with reference to Paradise (al Duri 1986: 894). The Abbasid **Caliph Abu Jaʿfar al-Mansur** gave this name to the city he planned in 145 AH/762 CE, which is nowadays known as **Baghdad**.

Majlis (sing.) – Arabic term meaning 'the sitting room,' this term was used to describe every representative and official space in a house or palace, hence sometimes used to define the court of the **Caliphs**. Sometimes, it is also translated as 'tribal councils.' The first four **Rashidun Caliphs** preferred to hold their court in the **masjid**.

Mamlakat al-Islam* (pl.)** – Arabic for 'Islamic lands', term used by 4th-century AH (10th-century CE) Islamic geographers (Istakhri, Ibn Hawqal, and al-Maqdisi) in their descriptions of the Caliphate, along with the expression ***Bilād al-Islam, 'the country of Islam' (Antrim 2012).

***Manahej* (pl.)** – Arabic for the five main streets, situated north of the *sahah*, 'the place of the mosque' in the early planimetry of Kufa. These streets were complemented by side streets (9 metres wide) and a network of *zuqaqs*, 'narrow lanes' (3 metres wide) (al-Tabari 2488 [Juynboll 1989: 68]; al-Sayyad 1991: 58).

al-Mahdi (bin al-Mansur) – governor at Rayy before becoming third Abbasid **Caliph** (r. 158-69 AH/775-85 CE) at the death of his father, **Abu Jaʿfar al-Mansur**. He was known to be the 'rightly guided.'

Maqṣūra **(sing.)** – Arab word meaning 'enclosure'. It was used to indicate the structure partitioning an area within a **masjid**, typically reserved for the ruling elite or important dignitaries during prayers or religious gatherings.

Marwan I (ibn al-Hakam) – (r. 64-5 AH/684-5 CE), the fourth **Umayyad Caliph**.

Marzbān **(sing.)** – Middle Persian for the 'protector of the frontiers, Warden of the Marches' (al-Tabari [tr.: Bosworth 1999: 96, n. 247]). 'Prefect of the frontiers' according to al-Mas'udi's *Tanbih* (tr. Carra de Vaux: 148).

Mashrabah **(sing.)** – Arabic word for latticed windows crafted from the woodwork (al-Tabari 2530 [tr. Juynboll 1989: 111-2]).

Masjid (sing.) – literally 'place for prostration,' Arabic word for a mosque (Donner 2010: 44).

Masjid-i jami **(sing.)** – Arabic word for the Friday/congregational mosque.

Mihrab **(sing.)** – Arabic word for a niche in the wall of a mosque that indicates the direction of the **Kaʿba** in Mecca, towards which Muslims pray.

Mihran – one of the noble Sasanian family. Members of the **Mihran** family often held important administrative and military roles, contributing to the governance and defence of the empire. See also **Bahram Chobin.**

Minbar (sing.) – Arabic word for pulpit or elevated platform in a **masjid** where the Imam stands to deliver sermons during Friday prayers or on other special occasions.

Miṣr **(sing.; pl.** *amṣar*) – Arabic word used to designate the centres selected as bases for further military campaigns, garrison towns often close to some of the former urban centres, eventually evolved into cities analysed in chapter 3.4.

Muhammad ibn al-Khasim – general in the **Umayyad Caliphate**, he conquered the city of Al-Daibul (Debul) in the year 92 AH/711 CE as part of the wider Islamic expansion into the Indian subcontinent.

Monophysites (Jacobites) – Christian community believing in the single and indivisible nature of Christ. The Monophysite ecclesiastical hierarchy was founded by Jacob Baradaeus (d. 521 CE). The Monophysites belonged to the Church of the East and mainly lived in Syria (Kennedy 2007: 8).

Minar (sing.) – another name of the Tīrbal in Ardashir-Xwarrah.

Moʿtadel (sing.) – see Sardsīr.

Mowbed (sing.) – Middle Persian for the Zoroastrian religious priest.

Mowbedān mowbed (sing.) – the chief Zoroastrian priest, Middle Persian expression translated literally as 'the priest among priests'. According to al-Masʿudhi's *Moruj* (tr. Barbier de Meynard and de Courteille: vol. II, 156), it means 'supreme judge.' **Kerdir** (3rd and 4th century CE) was the most famous one due to its long inscriptions – among which one at the **Kaʿba-i Zartosht**.

Muhammad ibn Marwan ibn al-Hakam – (d. 140 AH/757-8 CE), nephew of **Marwan I**, served as the governor of Mosul, Jazira, Armenia, and Azerbaijan (al-Baladhuri 332 [tr. Murgotten 1924: 33]).

Mukabarah (sing.) – Sabean word meaning 'sanctuary,' etymological root for Mecca placename (Wheatley 2001: 11).

Musalla (sing.) – Arabic word used to denote a place or space (not necessarily a building) for prayers on special occasions. First mentioned for the place outside Medina where Muslims prayed for the Eid prayer. During **Umayyad** times, a structure was built in that place called Masjid al-Musalla (al-Sayyad 1991: 90).

al-Mustaqim (sing.) – Arabic term meaning 'the straight' used to call Damascus' *decumanus*.

al-Muthanna (ibn Haritha al-Shaybani) – commander of the Muslim Arabs in al-Hira. He survived the Battle of the Bridge and was one of the commanders against the Persians at al-Qadisiyya (15 AH/637 CE). He was put in charge of the occupied territories of Iraq.

Muʿawiyah (ibn Abi Sufyan) – (*r*. 40-60 AH/660-80 CE) founder of the **Umayyad Caliphate**. After Muhammad's death, he played a significant role in the early Muslim community and served as governor of several provinces under the **Rashidun Caliphs**, particularly during the Caliphate of his cousin and brother-in-law, **ʿUthman ibn Affan**.

Narses – seventh Sasanian king (293-303 CE). The youngest son of **Shapur I** served as governor of Sakastan. He is famous for the Paikuli inscription, written after he took the crown in place of his niece, Bahram III.

Nestorians – Christian community believing in the doctrine emphasising a distinction between the divine and human natures of Jesus Christ, suggesting that there were two distinct persons: the human person Jesus and the divine Logos. They were called after its founder, Nestorious (d. c. 431). They usually resided in Iraq and the Persian Gulf region (Kennedy 2007: 9).

Niddah (sing.) – means 'separation' or 'estrangement' in Hebrew. In Jewish law, **Niddah** refers to the state of ritual impurity that a woman experiences during menstruation and for some time afterward.

Pahlavi – another term used to refer to the Middle Persian, the language spoken in the Sasanian Empire.

Pardah (sing.) – term used in South Asian cultures, particularly in India and Pakistan, to refer to the practice of seclusion or veiling of women.

Parthians –see **Arsacids**.

Procopius –Roman scholar and historian who lived during the 6th century CE, known for his *History of the Wars*, *Secret History*, and *Buildings*. Procopius served as a legal advisor and secretary to the general Belisarius during the reign of Emperor Justinian I (r. 527- 65 CE).

Qadi (sing.) – Arabic for the judge in Islamic law courts. It is derived from the word 'qada,' meaning 'to judge' or 'to decide.'

Qaṣr – Arabic for fortress or fortified palace (Mottahedeh 2018: 470). See also *köşk*.

Quhandīz – Arabic for citadel or fortress. This is a loan from the Persian word for citadel, i.e., *kuhan-diz* or 'old fort' (Mottahedeh 2018: 470).

Rabaḍ – Arabic for the suburbs of the city. In some cases, suburbs and outer walls seem to be the same (Mottahedeh 2018: 469-70).

Rahbah – see *Sahn*.

Rashidun Caliphate – (11-40 AH/632-61 CE) period of the four 'orthodox' **Caliphs** of Islamic tradition (Kennedy 1989: 81). Generally considered to have spanned from the death of Prophet Muhammad in 11 AH/632 CE until the assassination of **ʿAli ibn Abi Talib** in 40 AH/661 CE.

Ribats (sing.; pl. *ribatāt*)– Arabic term used for border garrison that grew into fortified cities.

al-Saʿd (ibn Abi Waqqas) – (c. 595-674 CE/55 AH) companion of Muhammad. It was sent by **Caliph ʿUmar** to conquer Iraq. His forces entered the Sasanian administrative capital and then founded Kufa, of which he was governor. He remained neutral during the **Civil Wars**.

Sahah – Arabic for 'the place of the mosque' see *Manahej* and *sahn*.

Sahn (*sahah*, *rahbah*) – Arabic terms used to describe the main square at centre of the garrison city (al-Sayyad 1991: 72-3).

Salat – is the Islamic practice of ritual prayer performed by Muslims as one of the Five Pillars of Islam.

Sardsīr (sing.) – Persian *for* 'cold lands' name of the Fars' climatic region where rain-watered agriculture thrives. In contrast, the coastal regions of the Persian Gulf, known as **garmsīr**, are the 'warm lands' requiring irrigation-based agriculture. The two regions are separated by a temperate zone known as **moʿtadel**. In the western part, the mountainous highlands are divided by narrow valleys known as **sarḥadd**, which are unsuitable for farming (de Planhol 2000: 316).

Sarḥadd (sing.) – see *Sardsīr*

Sarawj **(sing.)** – Persian term for hard waterproof plaster (Wilkinson 1986: glossary).

Sayāḥā (sing.) – Arabic word meaning shady places, term used by Ibn al-Balkhi (tr.: 325) to define a structure constructed atop of Ardashir-Xwarrah's Tīrbal, along with a grand dome named Gunbad or Kīrmān situated amidst them. He potentially confused the Tīrbal with the Takht-i Nashin.

Sebeos (Sebeos of Bagratuni) – Armenian historian and bishop who lived during the 7th century CE (1st century AH).

Seleucid dynasty – one of the Hellenistic successor states that emerged after the death of Alexander the Great. It began with the establishment of the empire by Seleucus I Nicator in 312 BCE and lasted until the Roman conquest of the region in 63 BCE.

Shāh (sing.) – 'King' in Persian. However, this term is also used to express 'the best.'

Shāhānshāh (sing.) – Middle Persian for 'King of the kings,' Sasanian title. Possibly nuanced as 'the best among the best.'

Shahr (sing.) – Persian for provinces, administrated by a *shahrdār*. It is also employed to define districts and/or provinces – *kura* in Arabic. In this case, **shahr**is commanded by a *shahrāb*. The Middle Persian word used in both cases was *shtry* (Daryaee 2013: 195)*.* Problems related to this term are analysed in chapter 2.6.

Shahrestan (sing.) – Persian for a capital city in a district (Daryaee 2013: 195). Also, the nucleus of the city enclosed by a wall which was occupied partly by a citadel (Wheatley 2001: 58). Problems related to this term are analysed in chapter 2.6.

Shahrenstaniha-i-Eranshahr – Middle-Persian geographical tractate on Sasanian regions compiled during the late Sasanian period and redacted in the 2nd AH/8th CE century.

Shapur I – (r. 242-70 CE) second king of the Sasanian dynasty, a son of **Ardashir I**, famous for his victories over the Romans. His inscription at the **Kaʿba-i Zartosht** is an important propaganda act consisting of a long inscription dedicated to the god Ohrmazd, one of the main historical sources of the first years of the dynasty. See chapter 1.3 for a relevant analysis of geographical information.

Shapur II – (r. 309-79 CE) ninth Sasanian king, succeeded his father, Hormizd II, to the throne at a young age. **Shapur II** is known for his military campaigns, particularly against the Roman Empire and its significant expansion of the empire's territories.

Shariʿa (sing.) – often referred to as 'Islamic law,' is a system of principles and rules derived from Islamic sources, primarily the Quʾran and the hadith. It serves as a comprehensive guide for various aspects of life, including religious, moral, social, and legal matters within Islamic societies.

Sharik ibn al-Aʿwar – Under **ʿUthman**'s rule, the Fars governor **Abu Ubaidah Ibn ʿAmir** appointed **Sharik ibn al-Aʿwar** as his deputy in Istakhr, where he initiated the construction of a **masjid** (al-Tabari 2884 [tr. Humphreys 1990: 90]).

