

Antioch on the Chrysorrhoeas, Formerly Called Gerasa

Perspectives on Biographies of a Place

ABSTRACT Biographies of urban sites have been written for centuries, often following one overarching linear narrative of rise and decline. This contribution investigates the urban biography of Gerasa/Jerash, one of the famous Decapolis cities located in what is modern northern Jordan. It does so from a variety of perspectives in order to lay open the ways in which bringing together several and diverse perspectives might give converging, conflicting, or simply more nuanced views on the biography of a city. It is asked in what ways we might bring together such diverging narratives and correlate archaeological and historical narratives, which is one of the challenges that archaeologists and historians have to tackle. Here, the perspective brought by high-definition archaeology might also bring to the forefront new ways of tackling such biographies, giving visibility to the invisible, for example, by bringing in soil sciences.

KEYWORDS Gerasa/Jerash; urban biographies and history; high-definition archaeology; perspectives on biographies.

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Biographies of a Place — Narrating Urban History

A biography is the written account of a life, and usually it is also a narrative which outlines a development and lends meaning to the narrative, or at least aims at interpreting it. Biographies are by definition written for living or once living entities and usually for individuals.¹ Places, however, can also have their biographies written.² The life of the city of Antioch on the Chrysorrhoeas, formerly called Gerasa and later Jerash was earlier summarized as what can be termed an archaeological and historical biography based on the state of the art knowledge of the early twentieth century about the site (Kraeling 1938a).³

- 1 For early examples of premodern biographies, see for example Nep., *Excellentium imperatorum vitae*; Suet., *De vita Caesarum*. The work of James Boswell is often considered the first modern attempt at writing a biography (*The Life of Samuel Johnson*, 1791), covering all aspects and periods of Johnson's life.
- 2 The recent publications of Stig Sørensen and Viejo-Rose (2015) and Viejo-Rose (2011) are examples of an edited volume as well as monograph which deal with places, cities, and countries. These contributions all revolve around places and the effect that war and crisis had on them, and most biographies of places are thus written with a theme in mind, not merely as an account of the site itself. Another way of tackling histories of sites is for example the recent book by DeGeorgi (2016) which accounts for the evidence that we have about the city of Antioch over a stretch of several centuries. Such accounts, like the one edited by Kraeling (1938a) on Gerasa most often accounts for the archaeology and history of a site based on the archaeological and written sources available. Often such biographies are narratives based on chronology and evolutionary outlines of the histories of the cities and sites with which they deal.
- 3 Also see Lichtenberger and Raja 2018a for a collection of articles treating the newest archaeological research undertaken at Gerasa