Shaykh (sing.) – Arabic title of respect, used to refer to a venerable man older than 50 years. It is usually used for men who are heads of religious orders or learned men.

***Shurta* (sing.)** – Arabic for urban police (Morony 1984: 93-5) see also chapter 5.7.

***Sikkat al-Barid* (sing.)** – Arabic for 'post office'. See chapter 5.7.

Sophronius – Christian monk, theologian, and patriarch of Jerusalem. He was born around 560 CE in Damascus and later became a monk in Palestine. In 637 CE, he negotiated the surrender of Jerusalem to the Arab armies led by Caliph **ʿUmar.**

***Stan* (sing.)** – Persian term used to refer to 'land.'

Suq (sing.) – Arabic for marketplace.

Tahmuras – Mythical king credited with founding the Persian Empire and establishing the early civilization of Iran. He is also sometimes associated with the mythical figure of Jamshid.

***Tepes* (pl.)** – or *tells*, meaning mounds. The expression is used to describe mounds, which often are formed by collapsed earthen architecture. *Tepes* is the term usually used in Central Asia and Khorasan, while *tells* in Iran.

Thomas the Presbyter (Thomas the Monk) – a 7th-century CE Christian chronicler and monk from Syria, wrote the *Chronicon*.

Ubi sunt – expression used to define a particular literary motif described as 'the nostalgic and moralising discussion of now gone but previously powerful people' (Munt 2015: 464). It has a strict relation to the folk literature issue and to the cultural ecumene the source refers to.

ʿ**Ubaydullah ibn Abi Bakra** – appointed over Sijistan (al-Baladhuri 397 [tr. Murgotten 1924: 148]).

Umayyads – the 'first Caliphate of Islam,' held sway from 40 to 132 AH (661 to 750 CE). Based in their capital, Damascus, they focused extensively on constructing infrastructures and establishing state institutions. Much of our knowledge about the **Umayyads** is derived from later historians (Kennedy 1986). **Muʿawiyah** was the first **Caliph**.

Umma **(sing.)** – Arabic for community. In a series of agreements between the early followers of the Islam faith and the Medinese helpers, including the Jewish clans, they were all bonded together as belonging to the same community (Donner 2010: 44).

ʿ**Umar ibn al-Khattab** – (b. 586 CE; r. 13-23 AH/634-44 CE) second **Rashidun Caliph.** He was the first to hold the title *Amir al-muʾminin* (commander of the faithful). He was the father of Ḥafṣah, the fourth wife of Muhammad. He was very successful as a commander, and during his reign, the **Caliphate** became a world power.

ʿ**Umar II (Umar ibn Abd al-Aziz)** – (r. 99-101 AH/717-20 CE) **Umayyad Caliph** renowned for his efforts to alleviate the burdens of taxation on the non-Arab Muslim population and for his emphasis on the principles of equality and accountability in governance.

ʿ**Utbah ibn Ghazwan (al-Mazini)** – (b. 581– d. 638 CE/16 AH) companion of the Prophet Muhammad. During the Caliphate of ʿ**Umar**, he conquered Ubulla (al-Baladhuri 341 [tr.: Murgotten 1924: 53]). He was appointed governor of Basra.

ʿ**Uthman (ibn Affan)** – (r. 23–35 AH/644–56 CE) third **Rashidun Caliph**. One of the early converts to Islam, he played a significant role in the early Muslim community. His assassination triggered the **Civil Wars** (**Fitna**).

Utm **(sing.; pl.** *atam***)** – Arabic for mud-brick tower(s) in Yathrib, which served as a refuge in the event of raids by robbers (Donner 2010: 35).

Vistahm Ispahbudhan – Sasanian noble, his sister was **Khosrow Parviz**'s mother. Together with his brother, he led a coup to usurp his brother-in-law and his nephew during the turmoil following **Bahram Chobin**'s usurpation.

al-Walid (ibn Abd al-Malik) — (r. 86-6 AH/705-15 CE) sixth caliph of the **Umayyad Caliphate**, he succeeded his father, **ʿAbd al-Malik**. **Al-Walid** is often remembered as a capable and ambitious ruler who oversaw significant expansions of the Islamic Caliphate through military conquests.

Wāzārgānān **(sing.)** — Middle Persian for merchant.

Wāzār **(sing.)** — Middle Persian for *bazaar.*

Xwarrah **(sing.)** — Middle Persian for divine grace, glory, a loan from Avestan *xᵛarənah*. The word was used to express the Sasanian royal family's right to kingship and the requirement for the divine election of the king as a ruler. In the *Karnamag,* it assumed the form of a ram. According to the ***Avesta***, it is a luminous substance that is somehow crucial for growth and birth (Skjærvø 2012: 72).

Yazata **(sing.)** — Avestan word generally used to define a divinity or an order of angels but also as an epithet of a divinity. Some *yazata* are Ātar (Fire), Mithra, Anahid, Rashnu (The Righteous), Sraosha, and Verethraghna.

Yazdegerd III — (r. 632- 50 CE /1-30 AH) last Sasanian king. His rule marked the significant challenge of the expanding influence of the **Rashidun Caliphate**, which had already significantly reduced the territory and power of the Sasanian Empire.

Ziyad (ibn Abihi) — (d. 51 AH/672 CE), son of Abu Sufyan ibn Harb, was a notable companion of the Prophet Muhammad. **Ziyad** served as the governor of various provinces, including Basra and Kufa, under both the **Rashidun** and **Umayyad Caliphates**.

Zuqaqs — see *Manahej*.

References

Primary sources:

Abolqasem Ferdowsi, شاهنامه (*Shahnama).*

Translated as *Shahname. The Persian Book of the Kings* by Dick Davis. New York: Penguin Classic. **2010**.

Ammianus Marcellinus, *Res Gestae*.

Translated as *Le Storie* by Antonio Selem. Novara: UTET. **2013**.

Anonymous, *A Short Chronicle.*

Translated and edited as *A Short Chronicle on the End of the Sasanian Empire and Early Islam, 590 -660 A.D.* by Nasir al-Ka'bi. Piscataway, NJ: Gorgia Press LLC. **2016**.

Anonymous, *Cologne Mani-Codex*.

Translated and edited as *Manichean Texts from the Roman Empire* by Iain Gardner and Samuel N. Lieu. Cambridge: Cambridge University Press. **2004**.

Anonymous, *Chronicle of Seert*, known also as *Histoire Nestorienne*.

Translated as *Chronicle of Seert* by Anthony Alcock. Available online at https://www.roger-pearse.com/weblog/2014/09/30/translations-by-anthony-alcock/ (accessed March 2024). **2014**.

Anonymous, *Denkard*.

Translated as *Denkard, the Acts of Religion Book* 3 by Dastoor P.B. Sanjana. Bombay: D. Ardeshir & Co. **1876**.

Anonymous, *Dīnā-ī Maīnōg-ī Khirad*.

Translated as *Pahlavi texts: part III* by Edward W. West. New York: Scribner's. **1901**.

Anonymous, *Buzandaran Patmut'iwnk'*.

Translated as *Epic Histories* by Nina G. Garsoïan. Cambridge, Massachusetts and London, England: Harvard University Press. **1989**.

Anonymous, *Herbedestan.*

Translated as *Ērbedestān: An Avesta-Pahlavi Text* by Helmut Humbach (in cooperation with Josef Elfenbein). Munich: Münchener Studien zur Sprachwissenschaft, N.S. 15. **1990**.

Anonymous, *Hudud al-ʿAlam.*

Translated as *'The Regions of the World' A Persian Geography. 372 A.H.-982 A.D.* by Vladimir Minorsky. Oxford: Oxford University Press. **1937**.

Anonymous, *Jamasp Namah*.

Translated as 'To the Žāmāsp-Nāmak' by Harold W. Bailey in *Bulletin of the School of Oriental Studies, University of London* 6, No.1. 55-85. **1930**.

Translated as 'Apocalypse Now: Zoroastrian Reflection on the Early Islamic Centuries' by Touraj Daryaee in *Medieval Encounters* 4: 3. 190-1. **1998**.

Anonymous, *Liber Turris, extract.*

Translated as *The Acts of Mār Māri the Apostle. Appendix pp. 83-7* by Amir Harrak. Atlanta: Society of Biblical Literature. **2005**.

Anonymous, *Khuzestan Chronicles*.

Translated by Greatrex, Geoffrey and Lieu, Samuel N.C., eds. *The Roman Eastern Frontier and the Persian Wars. Part 2: AD 363–630. A Narrative Sourcebook*. London and New York: Routledge. **2002**.

Anonymous, *Rivayat-i Hemit-i Ashawahistan.*

Translated as *Rivāyat-i Hēmīt-i Ašawahistān: A Study in Zoroastrian Law: Edition, Transcription, and Translation* by Nezhat Safa-Isfehani. Department of Near Eastern Languages and Civilizations: Harvard University. **1980**.

Anonymous, *Shahrenstaniha-i-Īrānshahr* .

Translated as *Šahrenstānīhā-ī-Ērānshar - A middle Persian text on Late Antiquity Geography, Epic, and History* by Touraj Daryaee. Costa Mesa, California: Mazda Publishers Inc. **2002**.

Anonymous, *Talmud.*

Translated as *The Soncino Babylonian Talmud* by Rabbi Dr I. Epstein. London: The Soncino Press. **1935-48**.

Anonymous, *The Acts of Mar Mari the Apostle.*

Translated as *The Acts of Mār Māri the Apostle* by Amir Harrak. Atlanta: Society of Biblical Literature. **2005**.

Anonymous, *The Book of Kings and the Explanations of This World.*

Translated as *The Book of Kings and the Explanations of This World. A Universal History from the Late Sasanian Empire* by Charles G. Häberl. Liverpool: Liverpool University Press. **2022**.

Anonymous, *The Martyrdom of Mar Qardagh.*

Translated as *The Legend of Mar Qardagh. Narrative and Christian Heroism in Late Antique Iraq* by Joel T. Walker. Berkeley, Los Angeles, London: University of California Press. **2006**.

Anonymous, *The Synod of Mar ʿIshaq.*

Translated as *The Synod of Mar 'Ishaq* by M. J. Birnie (unpublished, **no date**).

Anonymous, Videvdad.

Translated as *Vendidad (Vidēvdād) or Laws against the Demons Avesta — The Sacred Books of Zoroastrianism*, *Book* 3 by James Darmesteter. Oxford: Clarendon Press. **1880**.

al-Baladhuri, *Kitab Futuh al-Buldan.*

Translated as *The Origins of the Islamic State.* Vol. I by Philip Khuri Hitti and *The Origins of the Islamic State.* Vol. II by Francis Clark Murgotten. New York: Longmans, Green &Co. **1916** and **1924** respectively.

Translated as *History of the Arab Invasions: The Conquest of the Lands: A New Translation of al-Baladhuri's Futuh al-Buldan* by Hugh Kennedy. London: Bloomsbury. **2022**.

Ibn al-Balkhi, *Farsnamah*.

Translated as 'Description of the Province of Fars, in Persia, at the beginning of the twelfth century A.D. translated from the MS of Ibn al-Balkhi, in the British Museum' by Guy Le Strange, in *Journal of the Royal Asiatic Society of Great Britain and Ireland*. **1912**.

Cassius Dio, *Historia Romana*.

Translated as *Della Istoria Romana di Dione Cassio* by Giovanni Sifilino in four volumes. Milano: Dalla Tipografia de' Fratelli Sonzogno. **1823**.

al-Dinawari, *Kitab al-Akhbar Al-Tiwal*.

Translated as *The Book of Lengthy Histories* by Michael Jackson-Bonner. Available online at http://www.mrjb.ca/current-projects/abu-hanifah-ahmad-ibn-dawud-al-dinawari (accessed March 2023). **2020**.

Eḷishē, *Eḷishe vasn Vardanay ev HayotsʿPaterazmin*.

Translated as *History of Vardan and the Armenian War* by Robert W. Thomson. Cambridge, Massachusetts and London, England: Harvard University Press. **1982**.

Ibn al-Faqih, *Kitab Akhbar al-Buldan.*

Translated as *Abrégé du Livre des Pays* by Henri Masse. Damas: Institut Français de Damas. **1973**.

Farroxmand ī Vahrāmān, Madigan-i Hazar Dadestan.

Translated as the *The Book of a Thousand Judgements. A Sasanian Law-Book* by Anahit Perikhanian and then by Nina G. Garsoïan. Costa Mesa, California: Mazda Publishers. **1997**.

Gorgani, Fakhraddin, یس و رامین *(Vis u Ramin).*

Translated as *Vis and Ramin* by Dick Davis. New York: Penguin Classic. **2008**.

Hamza al-Isfahani, *Siniyy Muluki ʿArdi al-Anbiyaʾ.*

Translated as *Hamza Ispahanensis Annalium* by Joseph Gottwaldt. Lipsiae: Sumtibus Editoris. **1844**.

Translated as *The History of the Kings of the Persians in Three Arabic Chronicles. The Transmission of the Iranian Past from Late Antiquity to Early Islam* by Robert Hoyland. Liverpool: Liverpool University Press. **2018**.

Ibn Hawqal, *Kitab al-Masalik al-Mamalik.*

Translated as *The Oriental Geography of Ebn Haukal, an Arabian traveller of the tenth century* by Sir William Ouseley. Wilson & co.: London. **1800**.

Herodian, *τῆς μετὰ Μάρκον βασιλείας ἱστορία.*

Translated as *Herodian* by C.R. Whittaker in two volumes. Loeb Classical Library. **1969**.

Idrisi, *Nuzhat al-Mushtaq fi Khtiraq al-Afaq.*

Translated as *Geographie d'Edrisi. Traduite de l'Arabe en Français d'après deux manuscrits de la Bibliothèque du Roi et accompagnées de notes* by Pierre Amédéd Jaubert. Paris: Chez Arthus Bertrand, Libraire de la Societe. **1836**.

John of Ephesus, *Ecclesiastic History.*

Translated as 'Lives of the Eastern Saints' by Ernest W. Brooks in *Patrologia Orientalis*, Graffin, René and Nau, François Graffin (eds.). Paris: Firmin-Didot & Co. Vol. 17 = 1-307 (**1926**); vol. 18 = 312-698 (**1927**); vol. 19 = 153- 285 (**1929**).

Joshua the Stylite, *The Chronicle.*

Translated as *The Chronicle of Joshua the Stylite composed in Syriac A.D.* 507 by William Wright. Cambridge: Cambridge University Press. **1882**.

Łazar Pʻarpecʻi, *The History.*

Translated as the Appendix of *History of Vardan and the Armenian War* by Robert W. Thomson. Cambridge, Massachusetts and London, England: Harvard University Press. **1982**.

Translated as the *History of Łazar Pʻarpecʻi* by Robert W. Thomson. Atlanta, Georgia: Scholar Press. **1991**.

al-Maqdisi, *Ahsan al-Taqasim fi Maʿrifat al-Aqalim.*

Translated as *The best divisions for knowledge of the regions* by Basil Anthony Collins. Centre for Muslim Contribution to Civilization: Garnet Publishing Limited. 1994.

al-Masʿudhi,

Muruj al-Dhahab wa Maʿadin al-Jawahir.

  Translated as *Les Prairies d'or,* 8 vols. By Charles Barbier de Meynard et Pavet de Courteille. Paris:
      Imprimerie Impériale. **1861-77**.

  Translated as *The History of the Kings of the Persians in Three Arabic Chronicles. The Transmission of
      the Iranian Past from Late Antiquity to Early Islam* by Robert Hoyland. Liverpool: Liverpool
      University Press. **2018**.

al-Tanbih wa al-Ishraf.

  Translated as *Le Livre de l'Avertissement et de la Revision* by Bernard Carra de Vaux. Paris:
      L'Imprimerie Nationale. **1847**.

Meshiha-Zeka, *Kitab ḏ-eklisyastiki da-Meshiha-Zeka.*

Translated as *The Chronicle of Arbela* by Peter Kawerau and translated in English by Timothy Kroll.
      Lovanii: In Ædibus E. Peeters. **1985**.

Moses Khorenats, *Patmut'yun Hayots.*

Translated as *History of the Armenians* by Robert W. Thomson. Cambridge, Massachusetts: Howard
      University Press. **1978**.

al-Mustawfi, *Nuzhat al-Qulub.*

Translated as *The geographical part of the Nuzhat al-Qulūb* by Guy Le Strange. London: Luzac & Co.
      1919.

Procopius, Ὑπὲρ τῶν Πολέμων Λόγοι.

Translated as *History of the Wars, Books I and II - The Persian War* by Henry B. Dewing. London:
      Harvard University Press. **1971**.

Ibn Rusta, *Kitab al-Aʿlaq al-Nafisa.*

Translated as *Ibn Rusteh. Les Atours Précieux* by Gaston Wiet. Cairo: La Société de Géographie
      d'Égypte. **1955**.

Sebeos, *Patmutʿiwn Sebeosi.*

  Translated as *History* by Robert Bedrosian. New York. 1985. Available online at
      https://archive.org/details/SebeosHistoryOfArmenia (accessed December 2023).

  Translated as *The Armenian History Attributed to Sebeos* by Robert Thomson and James Howard-
      Johnston. Liverpool: Liverpool University Press. **1999**.

Sozomen, *Historia Ecclesiastica*.

Fragments translated in *The Roman Eastern Frontier and the Persian Wars* by Geoffrey Greatrex and
 Samuel N.C. Lieu. London and New York: Routledge. **2002**.

al-Tabari, *Taʾrikh al-Rusul waʾl-Muluk.*

Translated as *The History of al-Tabari, vol.4 - The Ancient Kingdoms* by Moshe Perlmann. New York:
 State University of New York Press. **1987**.

Translated as *The History of al-Tabari, vol.5 – The Sasanids, the Byzantines, the Lakhmids, and Yemen*
 by Clifford E. Bosworth. New York: State University of New York Press. **1999**.

Translated as *The History of al-Tabari, vol.13 – The Conquest of Iraq, Southwestern Persia, and Egypt*
 by Gauthier H.A. Juynboll. New York: State University of New York Press. **1989**.

Translated as *The History of al-Tabari, vol.14 – The Conquest of Iran* by G. Rex Smith. New York: State
 University of New York Press. **1994**.

Translated as *The History of al-Tabari, vol.15 – The Crisis of the Early Caliphate* by R. Stephen
 Humphreys. New York: State University of New York Press. **1990**.

Translated as *The History of al-Tabari, vol.16 – Community Divided. Caliphate of Ali 656-657* by Adrian
 Brockett. New York: State University of New York Press. **1997**.

Translated as *The History of al-Tabari, vol.17 – First Civil War. Battle of Siffin to Death of Ali 656-661*
 by Gerald R. Hawting. New York: State University of New York Press. **1996**.

Theopylact Simocatta, *Histories*.

Translated as *The History of Theophylact Simocatta: An English Translation with Introduction* by
 Michael and Mary Whitby. Oxford: Oxford University Press. **1986**.

al-Yaʾaqubi, *Kitab al-Buldan.*

Translated as *Kitaboʾl-Boldān* by Abrahamus W.T. Juynboll. Leiden: J. Brill. **1861**.

Yaqut ar-Rumi, *Muʾjam al-Buldan.*

Translated as *Dictionnaire Géographique, Historique et Littéraire de la Perse et des Contrées
 Adjacentes* by Charles Barbier De Meynard. Paris: A lʾImprimerie Impériale. **1861**.

Inscriptions:

Shapur Iʾs inscription at Kaʿba-i Zartosht in Naqsh-i Rostam, Fars

Translated as *Die dreisprachige Inschrift Šābuhrs I. An der Kaʿba-i Žardušt (ŠKZ)*, 2 vols. (Corp. Iscrip.
 Iran. III, Vol. I, Text I) by **Philip Huyse**. London: School of Oriental and African Studies. **1999**.

Narses' inscription at Paikuli, Kurdistan

Translated as *Aspects of History and Epic in Ancient Iran: From Gaumāta to Wahnām* by **Rahim M. Shayegan**. Hellenic Studies Series 52. Washington, DC: Center for Hellenic Studies. **2012**.

Translated as *The Sassanian Inscription of Paikuli* by **Helmut Humbach**, H. and Prods, O. Skjærvo. Wiesbaden: Dr. Ludwig Reichert Verlag. 1983.

Kerdir inscriptions

Translated as 'Observations sur les titres de Kerdir' in *Studia Iranica*, 19. 87-94 by **Frantz Grenet. 1990**.

Translated as *Les quatre inscriptions du mage Kirdīr* by **Gignoux, Philippe**. Paris: Association pour l'avancement des études Iraniennes. **1991**.

Translated as 'Kerdīr and the first Sasanians' in **Nicholas Sims-Williams** (ed.) *Proceedings of the Third European Conference of Iranian Studies, pt. 1, Old and Middle Iranian Studies* 108-20 by Philip Huyse. Wiesbaden: Harrassowitz Verlag. **1998**.

Translated as *Third Century Iran. Sapor and Kartir* by **Martin Sprengling**. Chicago: University of Chicago Press. **1953**.

Secondary sources:

Adams Robert M.

(**1965**). *Land Behind Baghdad. A History of Settlement on the Diyala Plains*. Chicago and London: The University of Chicago Press.

Adams Robert M. and Hansen, Donald P.

(**1968**). 'Archaeological Reconnaissance and Soundings in Jundi Shāhpur' in *Ars Orientalis* 7. 53-70.

Adle, Chahryar and Kossari, Yahya

(**1990**). 'Notes sur le premier et seconde campagnes archéologiques à Rey, automne-hiver 1354-55/1976-77' in François Vallat (ed.) *Contribution à l'histoire de l'Iran*. Paris: Editions Recherche sur les Civilisations. 295-308.

Aigle, Denise

(**2018**). 'Among Saints and Poets: The Spiritual Topography of Medievalist Shiraz' in David Durand-Guédy, Roy P. Mottahedeh, and Jürgen Paul (eds.) *Eurasian Studies* 16. *Cities of Medieval Iran*. Leiden and Boston: Brill. 142-76.

Andaroodi, Elham; Talebian Mohammadhassan; Hashemian, Sahar; Mardin Amini, Mohammad; and Ebneali, Shahryar

(2021). 'Re-study of the Structure of the Istakhr City in Fars during the Sassanid Period and its Changes in the Early Islamic Periods' in *Pazhohesh-ha-ye Bastanshenasi Iran* (Archaeological Research of Iran). 241-70.

Alram, Micheal; Blet-Lemarquand, Maryse; and Skjærvo, Prods O.

(2007). 'Shapur, King of Kings of Iranians and Non-Iranians' in Rika Gyselen (ed.) *Des Indo-Grecs aux Sassanides: données pour l'Histoire et la Géographie Historique (Res Orientales XVII)*. Bures-sur-Yvette: Group pour l'Étude de la Civilisation du Moyen-Orient. 11-40.

Antrim, Zayde

(2012). *Routes and Realms. The Power of Place in the Early Islamic World*. Oxford: Oxford University Press.

(2018). *Mapping the Middle East*. London: Reaktion Books LTD.

Arce, Ignacio

(2008). 'Umayyad building techniques and the merging of Roman-Byzantine and Partho-Sassanian traditions: continuity and change' in *Late Antique Archaeology* 4:1. 491-537.

Ardener, Shirley

(1997). 'Ground Rules and Social Maps for Women: An Introduction' in Shirley Ardener (ed.) *Women and space*. Oxford, New York: Berg.

Avni, Gideon

(2011). '"From Polis to Medina" Revisited – Urban Change in Byzantine and early Islamic Palestine' in *Journal of the Royal Asiatic Society, Third Series* 21:3. 301-29.

(2014). *The Byzantine-Islamic Transition in Palestine: An Archaeological Approach*. Oxford: Oxford University Press.

Azarnoush, Massoud

(1994). *The Sasanian Manor House at Hājīābād, Iran*. Firenze: Le Lettere.