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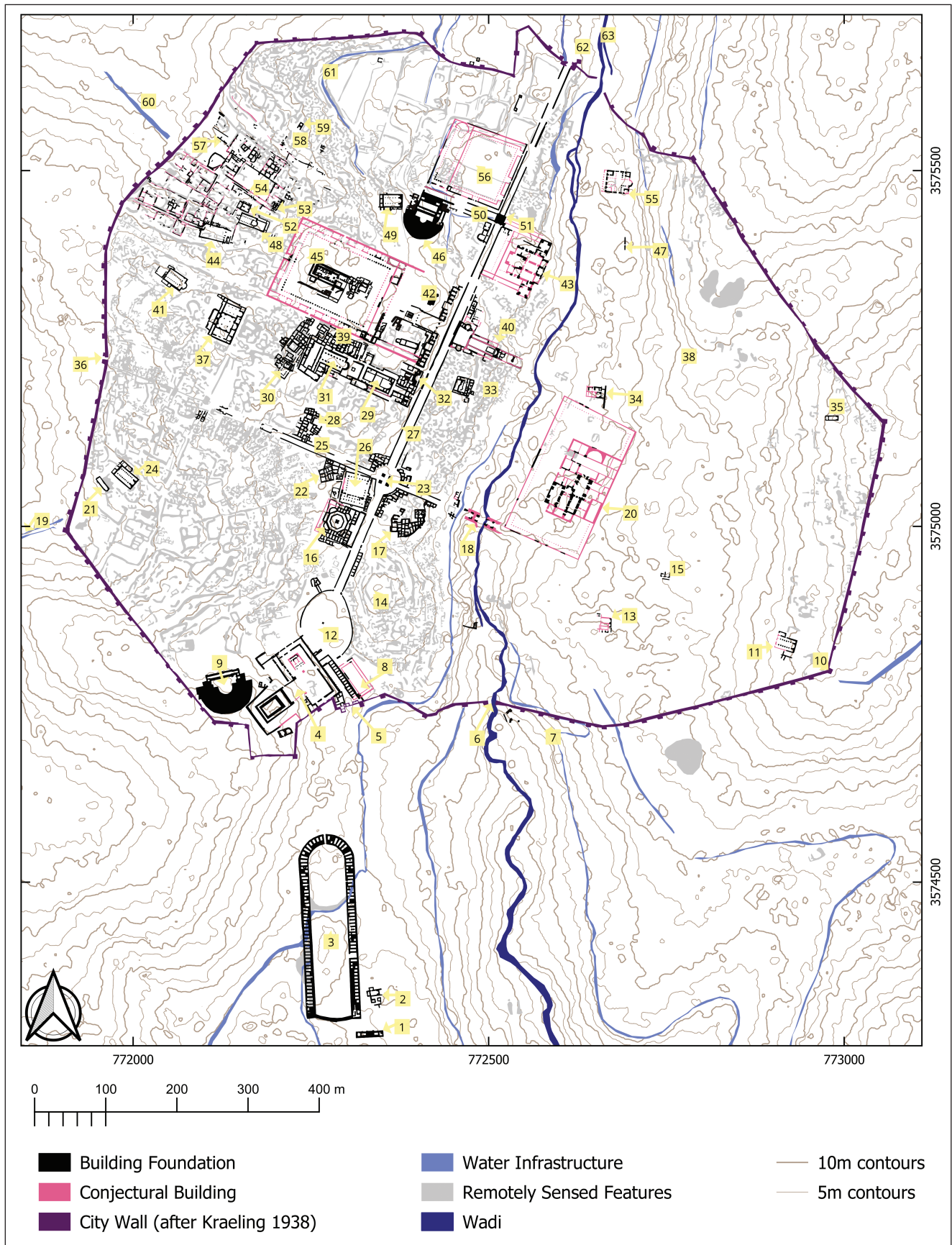


Figure 10.1. Map of Gerasa. Map by the Danish-German Jerash Northwest Quarter Project.

FIGURE 10.1 LEGEND

- 1 Extramural arch ('Hadrian's Arch')
- 2 Church of Bishop Marianos
- 3 Hippodrome
- 4 Sanctuary of Zeus Olympios
- 5 South Gate
- 6 Water Gate
- 7 City walls
- 8 Shops and structures along the South Gate street
- 9 South Theatre
- 10 South-East Gate (blocked)
- 11 Procopius Church
- 12 'Oval Piazza'
- 13 Roman house or church (after Schumacher 1902)
- 14 'Camp Hill' (location of modern museum)
- 15 Byzantine villa (after Seigne and Zubi 1997)
- 16 Agora ('Macellum')
- 17 Area of the House of the Blues
- 18 South Bridge
- 19 Possible South-West Aqueduct
- 20 East Baths
- 21 Mortuary Church
- 22 Late antique and early Islamic structures
- 23 South Tetrapylon
- 24 Church of Sts Peter and Paul
- 25 Side street ('South Decumanus')
- 26 Mosque
- 27 Main Street ('Cardo')
- 28 Early Islamic domestic quarter
- 29 Cathedral complex
- 30 'Temple C' (after Fisher 1938, pl. I)
- 31 Church of St Theodore and Fountain Court
- 32 Nymphaion
- 33 Buildings west of the wadi
- 34 Small Eastern Baths
- 35 Chapel of Elia, Mary, and Soreg
- 36 South-West Gate
- 37 Churches of Sts George, John, Cosmas, and Damian
- 38 Approximate location of 'House of the Poets and Muses'
- 39 Ecclesiastic complexes and Baths of Placcus
- 40 Propylaea Church
- 41 Church of Bishop Genesius
- 42 Ottoman House
- 43 West Baths
- 44 Large rock-cut cistern
- 45 Sanctuary of Artemis
- 46 North Theatre
- 47 Spring (Ain Karawan)
- 48 Synagogue-Church of the Electi Justiniani
- 49 Church of Bishop Isaiiah
- 50 Side street ('North Decumanus')
- 51 North Tetrapylon
- 52 Hall of the Electi Justiniani
- 53 Umayyad houses
- 54 Middle Islamic settlement (and large courtyard)
- 55 Church of the Prophets, Apostles, and Martyrs
- 56 Large open area ('forum') and basilica
- 57 Roman edifice and cistern
- 58 Middle Islamic structures
- 59 Circassian house
- 60 North-West Aqueduct
- 61 Early modern water channel
- 62 North Gate
- 63 Chrysorrhoeas/Wadi Jerash