Baird, Jennifer A.

(2012). *The Inner Lives of Ancient Houses: An Archaeology of Dura Europos*. Oxford: Oxford University Press.

Bockmann, Ralf; Leone, Anna; and von Rummel Philipp (eds.)

(**2019**). *Africa – Ifrīqiya. Continuity and Change in North Africa from the Byzantine to the Early Islamic Age. Papers of a Conference held in Rome, Museo Nazionale Romano – Terme di Diocleziano, 28 February – 2 March 2013*. Harrassowitz Verlag: Wiesbaden.

Bosworth, Clifford E.

(**2009**). 'The Persistent Older Heritage in the Medieval Iranian Lands' in Vesta S. Curtis and Sarah Stewart (eds.) *The Idea of Iran 4. The Rise of Islam*. London and New York: I.B. Tauris. 30-43.

Boucharlat, Remy

(**2019**). 'Découvertes récentes de stucs en Iran Sassanide et problèmes d'interprétation' in Jacqueline Dentzer-Feydy, Anne-Marie Guimier-Sorbets, and Christiane Delplace (eds.) *Syria. Supplément* V: *Stucs d'Orient*. 351-66.

Bourdieu, Pierre

(**1977**). *Outline of a Theory of Practice*. Cambridge: Cambridge University Press.

Boyce, Mary

(**1975**). 'On the Zoroastrian Temple Cult of Fire' in *Journal of the American Oriental Society* 95: 3. 454-65.

(**1984**). *Textual sources for the study of Zoroastrianism*. Manchester: Manchester University Press.

Brauer, Ralph W.

(**1995**). 'Boundaries and Frontiers in Medieval Muslim Geography' in *Transactions of the American Philosophical Society* 85:6. 1-73.

Braun, Jerome

(**2015**). 'What Social Theory Can Learn from Hans Gerth and C. Wright Mills's "Character and Social Structure: The Psychology of Social Institutions"' in *The American Sociologist* 46:3. 414-33.

Bulliet, Richard W.

(**1979**). *Conversion to Islam in the Medieval Period*. Cambridge, Mass., and London: Harvard University Press.

(**2009**). *Cotton, climate, and camels in Early Islamic Iran: a moment in world history*. New York: Columbia University Press.

Callieri, Pierfrancesco

(**2006**). 'Water in the Art and Architecture of the Sasanians' in Antonio Panaino and Andrea Piras (eds.) *Proceedings of the 5ᵗʰ Conference of the Societas Iranologica Europaea* I. Milan: Mimesis International. 339-49.

(2014). *Architecture et Représentations dans l'Iran Sassanide*. Paris: Association pour l'avancement des études Iraniennes.

Callieri, Pierfrancesco; Askari-Chaverdi, Alireza; Eghra, Ali; Mezzapelle, Diego Maria; and Mohammadkhani

(2021). 'The Dynamics of Human Settlement in Historical Times in South-Central Fars, from Firuzabad to the Persian Gulf' in *East and West* 2: 61. 43-88.

Callieri, Pierfrancesco and Askari-Chaverdi, Alireza

(2023). 'From Ctesiphon to Firuzabad. Towards the Origins and the Meaning of Circular Cities in Pre-Islamic Iran' in *Parthica* 24. 147-56.

Canepa, Matthew P.

(2009). *The Two Eyes of the Earth: Art and Ritual of Kingship between Rome and Sasanian Iran*. Los Angeles and London: University of California Press.

(2010). 'Technologies of Memory in Early Sasanian Iran: Achaemenid Sites and Sasanian Identity' in *American Journal of Archaeology*. 114:4. 563-96.

Carter, Robert A.; Challis, Keith; Priestman, Seth M.N.; and Tofighian, Hossein

(2006). 'The Bushehr Hinterland Results of the First Season of the Iranian-British Archaeological Survey of Bushehr Province, November-December 2004' in *Journal of Persian Studies* 44. 1-41.

Cavallero, Mariangiola

(1966). 'The excavation at Choche (The presumed Ctesiphon), Area 2' in *Mesopotamia* I. 63-80.

(1967). 'The excavation at Choche, Area 2' in *Mesopotamia* II. 48-56.

Cellerino, Alessandra and Messina, Vito

(2013). 'Terracotta animal figurines from Veh Ardashir (Coche) in the collection of the Museum Civico D'Arte Antica e Palazzo Madama (Torino)' in Alessandra Peruzzetto, Francesca Dorna Metzger, Lucinda Dirven (eds.) *Animals, Gods and Men from East to West*. Turin. 123-34.

Cereti, Carlo G.

(2001). *La letteratura Pahlavi. Introduzione ai testi con riferimenti alla tradizione manoscritta*. Milano: Mimesis.

(2004). 'Some notes on the Sasanian coinage of Esfahān and a few mint signatures' in Accademia dei Lincei (ed.) *Convegno internazionale. La Persia e Bisanzio. Roma, 14-18 ottobre 2002*. Rome: Accademia Nazionale dei Lincei. 309-26.

(2010). 'L'impero Sasanide' in Alessandro Barbero and Giusto Traina (ed.) *Storia dell'Europa e del Mediterraneo* I. Rome: Il mondo antico. 289-350.

(2020). 'Are the provincial capital of Ērānšahr really Provincial Capitals?' in *Vicino Oriente* 24. 135-49.

Cereti, Carlo G. and Gondet, Sebastian

(2015). 'The funerary landscape between Naqš-e Rostam and Estahr (Persepolis region). Discovery of a new group of Late Sasanian inscribed rock-cut niches' in *Iranica Antiqua* 50. 347-412.

Cereti, Carlo G. and Terribili, Gianfilippo

(2014). 'The Middle Persian and Parthian Inscriptions on the Paikuli Tower. New Blocks and Preliminary Studies' in *Iranica Antiqua* 49. 367-403.

Crone, Patricia and Hinds, Martin

(1986). *God's Caliph.* Cambridge: Cambridge University Press.

Di Cesare, Michelina and Ebanista, Laura

(2018). 'The Site of the Mosque at Istakhr' in Maria Vittoria Fontana (ed.) *Istakhr (Iran), 2011-2016. Historical and Archaeological Essays*. Rome: Quaderni di Vicino Oriente. 251-301.

Chaudhuri, Kirti N.

(1985). *Trade and Civilisation in the Indian Ocean, An Economic History from the Rise of Islam*. New Delhi: Munishiram Manoharlal.

Choksy, Jamsheed K.

(2003). 'To Cut off, Purify, and Make Whole: Historiographical and Ecclesiastical Conceptions of Ritual Space' in *Journal of the American Oriental Society* 123: 1. 21-41.

Christensen, Arthur

(1944). *L'Iran sous les Sassanides*. Copenhagen: E. Munksgaard.

Christensen, Peter

(2016). *The Decline of Iranshahar. Irrigation and Environment in the Middle East, 500 BC- AD 1500*. London and New York: I.B. Tauris.

Colliva, Luca, and Rugiadi, Martina

(2018). 'On the Ground. The Archaeological Site of Istakhr' in Maria Vittoria Fontana (ed.) *Istakhr (Iran), 2011-2016. Historical and Archaeological Essays*. Rome: Quaderni di Vicino Oriente. 127-95.

Cohen, Abraham

(1937). *Everyman's Talmud*. London: J.M Dent.

Curtis, Vesta S.

(**2000**). 'Parthian Culture and Costume' in John Curtis (ed.) *Mesopotamia and Iran in the Parthian and Sasanian Periods: Rejection and Revival c. 238 BC-AD 642*. London: British Museum Press.

Daryaee, Touraj

(**2003**). 'The Effect of the Arab Muslim Conquest on the Administrative Division of Sasanian Persis/Fars' in *Iran* 41. 193-204.

(**2009**). *The Rise and Fall of an Empire*. London and New York: I.B. Tauris.

(**2010a**). 'The Fall of the Sasanian Empire to the Arab Muslims: From Two Centuries of Silence to Decline and Fall of the Sasanian Empire: The Partho-Sasanian Confederacy and the Arab Conquest of Iran' in *Journal of Persianate Studies* 3:2. 239-54.

(**2010b**). 'Bazaars, Merchants, and Trade in Late Antique Iran' in *Comparative Studies of South Asia, Africa and the Middle East* 30:3. 401-9.

(**2013**). 'Marriage, Property and Conversion among the Zoroastrians: From Late Sasanian to Islamic Iran' in *Journal of Persianate Studies* 6. 91-100.

(**2015**). 'Wahrām Čōbēn the Rebel General and the Militarization of the Sasanian Empire' in Anna Krasnowolska and Renata Rusek-Kowalska (eds.) *Studies on the Iranian World* I. 193-202.

(**2019**). 'From Zoroastrian to Islamic Iran: A Note on the Christian Intermezzo' in *Vicino Oriente* 23. 109-20.

Daryaee, Touraj and Rezakhani, Khodadad

(**2016**). *From Oxus to Euphrates. The World of Late Antique Iran*. UK: H&S Media.

Denoix, Sylvie

(**2008**). 'Founded cities of the Arab world from the seventh to the eleventh centuries' in Salma K. Jayyusi, Renata Holod, Attilio Petruccioli, and André Raymond (eds.) *The City in the Islamic World* 1. Leiden and Boston: Brill. 115-39.

Djamali, Morteza; Rashidian, Elnaz; Askari-Chaverdi, Alireza; Aubert, Cyril; Brisset, Elodie; Demory, François; Faucherre, Nicholas; Gandouin, Emmanuel; Lahijani, Hamid; Marriner, Nick; Naderi-Beni, Abdolmajid; and Parnell, Andrew

(**2021**). 'Early Sasanian landscape modification: New geoarchaeological evidence from the Ardashir Pond in southwest Iran (Palace of Ardashir, third century CE)' in *Geoarchaeology* 36. 925-42.

Dodgeon, Micheal H. and Lieu, Samuel N.C.

(**1991**). *The Roman Eastern Frontier and the Persian Wars AD 226-363*. London and New York: Routledge.

263

Donner, Fred M.

(**1981**). *The Early Islamic Conquests*. Princetown, New Jersey: Princetown University Press.

(**2010**). *Muhammad and the believers. At the origins of Islam*. Cambridge, Massachusetts: Harvard University Press.

Duchesne-Guillemin, Jacques

(**1962**). *La Religion de l'Iran ancien*. Paris: Presses Universitaires de France.

Dunham, Daniel

(**1961**). 'The courtyard house as a temperature regulator' in *Ekistics* 11:64. 181-6.

Al Duri, Abd Al-Aziz

(**1986**) 'Baghdad'. *The Encyclopaedia of Islam* I. 894-908.

Duva, Federica

(**2015**). 'Iṣfahān: fonti e urbanistica tra VIII e X secolo (con particolare riferimento alla Moschea del Venerdì)'. MA dissertation, unpublished. Rome: Università La Sapienza.

(**2018**). 'Gay in the Sasanian Period: Some Preliminary Notes on its Circular Urban Plan' in *Vicino Oriente* 22. 163-76.

Elman, Yaakov

(**2011**). 'Why is there no Central Zoroastrian Temple? A thought experiment' in Steven Fine (ed.) *The Temple of Jerusalem: From Moses to the Messiah*. Leiden and Boston: Brill. 151-70.

(**2014**). 'Commercial Law in Rome and Ctesiphon: Roman Jurisconsults, Rabbis and Sasanian Dastwars on Risk' in Ronit Nikolsky and Tal Ilan (eds.) *Rabbinic Traditions between Palestine and Babylonia*. Leiden and Boston: Brill. 250-83.

(**2015**). 'Shopping in Ctesiphon: A Lesson in Sasanian Commercial Practice' in Markham J. Geller (ed.) *The Archaeology and Material Culture of the Babylonian Talmud*. Leiden and Boston: Brill. 226-44.

(**2016**). 'Some Aspects of Interreligious Polemic in the Babylonian Talmud' in Isaac Kalimi (ed.) *Bridging between Sister Religions. Studies of Jewish and Christian Scriptures Offered in Honor of Prof. John T. Townsend*. Leiden and Boston: Brill. 175-94.

(**2019**). 'The Hērbedestān in the Hērbedestān: Priestly Teaching from the Avesta to the Zand' in Julia Rubanovich and Geoffrey Herman (eds.) *IranoJudaica VII. Studies relating to Jewish contacts with Persian culture throughout the ages*. Jerusalem: the Amnon Netzwer Center for Iranian Jewish History and Heritage. 129-44.

Fedorov-Davydov, German A.

(**1983**). 'Archaeological research in Central Asia of the Muslim period' in *World Archaeology* 14:3. 393-405.

Fiey, Jean Maurice

(**1975**). *Assyrie Chrétienne* (2 volumes). Beirut: Recherches Publiées sous la Direction de l'Institut de Lettres Orientales de Beyrouth.

Filanovich, Margarita Ivanovna

(**1974**). (Gyaur Kala) in *Tr. YuTAKE* 15. 15-139.

Flandin, Eugène and Coste Pascal

(**1843-54**). *Voyage en Perse de MM. Eugène Flandin, peintre, et Pascal Coste, architecte*, 1 vol. and atlas of plates and maps in 4 vols, Paris, 1843-54; 2 vols. and atlas in 6 vols., Paris, 1851-5.

Floor, Willem and Kleiss, Wolfram

(**1988**). 'Bathhouses' in *Enciclopædia Iranica* 3:8. 863-9.

Fisher, Greg

(**2008**). 'The Political Development of the Ghassan between Rome and Iran' in *Journal of Late Antiquity* 1:2. 311-34.

Foietta, Enrico

(**2018**). *Hatra. Il territorio e l'urbanistica*. Oxford: Archaeopress Publishing LTD.

Foucault, Michel

(**2007**). 'The Meshes of Power' in Jeremy W. Crampton and Stuart Elden (eds.) *Space, Knowledge, and Power. Foucault and Geography.* Farnham, Surrey: Ashgate. 153-62.

Gabrieli, Francesco

(**1968**). *Muhammad and the Conquests of Islam*. New York: McGraw-Hill.

Galochkina, N.G.

(**1964**). (Concerning the Stratigraphy of the upper Layers of the Ancient City of Gyaur-Kala, Ancient Merv). Diploma work, unpublished. Tashkent: University of Tashkent.

Gardner, Iain and Lieu, Samuel (eds.)

(**2004**). *Manichean Texts from the Roman Empire*. Cambridge: Cambridge University Press.

Gardner, Iain; BeDuhn, Jason; and Dilley, Paul

(**2015**). *Mani at the Court of the Persian Kings. Studies on the Chester Beatty Kephalaia Codex*. Leiden and Boston: Brill.

Gaube, Heinz

(**2008**). 'Iranian Cities' in Salma K. Jayyusi, Renata Holod, Attilio Petruccioli, and André Raymond (eds.) *The City in the Islamic World* 1. Leiden and Boston: Brill. 159-80.

Genequand, Denis

(**2015**). 'The Archaeological Evidence for the Jafnids and the Naṣrides' in Greg Fisher (ed.) *Arabs and Empires before Islam*. Oxford: Oxford University Press. 172-90.

Genito, Bruno; Maresca, Giulio; and Cocca, Enzo

(**2014**). 'Bīšāpūr and its Territory (Fārs, Iran). Second Interim Report of 2013 Campaign (November)' in *Newsletter di Archaeologia* 5. 123-96.

Gerth, Hans H. and Mills, Charles W.

(**1953**). *Character and Social Structure*. New York: Harcourt, Brace Collection.

Ghirshman, Roman

(**1952**). *Cinq campagnes de fouilles à Suse: 1946-1951*. Paris: Presses univ. De France.

(**1962**). *Persian Art: The Parthian and Sassanian Dynasties*. New York: Golden Press Edition.

(**1971**). *Fouilles de Châpour, Bîchâpour* I. Paris: Musée du Louvre, Département d'Antiquités Orientales, Série archéologique VII.

Gignoux, Philippe

(**1971**). 'La liste des provinces de l'Ērān dans les inscriptions de Šābuhr et de Kirdīr' in *AAASH* 1. 83-94.

(**1989**). 'Le mage Kirdīr et ses quatre inscriptions' in *Comptes-rendus des séances de l'Académie des inscriptions et belles-lettres* 133. 689-99.

Gnoli, Gherardo

(**1971**). 'Politica Religiosa e Concezione della Regalità sotto i Sassanidi' in Enrico Cerulli, Alessandro Bausani, Francesco Gabrieli, Arnaldo Momigliano, Raffaello Morghen, Antonino Pagliaro and Giovanni Pugliese Carratelli (eds.) *Atti del Convegno Internazionale sul tema: la Persia nel Medioevo. Roma, 31 Marzo – 5 Aprile 1970*. Rome: Accademia dei Lincei. 225-53.

Göbl, Robert

(**1990**). *Sasanian Numismatics*. New York: Sanford J. Durst Numismatic Pu.

Grabar, Oleg

(**1967**). *Sasanian Silver: Late antique and early medieval arts of luxury from Iran*. University of Michigan: Ann Arbor.

Graf, David F.

(**2021**). 'Nabateans' in Suzanne Richard (ed.) *Near Eastern Archaeology: A Reader*. University Park, USA: Penn State University Press. 434-9.

Gropp, Gerd

(**2015**). 'Susa v. The Sasanian Period' in *Enciclopædia Iranica*. Available online at https://iranicaonline.org/articles/susa-v (accessed December 2023).

Gross, Simcha

(**2024**). *Babylonian Jews and Sasanian Imperialism in Late Antiquity*. Cambridge: Cambridge University Press.

Gyselen, Rika

(**1989**). *La Géographie administrative de L'empire Sassanide. Les témoignages sigillographiques*. Bures-sur-Yvette: Groupe pour l'étude de la civilisation du Moyen-Orient.

(**2001**). *The four generals of the Sasanian Empire: some sigillographic evidence*. Rome: Istituto Italiano per l'Africa e l'Oriente.

(**2007**). *Sasanian Seals and Sealings in the A. Saeedi Collection*. Louvain: Peters Publishers.

Harverson, Michael

(**1993**). 'Watermills in Iran' in *Iran* 31. 149-77.

Hakim, Besim

(**2008**). 'Law and the City' in Salma K. Jayyusi, Renata Holod, Attilio Petruccioli, and André Raymond (eds.) *The City in the Islamic World* 1. Leiden and Boston: Brill. 71-92.

Hall, A.R.,

(**1935**). 'The Persian Expedition, 1934' in *Bulletin of the Museum of Fine Arts* 33. 55-9.

Hartnell, Tobin

(**2014**). 'Agriculture in Sasanian Persis: ideology and practice' in *Journal of Ancient History* 2:2. 182-208.

Hauser Halle, Stefan R.

(**2007**). 'Vēh Ardashīr and the identification of the ruins at al-Madā'in' in Annette Hagedorn and Avinoam Shalem (eds.) *Facts and Artefacts. Art in the Islamic World. Festschrift for Jens Kröger on his 65th Birthday*. (Islamic History and Civilization Serie, vol. 68). Leiden and Boston: Brill. 461-88.

Heighway, Carolyn

(**1972**). *The erosion of history. Archaeology and planning in towns. A study of historic towns affected by modern development in England, Wales and Scotland*. Report published for Council for British Archaeology, Urban Research Committee.

Herman, Geoffrey

(**2010**). '"Bury my Coffin Deep!" Zoroastrian Exhumation in Jewish and Christian Sources' in Joel Roth, Menahem Schmelzer and Yaacov Francus (eds.) *Tiferey Leyisrael. Jubilee Volume in Honor of Israel Francus*. New York: The Jewish Theological Seminary. 31-60.

(**2018**). 'The Syriac World in the Persian Empire' in Daniel King (ed.) *The Syriac World in the Persian Empire*. London: Routledge. 134-45.

Herrmann, Georgina

(**1969**). 'The Dārābgird relief – Ardashīr or Shāpūr?' in *Iran* 6. 63-88.

Herrmann, Georgina; Masson, Vadim M.; and Kurbansakhatov, Kakamurad

(**1993**). 'The International Merv Project Preliminary Report on the First Season (1992)' in *Iran* 31. 39-62.

Herrmann, Georgina and Kurbansakhatov Kakamurad

(**1994**). 'The International Merv Project Preliminary Report on the Second Season (1993)' in *Iran* 32. 53-75.

(**1995**). 'The International Merv Project Preliminary Report on the Third Season (1994)' in *Iran* 33. 31-60.

Herrmann, Georgina; Kurbansakhatov, Kakamurad; and Simpson, St. John

(**1996**). 'The International Merv Project Preliminary Report on the Fourth Season (1995)' in *Iran* 34. 1-22.

(**1997**). 'The International Merv Project Preliminary Report on the Fifth Season (1996)' in *Iran* 35. 1-33.

(**1998**). 'The International Merv Project Preliminary Report on the Sixth Season (1997)' in *Iran* 36. 53-75.

(**1999**). 'The International Merv Project Preliminary Report on the Seventh Season (1998)' in *Iran* 37. 1-24.

(**2000**). 'The International Merv Project Preliminary Report on the Eighth Season (1999)' in *Iran* 38. 1-31.

(**2001**). 'The International Merv Project Preliminary Report on the Ninth Year (2000)' in *Iran* 39. 9-52.

Herzfeld, Ernst

(**1935**). *Archaeological History of Iran*. London: British Academy.

(**1941**). *Iran in the Ancient East*. Oxford: Oxford University Press.

Hodges, Richard and Whitehouse, David

(**1983**). *Mohammed, Charlemagne and the Origins of Europe. Archaeology and the Pirenne thesis.* Duckworth: London.

Howard, Ebenezer

(**1902**). *Garden Cities of To-morrow.* London: Swan Sonnenschein & Co., Ltd.

Hoyland, Robert C.

(**2001**). *Arabia and the Arabs. From the Bronze Age to the Coming of Islam*. London and New York: Routledge.

(**2015**). *In God's Path. The Arab Conquests and the Creation of an Islamic Empire*. Oxford: Oxford Archaeology Press.

Huff, Dietrich

(**1973**). 'Firuzabad' in *Iran* 11. 192-4.

(**1974**). 'An Archaeological Survey in the area of Firūzābād, Fārs, in 1972' in Firouz Bagherzadeh (ed.) *Proceedings of the IInd annual symposium on Archaeological Research in Iran,* Teheran. 155-79.

(**1977**). 'Firuzabad. Qal'a-ye Dukhtar' in *Iran* 25. 172.

(**1978**). 'Firuzabad. Qal'a-ye Dukhtar' in *Iran* 26. 191-2.

(**1979**). 'Firuzabad. Palast Ardashirs I' in *Iran* 27. 149-50.

(**1998**). 'Fire Altars and *Astodans*' in Vesta S. Curtis, Robert Hillenbrand, and John M. Rogers (eds.) *The Art and Archaeology of Ancient Persia: New Light on the Parthian and Sasanian Empires.* London and New York: I.B. Tauris Publishers. 74-83.

(**1999**). 'Fīrūzābād' in *Encyclopædia Iranica* 9:6. 633-6.

(**2002**).'Takht-e Solaymān' in *Encyclopædia Iranica* online edition, 2002. Available online at https://www.iranicaonline.org/articles/takt-e-solayman/ (accessed May 2025).

(**2008**). 'Formation and Ideology of the Sasanian State in the Context of Archaeological Evidence' in Vesta S. Curtis and Sarah Stewart (eds.) *The Idea of Iran* 3. London and New York: I.B. Tauris. 31-59.

Intagliata, Emanuele E.

(**2018**). *Palmyra after Zenobia. 273-750*. Oxbow Books: Oxford & Philadelphia.

Jackson-Bonner, Michael R.

(**2020**). *The Last Empire of Iran*. Piscataway: Gorgias Handbooks.

al-Jahwari, Nasser S.; Kennet, Derek; Priestman, Seth; and Sauer, Eberhard

(**2018**). 'Fulayj: a late Sasanian fort on the Arabian coast' in *Antiquity* 92. 724-41.

Jalalipour, Saeid

(**2014**). 'The Arab Conquest of Persia: The Khūzistān Province before and after the Muslims' Triumph' in *e-Sasanika* 11. 1-22.

Jullien, Christelle

(**2004**). 'Peines et Supplices dans les Actes des Martyres Persans et Droit Sassanide: Nouvelles Prospections' in *Studia Iranica* 33. 243-69.

Kaim, Barbara and Kornacka, Maja

(**2016**). 'Religious Landscape of the Ancient Merv Oasis' in *Iran* 54:2. 47-72.

Kalmin, Richard

(**2006**). *Jewish Babylonia between Persia and Roman Palestine*. Oxford: Oxford University Press.

Katsuris, K. and Buriakov, J.

(**1963**). 'Izuchenie remeslennogo kvartala antichnogo Merva u severnykh vorot Gyaur-Kaly' ('Study of the Artisan's Quarter of Classical Merv by the North Gate of Gyaur Kala') in *Tr. YuTAKE* 12. 119-63.

Keall, Edward J.

(**1979**). 'The topography and Architecture of Medieval Rayy' in *Akten des VII. Internationalen Kongresses für Iranische Kunst und Archäologie München, 7-10 September 1976, (A.M.I)*. 537-43.

(**1987**). 'Ayvān-e Kesrā' in *Encyclopædia Iranica* 3:2. 155-9

(**1989**). 'Bīšāpūr' in *Encyclopædia Iranica* 4:3. 287-9.

Kennedy, Hugh

(**1985**). 'From Polis to Medina: Urban change in Late Antique and Early Islamic Syria' in *Past and Present. A Journal of Historical Studies* 106. 3-27.

(**1986**). *The Prophet and the Age of the Caliphates. The Islamic Near East from the sixth to the eleventh century*. London and New York: Longman.

(**1999**). 'Medieval Merv. A historical overview' in Georgina Herrmann (ed.) *Monuments of Merv*. London: Society of Antiquaries of London. 27-44.

(**2006**). 'From Shahristan to Medina' in *Studia Islamica* 102:103. 5-34.

(**2007**). *The Great Arab Conquests: How the Spread of Islam Changed the World We Live In*. London: Phoenix.

(2008). 'Inherited Cities' in Salma K. Jayyusi, Renata Holod, Attilio Petruccioli, and André Raymond
  (eds.) *The City in the Islamic World* 1. Leiden and Boston: Brill. 93-113.

(2009). 'Survival of Iranianness' in Vesta S. Curtis and Sarah Stewart (eds.) *The Idea of Iran* 4*. The Rise
  of Islam*. London and New York: I.B. Tauris. 13-29.

(2011). 'Great Estates and elite lifestyles in the Fertile Crescent from Byzantium and Sasanian Iran to
  Islam' in Albrecht Fuess and Jan-Peter Hartung (eds.) *Court Cultures in the Muslim World 7ᵗʰ to
  19ᵗʰ centuries*. London: Routledge. 54-79.

(2018). 'From Polis to Madīna revisited: Some Reflections Thirty Years On' in Sabine Panzram and
  Laurent Callegarin (eds) *Entre civitas y madīna: El mundo de las ciudades en la Península Ibérica
  y en el norte de África (siglos iv-ix)*. Madrid: Casa de Velázquez. 13-20.

Kennet, Derek

(2005). 'On the eve of Islam: archaeological evidence from Eastern Arabia' in *Antiquity* 79. 107-18.

(2007). 'The decline of Eastern Arabia in the Sasanian period' in *Arabian Archaeology and Epigraphy*
  18: 1. 86-122.

(2008). 'Sasanian Coins from 'Umān and Bahrain' in Derek Kennet and Paul Luft (eds.) *Current
  Research in Sasanian Archaeology, Art and History. Proceedings of a Conference held at Durham
  University, November 3ʳᵈ and 4ᵗʰ, 2001* (BAR International Series, 1810). Oxford: Archaeopress.
  55-63.

Kleiss, Wolfram

(2015). *Geschichte der Arkitektur Irans*. Berlin: Reimer.

Kühnel, Ernst and Wachtsmuth, Friedrich

(1933). *Die Ausgrabungen der Deutschen Orient Ktesiphon-Expedition (Winter 1931-32).* Berlin:
  Islamische Kunstabteilung der Staatlichen Museen.

Lawrence, Denise L. and Low, Setha M.

(1990). 'The Built Environment and Spatial Form' in *Annual Review of Anthropology* 19. 453-505.

Lelo, Keti

(2014). 'A GIS Approach to Urban History: Rome in the 18ᵗʰ Century' in *International Journal of Geo-
  Information* 3:4. 1293-316.

Leone, Anna

(2007). *Changing Townscapes in North Africa from Late Antiquity to the Arab conquest*. Bari: Edipuglia

(2013). *The End of the Pagan City. Religion, Economy and Urbanism in Late Antique North Africa*.
  Oxford: Oxford University Press.

Lukonin, Vladimir Grigor'evich

(**1983**). 'Political, Social and Administrative Institutions, Taxes and Trade' in Ehsan Yarshater (ed.) *Iran* 3:2. *The Seleucid, Parthian and Sasanian Periods*. Cambridge: Cambridge University Press. 681-746.

Maresca, Giulio

(**2019a**). 'Hydraulic Infrastructures in South-Western Iran during the Sasanian Period: some Archaeological Remarks' in *Vicino Oriente* 23. 207-22.

(**2019b**). 'I Ponti di Epoca Sasanide in Iran' in Edoardo Scarpanti (ed.) *Mantua Humanistic Studies* VII. Mantova: Universitas Studiorum. 245-73.

Masson, Mikhail E.

(**1963**). 'Kizucheniyu proshlogo Starogo Merva' ('Towards a Study of Ancient Merv') in *Tr. YuTAKE* 12. 7-19.

Mehryar, Mohammad

(**1999**)/ (**1378**). 'Sima-ye shahr-e Bishāpur dar dowrān-e eslamī' (Excavations of the city of Bishapur the Islamic house of Governorate) in *Dovvomin Kongre-ye Tārikh-e Me'māri va Shahrsāzi-ye Irān, Bam, Kermān, 25-29 farvardīn 1378* 3:11. 138.

Messina, Vito

(**2015**). 'L'arte di al-Madain dal declino di Seleucia alla Fondazione di Veh Ardashir' in *Archeologia delle "Vie della Seta": Percorsi, Imagini e Cultura Material. III Ciclo di Conferenze*. 95-122.

(**2017**). 'A Watchtower of the Late Sasanian Period on the Outskirts of Veh Ardashir/Coche' in *Le Archeologie di Marilli*. 95-104.

Minorsky, Vladimir F.

(**1938**). 'Geographical Factors in Persian Art' in *Bulletin of the School of Oriental Studies* 9:3. 621-52.

(**1947**). 'Vīs u Rāmīn: A Parthian Romance (Conclusion)' in *Bulletin of the School of Oriental Studies* 12:1. 20-35.

Miquel, André

(**2001**). *La géographie humaine du monde musulman jusqu'au milieu du 11ᵉ siècle. Tome 1: Géographie et géographie humaine dans la littérature arabe des origines à 1050*. Paris: Éditions de l'École des hautes études en sciences sociales.

Miri, Negin

(**2013**). 'Sasanian Administration and Sealing Practices' in Daniel T. Potts (ed.) *The Oxford Handbook of Ancient Iran*. Oxford: Oxford University Press.

Mittertrainer, Anahita

(**2020**). *Sinnbilder politischer Autorität? Frühsasanidische Städtebilder im Südwesten Irans*. München: Universitätsbibliothek der Ludwig-Maxmilians – Universität München.

Monneret de Villard, Ugo

(**1966**). *Introduzione all'archeologia islamica*. Venice: Istituto per la collaborazione culturale.

Montalbano, Calogero

(**2008**). 'Dar-al ma. The architecture of water in the Islamic countries' in Salma K. Jayyusi, Renata Holod, Attilio Petruccioli, and André Raymond (eds.) *The City in the Islamic World* 1. Leiden and Boston: Brill. 679-729.

Morgan, Peter H.

(**2003**). 'Some Remarks on a Preliminary Survey in Eastern Fars' in *Iran* 41. 323-38.

Morin, Edgar and Ramadan, Tariq

(**2015**). *Au péril des idées – Les grandes questions de notre temps*. Paris: Presses du Châtelet.

Morony, Micheal G.

(**1982**). 'Continuity and Change in the Administrative Geography of Late Sasanian and Early Islamic al-'Irāq' in *Iran* 20. 1-50.

(**1984**). *Iraq after the Muslim conquest*. Princeton, New Jersey: Princeton University Press.

(**2012a**). 'Iran in the Early Islamic Period' in Touraj Daryaee (ed.) *The Oxford Handbook of Iranian History.* Oxford and New York: Oxford University Press. 208-26.

(**2012b**). 'Religious Communities in the Early Islamic World' in Walter Pohl, Clemens Gantner, and Richard Payne (eds.). *Visions of Community in the Post-Roan Worls. The West, Byzantium, and the Islamic World, 300-1100*. Farnham: Ashgate. 155-64.

(**2013a**). 'The Islamic Conquest of Sasanian Iran' in Daniel T. Potts (ed.) *The Oxford Handbook of Ancient Iran*. Oxford and New York: Oxford University Press. 975-86.

(**2013b**). 'Religious Communities in the Early Islamic World' in Walter Pohl, Clemens Gantner, and Richard Payne (eds.) *Visions of Community in the Post-Roman World*. *The West, Byzantium and the Islamic World, 300-1100.* London and New York: Routledge. 155-64.

Mottahedeh, Roy P.

(**2018**). 'Medieval lexicography on Arabic and Persian terms for City and Countryside' in David Durand-Guédy, Roy P. Mottahedeh, and Jürgen Paul (eds) *Eurasian Studies* 16. *Cities of Medieval Iran*. Leiden and Boston: Brill. 465-78.

Mousavi, Ali

(**2008**). 'A survey of the archaeology of the Sasanian period during the past three decades' in *Sasanika* 1. 1-14.

Munt, Harry; Daryaee, Touraj; Edaibat, Omar; Hoyland, Robert and Toral-Niehoff Isabel

(**2015**). 'Arabic and Persian sources for Pre-Islamic Arabia' in Greg Fisher (ed.) *Arabs and Empires before Islam*. Oxford: Oxford University Press. 434-500.

Neglia, Giulia A.

(**2008**). 'Some Historiographical Notes on the Islamic City with Particular Reference to the Visual Representation of the Built City' in Salma K. Jayyusi, Renata Holod, Attilio Petruccioli, and André Raymond (eds.) *The City in the Islamic World* 1. Leiden and Boston: Brill. 3-46.

Negro Ponzi, Maria Maddalena

(**1966**). 'The excavation at Choche (The presumed Ctesiphon), Area 1' in *Mesopotamia* I. 81-8.
(**1967a**). 'The excavation at Choche, Area 1' in *Mesopotamia* II. 41-8.
(**1967b**). 'Some Sasanian mounds' in *Mesopotamia* II. 57-92.

Nemati, Mohammadreza; Mousavinia, Mehdi; Sauer, Eberhard and Cereti, Carlo G.

(**2019**). 'The largest Ancient Fortress of South-West Asia and the Western World? Recent Fieldwork at Sasanian Qaleh Iraj at Pishva, Iran' in *Iran* 57. 1-31.

Nöldeke, Theodor

(**1930**). *The Iranian National Epic or the Shahnamah*, translated by Leonid Thedor Bogdanov. Bombay: K.B. Cama Oriental Institute.

Northedge, Alastair

(**2017**). 'Early Islamic Urbanism' in Finbarr Barry Flood and Gülru Necipoğlu (eds.) *A Companion to Islamic Art and Architecture*, Volume I. Oxford: Wiley. 154-176.

Noth, Albrecht

(**1994**). *The Early Arabic historical tradition: a source-critical study*. Princeton, N.J.: Darwin Press.

O'Kane, Bernard and Huff, Dietrich

(**1990**). 'Čahārṭāq: ii. In the Islamic Period' in *Encyclopædia Iranica* 4:6. 634-42.

Omidsalar, Mahmoud

(**2011**). *Poetics and Politics of Iran's National Epic, the Shānāmeh*. New York: Palgrave Macmillan.

Paul, Jürgen

(**2018**). 'Jean Aubin's article "Elements for the study of Urban Agglomeration in Medieval Iran" in Context, translated and commented' in David Durand-Guédy, Roy P. Mottahedeh, and Jürgen Paul (eds.) *Eurasian Studies* 16. *Cities of Medieval Iran*. Leiden and Boston: Brill. 21-38.

Payne, Richard

(**2014**). 'East Syrian Bishops, Elite Households, and Iranian Law after the Muslim conquest' in *Iranian Studies* 48. 5-32.

(**2016**). *A State of Mixture. Christians, Zoroastrians, and Iranian Political Culture in Late Antiquity*. Oakland, California: University of California Press.

Perikhanian, Anahit

(**1983**). 'Iranian Society and Law' in Ehsan Yarshater (ed.) *Iran* 3:2. *The Seleucid, Parthian and Sasanian Periods*. Cambridge: Cambridge University Press. 627-80.

Piacentini, Valeria F.

(**1992**). 'Merchants, Merchandise and Military Power in the Persian Gulf (Suriyanj/Shakriyaj-Siraf)' in *Atti della Accademia Nazionale dei Lincei, Memoire Series IX, Volume III, Fascicule 2*. Rome: Accademia Nazionale dei Lincei. 110–89.

Piotrovsky, Boris B.

(**1949**). 'Razvedochnye raboty na Gyaur Kala v starom Merve' ('Exploratory Work in Giaour Qala in Old Merv') in *Tr. YuTAKE* 1.

De Planhol, Xavier

(**2000**). 'Garmsīr and Sardsīr' in *Encyclopædia Iranica* 10:3. 316-7.

Porter, Robert Ker, Sir

(**1821**). *Travels in Georgia, Armenia, Ancient Babylonia, &tc: during the years 1817, 1818, 1819, and 1820*. London: Longman, Hurst, Rees, Orme, and Brown.

Potter, Lawrence G. (ed.)

(**2009**). *The Persian Gulf in History*. New York: Palgrave Macmillan.

Potts, Daniel T.

(**1989**). 'Gundešapur and Gondeisos' in *Mélanges P. Amiet II, Iranica Antiqua* 24. 323-35.

Pourshariati, Parvaneh

(**2008**). *Decline and Fall of the Sasanian Empire: The Sasanian-Parthian Confederacy and the Arab Conquest of Iran*. London and New York: I.B. Tauris.

(2009). 'The Mihrāns and the articulation of Islamic dogma: a preliminary prosopographical analysis' in Philip Gignoux, Christelle Jullien, and Florence Jullien (eds.) *Trésors d'Orient: Mélanges offerts à Rika Gyselen*. Paris: Res Orientalis.

Priestman, Seth

(2005). 'The rise of Siraf: long-term development of trade emporia within the Persian Gulf' in *Proceedings of the International Congress of Siraf Port, November 14-16, 2005, Bushehr*. Busheher: Bushehr Branch of Iranology Foundation and Bushehr University of Medical Science. 137-56.

(2022). 'Bushehr, Dashtestan and Siraf: The Transformation of the Maritime Trade Network in the Middle Persian Gulf' in St John Simpson (ed*.) Sasanian Archaeology: Settlements, Environment and Material Culture.* Oxford: Archaeopress. 153-77.

Priestman, Seth and Kennet, Derek

(2002). 'The Williamson Collection Project: Sasanian and Islamic Pottery from Southern Iran' in *Iran* 40:1. 265-7.

Pugachenkova, Galina A.

(1958). 'Пути развития архитектуры южного Туркменистана поры рабовладения и феодализма/ Puti razvitiya arkhitektury yuzhnogo Turkeministana pory rabovladeniya I feodalizma' ('The development of architecture in southern Turkmenistan at the time of slave-holding states and feudalism') in *Tr. YuTAKE* 6.

Rante, Rocco

(2007). 'The Topography of Rayy During the Early Islamic Period' in *Iran* 45:1. 161-80.

(2008). 'The Iranian City of Rayy: Urban Model and Military Architecture' in *Iran* 46:1. 189-211.

(2015). *Rayy: From Its Origins to the Mongol Invasion, an Archaeological and Historiographical Study.* (Arts and Archaeology of the Islamic World). Leiden: Brill.

(2018). 'Iranian cities: Settlements and Water Management from Antiquity to the Islamic Period' in David Durand-Guédy, Roy P. Mottahedeh, and Jürgen Paul (eds.) *Eurasian Studies* 16. *Cities of Medieval Iran*. Leiden and Boston: Brill. 39-76.

Rante, Rocco and Collinet, Annabelle

(2013). *Nishapur Revisited. Stratigraphy and Ceramics of the Qohandez*. Oxford and Oakville: Oxbow Books.

Reuther, Oscar

(1930). *Die Ausgrabungen der Deutschen Orient Ktesiphon-Expedition im Winter 1928-29*. Berlin: Islamische Kunstabteilung der Staatlichen Museen.

Rezakhani, Khodadad

(**2019**). 'Miirosan to Khurasan: Huns, Alkhans and the Creation of East Iran' in *Vicino Oriente* 23. 121-38.

(**2020**). 'The end of Sasanian Rule: The Center and Periphery of Ērānšahr in the Seventh Century' in Touraj Daryaee and Matteo Compareti (eds.) *Studi sulla Persia Sasanide e suoi rapporti con le civiltà attigue*. Bologna: Persiani Editore. 229-55.

Rice, David Talbot

(**1931**). 'The Oxford Excavations at Hira, 1931' in *Antiquity* 6:23. 276-91.

Richardson, Kristina.

(**forthcoming**). *Black Basra: Race, Labor and Piety in Early Islamic History*.

Richter-Bernburg, Lutz.

(**2012**). 'ii. History and Medical School' in *Encyclopædia Iranica* 11:2. 131-5.

Robinson, Chase F.

(**2004**). 'The Conquest of Khuzistan: a historiographical reassessment' in *Bulletin of the School of Oriental and African Studies* (*BSOAS)* 67. 14-39.

Rohmer, Jéröme

(**2019**). 'The Thaj Archaeological Project: results of the first three field seasons (2016-2018)' in *Seminar for Arabian Studies.* Leiden: International Association for the Study of Arabia. 287-302.

Rossi, Domiziana

(**2016**). 'La città storica di Ardashir-Xwarrah presso Firuzabad (Fars, Iran). Font e territorio' MA dissertation, unpublished. Rome: Università La Sapienza.

(**2023**). 'From the Fire Temple to the Mosque: the religious urban landscape in Late Antique Ērānšahr' in *Journal for Late Antique Religion and Culture* 17. 17-39.

Rubin, Zeev

(**2007**). 'Islamic Traditions on the Sāsānian Conquest of the Ḥimyarite Realm' in *Der Islam* 84:2. 185-99.

Said, Edward W.

(**1978**). *Orientalism*. New York: Pantheon Books.

Santi, Aila

(**2018**). 'Il rapporto fra moschea e Dār al-imāra nel periodo protoIslamico. I casus studii di Medina, Kūfa e 'Anjar alla luce di una riconsiderazione dell'urbanistica delle origini' Ph.D. dissertation unpublished. Rome: Università La Sapienza.

Sardar, Marika

(**2015**). 'Nishapur vii. Excavations by the Metropolitan Museum of Art' in *Encyclopædia Iranica*, online edition, 2016. Available online at https://iranicaonline.org/articles/nishapur-07-met-excavations (accessed December 2023).

Sarfaraz, Ali Akbar

(**1970**). 'Survey of excavations' in *Iran* 7. 178.

Sárközy, Miklós

(**2015**). 'Anti-Sasanian movements in 6th century Persia – the case of Wistaxm and Windoē' inCsabai Zoltán, Szabó Ernő, Vilmos László, and Vitári-Wéber Adrienn (eds.) *Európé égiszealatt – ünnepi tanulmányok Fekete Mária hatvanötödik születésnapjára kollégáitól, barátaitól és tanítványaitól Pécs*. 281-96.

Sarre, Friedrich and Herzfeld, Ernst

(**1920**). *Archäologische Reise im Euphrat- und Tigrisgebiet II*. Berlin: Reimer.

Sauer, Eberhard; Rekavandi, Omrani; Wilkinson, Tony J.; and Nokandeh, Jebrael

(**2013**). *Persia's Imperial Power in Late Antiquity. The Great Wall of Gorgān and Frontier Landscapes of Sasanian Iran*. Oxford and Oakville: Oxbow Books.

Sauer, Eberhard; Chalaugari, Lana; Gabunia, Ana; Hopper, Kristen; Lawrence, Dan; MacDonald, Eve; Mashkour, Marjan; Mowat, Fiona A.; Naskidashvili, Davit; Pitskhelauri, Konstantin; Priestman, Seth M.N.; Shumilovskikh, Lyudmila; Simpson, St John; Tiliakou, Anthi et al.

(**2020**). *Dariali: the 'Caspian Gates' in the Caucasus from Antiquity to the age of the Huns and the Middle Ages. The Joint Georgian-British Dariali Gorge Excavations & Surveys of 2013-2016*. Oxford and Philadelphia: Oxbow Books.

al-Sayyad, Nezar

(**1991**). *Cities and Caliphs. On the Genesis of Arab Muslim Urbanism* (Contributions to the Study of World History 26). Westport, Conn.: Greenwood Press.

Schick, Robert

(**1998**). 'Archaeological Sources for the History of Palestine: Palestine in the Early Islamic Period: Luxuriant Legacy' in *Near Eastern Archaeology* 61:2. 74-108.

Schmidt, Erich F.

(**1908**). 'Archaeological Excavations in Anau and Old Merv, or: The Excavations in Ghiaur Kala (Old Merv)' in Raphael Punpelly (ed.) *Explorations in Turkestan, Expedition of 1904*. 187-210.

(**1934**). 'L'expédition to Ctésiphon en 1931-1932' in *Syria* 15. 1-23.

(**1935**). 'The Persian Expedition' in *The Museum Bulletin* 5:5. 41-50. Available online at
https://www.penn.museum/sites/bulletin/1539/ (accessed December 2023).

(**1936**). 'The excavation of the Citadel Hill' in *University Museum Bulletin* 1–2:79–87. 133–35. Available
online at https://www.penn.museum/sites/bulletin/1852/ (accessed December 2023).

(**1939**). *The Treasury of Persepolis and other Discoveries in the Homeland of the Achaemenians*.
Chicago: The University of Chicago Press.

Secunda, Shai

(**2010**). 'Reading the Bavli in Iran' in *The Jewish Quarterly Review* 100:2. 310-42.

(**2014**). 'The Fractious Eye: On the Evil Eye of Menstruants in Zoroastrian Tradition' in *Numen* 61. 83-
108.

Shahbazi, A. Shapur

(**1990**). 'On the Xwaday-namag' in *Acta Iranica* 30 [Papers in Honor of Professor Ehsan Yarshater].
Leiden. 208-29.

(**2004**). 'Shiraz i. History to 1940' in *Encyclopædia Iranica*, online edition, 2016. Available online at
http://www.iranicaonline.org/articles/shiraz-i-history-to-1940 (accessed April 2022).

Shahmohammadpour, Alireza

(**2021**). 'A Sasanian Triumphal Arch in Bishapur' in *Near Eastern Archaeology* 84:4. 306-315.

Shaked, Shaul

(**1995**). *From Zoroastrian to Islam. Studies in Religious History and Intercultural Contacts*. Aldershot,
GB: Variorum.

Shavarebi, Ehsan and Bavandpour, Sajad Amiri

(**2020**). 'A Note on the Temple of Anāhīd-Ardašīr at Estakhr and the *Martyrdom of Abbot Baršebyā*' in
Dabir: Digital Archive of Brief notes and Iran Review 7. 168-74.

Schindel, Nikolaus; Alram, Michael; Schaaf, Robert W.; and Gyselen, Rika

(**2014**). *Sylloge Nummorum Sasanidarum*. Paris, Berlin, and Wien: Austrian Academy of Sciences Press.

Skjærvo, Prods O.

(**2012**). *The Spirit of Zoroastrianism*. New Haven: Yale University Press.

Skjærvo, Prods O. and Elman, Yaakov

(**2013-4**). 'Concept of pollution in Late Sasanian Iran' in *ARAM. Zoroastrianism in the Levant and the
Amorites*. 21-45.

Sidorova, D.N.

(**1961**). (*Stratigraphic research of the central part of the shahristan of Merv*). Diploma work, unpublished. Tashkent: University of Tashkent.

Silverstein, Adam

(**2010**). 'The Medieval Islamic Worldview: Arabic geography in its historical context' in Kurt A. Raaflaub and Richard J.A. Talberr *Geography and Ethnography: Perception of the World in Pre-Modern Societies*. Oxford: Wiley and Blackwell. 273-90.

Simpson, St John

(**1996**). 'From Tekrit to the Jaghjagh: Sasanian sites, settlement patterns and material culture in Northern Mesopotamia' in *Sasanian Sites in Northern Mesopotamia*. 82-123.

(**2000**). 'Mesopotamia in the Sasanian Period: Settlement Patterns, Arts and Crafts' in John Curtis (ed.) *Mesopotamia and Iran in the Parthian and Sasanian Periods: Rejection and Revival c. 238 BC-AD 642*. London: British Museum Press. 57-67.

(**2004**). 'Glass and small finds from Sasanian contexts at the ancient city-site of Merv' in Valery P. Nikonorov (ed.) *Central Asia from the Achaemenids to the Timurids. Archaeology, History, Ethnology, Culture. Materials of an International Scientific Conference dedicated to the Centenary of Aleksander Markovich Belenitcky. St. Petersburg, November 2-5, 2004.* St. Petersburg: State Hermitage. 232-8.

(**2005**). 'Christians at Nineveh in Late Antiquity' in *Iraq* 67:1, *Nineveh. Papers of the 49th Rencontre Assyriologue*. 285-94.

(**2008**). 'Ancient Merv: Archaeological Insights into the Economy of the City during the Sasanian Period (3rd – 7th centuries AD)' in *The Turkmen Land as a Centre of Ancient Cultures and Civilizations. Materials of the International scientific conference*. Ashgabat: Ministry of Culture and TV and Radio Broadcasting of Turkmenistan. 247-56.

(**2012-13**). 'The Ladies of Veh Ardashir' in *Palazzo Madama. Studi e Notizie*. 3:2. 10-5.

(**2013**). 'Rams, stags, and crosses from Sasanian Iraq: elements of a shared visual vocabulary from Late Antiquity' in Alessandra Peruzzetto, Francesca Dorna Metzger, and Lucinda Dirven (eds.) *Animals, Gods and Men from East to West. Papers on archaeology and history in honour of Roberta Venco Ricciardi*. Cambridge: BAR International Series 2516. 103-18.

(**2014**). 'Merv, an archaeological case-study from the northeastern frontier of the Sasanian Empire' in *Journal of Ancient History*. 1-28.

(**2015a**). 'The Land behind Ctesiphon: The Archaeology of Babylonia during the Period of the Babylonian Talmud' in Markham. J. Geller (ed.) *The Archaeology and Material Culture of the Babylonian Talmud*. Leiden and Boston: Brill. 6-38.

(**2015b**). 'Sasanian Glassware from Mesopotamia, Gilan, and the Caucasus' in *Journal of Glass Studies* 57. 77-96.

(**2017**). 'Sasanian Cities: Archaeological Perspectives on the Urban Economy and Built Environment of an Empire' in Eberhard W. Sauer (ed.) *Sasanian Persia. Between Rome and the Steppes of Eurasia*. Edinburgh: Edinburgh University Press. 21-50.

(**2018**). 'Christians on Iraq's desert frontier' in *al-Rāfidān* 39. 1-30.

(**2019a**). 'The Land behind Rishahr: Sasanian funerary practices on the Bushehr Peninsula' in Yousef Moradi (ed.) *AfarinNameh. Essays on the Archaeology of Iran in Honour of Mehdi Rahbar*. Tehran: The Research Institute of Cultural Heritage and Tourism. 111-24.

(**2019b**). 'Nomads and monks, soldiers and sailors, farmers and fishermen: new archaeological insights into life in the Persian Gulf from late antiquity to the medieval period' in A.A. Zolotova (ed.) *Ex Oriente Lux. Collected papers to mark the 75th anniversary of Mikhail Borisovich Piotrovsky.* St. Peterburg: Hermitage. 288-335.

(**2019c**). 'Ard Maysan and the Land behind Basrah in Late Antiquity' in Paul Collins (ed.) *Basra. Its history, Culture and Heritage. Proceedings of the conference celebrating the opening of the Basrah Museum, September 28-29, 2016*. Dorchester: Dorset Press. 35-48.

(**2022**). 'Erk-Kala (ancient Merv): a detailed study of a late Sasanian residence of the 6th–7th centuries' in Akan Onggar (ed.) *Eurasian steppe civilization: human and the historical and cultural environment. Proceedings of the 5th International Congress of Archaeology of the Eurasian Steppes.* Turkistan, 11-14 October 2022. Vol. 3. Almaty; Turkistan: Margulan Institute of Archaeology. 169-80.

Smith, Michael, E.

(**2016**). 'How Can Archaeologists Identify Early Cities: Definitions, Types, and Attributes' in Manuel Fernández-Götz and Dirk Krausse (eds.) *Eurasia at the Dawn of History: Individualization, Urbanization and Social Differentiation*. New York: Cambridge University Press.

Soroush, Mehrnoush

(**2020**). 'Urban Resilience and Hydraulic Continuity Against a Backdrop of Wars and Conquests, the Susiana Plain of Iran in the First Millennium CE' in Ayda Alehashemi, Jean-François Coulais, and Gilles Hubert (eds.) *Water & City. Hydraulic Systems and Urban Structures*. Paris: Éditions L'Œil d'Or et Jean-Luc André d'Asciano. 69-82.

Squitieri, Andrea

(**2020**). 'The Sasanian Cemetery of Gird-I Bazar in the Peshdar Plain (Iraqi Kurdistan)' in *Iran* 60:1. 73-90.

Stein, Aurel

(**1936**). 'An Archaeological Tour in the Ancient Persis' in *Iraq* 3:2. 111-225.

(**1969**). *Old Routes of Western Iran. Narrative of an Archaeological Journey carried out and recorded by Sir A. Stein*. New York: Greenwood Press, Publishers.

Tafazzoli, Ahmad

(**1974**). *Sasanian Society*. (Ehsan Yarshater Distinguished Lecture Series. Harvard University). New York: Bibliotheca Persica Press.

(**2000**). 'A list of trades and crafts in the Sassanian period' in *Archäologische Mitteilungen aus Iran* 7. 192-6.

Upton, Joseph M.

(**1932**). 'The Expedition to Ctesiphon, 1931-1932' in *Bulletin of the Metropolitan Museum of Art* 27:8. 188-97.

Vanden Berghe, Louis

(**1983**). *Reliefs rupestres de l'Iran ancien*. Bruxelles: Musées Royaux d'Art et d'Histoire.

Valentine, William H.

(**1921**). *Sassanian Coins*. London: Spink & Son L.T.D.

Varkhatova, D.P.

(**1958**). (Archaeological Excavations 1956-1957 in the Quarter of Millers on the Site of Gyaur Kala). Diploma work, unpublished. Tashkent: University of Tashkent.

Venco Ricciardi, Roberta

(**1968-69**). 'The excavation at Choche, seasons 1966, 67, 68' in *Mesopotamia* III-IV. 57-68.

(**1970-71**). 'The excavation at Choche' in *Mesopotamia* V-VI. 41-7.

(**1973-74**). 'Trial trench at Tell Baruda' in *Mesopotamia* VIII-IX. 15-20.

(**1977**). 'Trial trench at Tell Baruda, Choche' in *Mesopotamia* XII. 11-4.

Wheatley, Paul

(**2001**). *The place where men pray together. Cities in Islamic lands*. Chicago and London: The University of Chicago Press.

Whitcomb, Donald S.

(**1979a**). 'Trade and Tradition in Medieval Southern Iran' PhD dissertation, unpublished. Chicago: University of Chicago.

(**1979b**). 'The City of Istakhr and the Marvdasht Plain' in Dietrich Reimer Verlag (ed.) *Akten des VII. Internationalen Kongress für Iranische Kunst und Archäologie, München 7-10*. September 1976. 363-70.

(**1985**). *Before the Roses and Nightingales. Excavations at Qasr-i Abu Nasr, Old Shiraz*. New York: The Metropolitan Museum of Art.

(**1994**). 'Amsar in Syria? Syrian Cities after the Conquest' in *ARAM*, 6. 13-33.

(**1999**). 'Sasanian or Islamic? Monuments and Criteria for dating' in Abbas Alizadeh, Yousef Majidzadeh, and Sadegh Malek Shahmirzadi (eds.) *The Iranian World: Essays on Iranian Art and Archaeology, presented to Ezat O. Negahban*. 210-19.

(**2014**). 'Landscape signatures in Sasanian archaeology' in *Journal of Ancient History* 2:2. 219-25.

(**2018**). 'From Shahristān to Medina revisited' in David Durand-Guédy, Roy P. Mottahedeh, and Jürgen Paul (eds.) *Eurasian Studies* 16. *Cities of Medieval Iran*. Leiden and Boston: Brill. 77-99.

Whitehouse, David and Williamson, Andrew

(**1973**). 'Sasanian Maritime Trade' in *Iran* 11. 29-49.

Whitehouse, David; Petrie, Cameron; Whitcomb, Donald; and Wilkinson, Tony J.

(**2010**). *Siraf. History, Topography and Environment*. Oxford and Oakville: Oxbow Books.

Wiesehöfer, Josef

(**2001**). *Ancient Persia*. London and New York: I.B. Tauris.

Wilkinson, Charles K.

(**1986**). *Nishapur. Some Early Islamic buildings and their decoration.* New York: The Metropolitan Museum of Art.

Williams, Tim; Kurbansakhatov, Kakamurad; and Ziebart, Marek

(**2002**). 'The Ancient Merv Project, Turkmenistan Preliminary Report on the First Season (2001)' in *Iran* 40. 15-41.

(**2003**). 'The Ancient Merv Project, Turkmenistan Preliminary Report on the Second Season (2002)' in *Iran* 41: 1. 139-70.

Wood, Philip

(**2013**). *The Chronicle of Seert. Christian Historical Imagination in Late Antiquity Iraq*. Oxford: Oxford University Press.

Wordsworth, Paul

(**2015**). 'Merv on Khorasanian trade routes from the 10th-13th centuries' in Rocco Rante (ed.) *Greater Khorasan* 29. Studies in the History and Culture of the Middle East. Berlin, Munich, Boston: De Gruyter. 51-62.

Yarshater, Ehsan

(**2009**). 'Re-emergence of Iranian Identity after Conversion to Islam' in Vesta S. Curtis and Sarah Stewart (eds.) *The Idea of Iran* 4*. The Rise of Islam*. London and New York: I.B. Tauris. 5-12.

Yule, Paul

(**2007**). 'The Gates of Himyarite Ẓafār' in *Arabian Humanities* 14. 23-35.

Zadeh, Travis

(**2017**). *Mapping Frontiers across Medieval Islam. Geography, Translation, and the ʿAbbāsid Empire.* London, New York: I.B. Tauris.

Zychowicz-Coghill, Edward P.

(**2022**). 'Remembering the Ancient Iranian City from Late Antiquity to Islam: Hamza al-Isfahani and the Sasanian Book of Kings' in Javier Martínez Jiménez and Sam Ottewill-Soulsby (eds.) *Remembering and Forgetting the Ancient City*. Oxford: Oxbow. 247-74.