For a long time, this account has stood as the most comprehensive biography of this important city in the Decapolis (Fig. 10.1).

Gerasa/Jerash was and is a city in the Middle East, now in modern Jordan, and its history stretches back deep into historic as well as prehistoric times. Gerasa was, according to the historical sources, founded in the Hellenistic period, and it prospered during Roman, Byzantine, and early Islamic times.⁴ However, we also know that the site was inhabited much earlier and already in Neolithic times was a so-called mega-site (al-Nahar 2005; 2018). After a heavy earthquake, which shook the Levant on 18 January AD 749, the city fell into decay, and resettlement only took place during the medieval, Ayyubid-Mamluk, period.⁵ In the late nineteenth century, the site was resettled by Circassians, who came from the Caucasus.⁶ Today, it is a medium-sized city with a population of about fifty thousand inhabitants and the second-most visited tourist site in Jordan due to the impressive ruins mostly dating to the Roman period.⁷

Biographies can, however, be written from different perspectives. In the following, we investigate Gerasa/Jerash from several perspectives, archaeological as well as historical, in particular in the light of the research done within the framework of the Danish-German Jerash Northwest Quarter Project since 2011 — a project which has investigated the highest area within the walled city.⁸ We look at sources that, one way or the other, can be said to be biographical, such as the public monuments or the coinage of the city. Such biographical material was to a high degree consciously created by the citizens, groups or individuals, of the ancient city and would have been important to their civic identity, its formation, and shaping. However, apart from looking at these obvious sources, it is also crucial to take into consideration sources which can be used for a more indirect or multifaceted biographical sketch of the city, such as the landscape around the city and in particular the river that transected the settlement and supplied it and the

within the last decades. The articles deal with the archaeology of different parts and monuments at the site and in this way also construct biographies of various areas of the city.

4 See Lichtenberger 2003, 6–20 for sources relating to the Hellenistic and Roman periods as well as Kraeling 1938b, which is the chapter that deals with the history of the site. Also see Lichtenberger and Raja 2015c; 2018a; 2018g; 2019a.

5 See Lichtenberger and Raja 2019b for the AD 749 earthquake; Lichtenberger and Raja 2016b for new evidence belonging to the middle Islamic period; Lichtenberger and Raja 2018d for a compilation of contributions that deal with the middle Islamic period in Jerash and at a few other sites in northern Jordan. Also see Peterson 2017.

6 See Walker 1894; Shami 1992; 2009; Al-Soub, Haddad, and Afiyat 2015.

7 See Stott and others 2018 for a recent contribution on the city and its development over time. This article also holds information on the current pace of urbanization in Jordan in general and the explosive growth of the population, which has taken place over the last few decades.

8 Lichtenberger and Raja 2015c; 2017a. The latter is a collection of short articles on the research undertaken within the project since its beginning in 2011. In that volume, see Lichtenberger and Raja 2017c for a contribution using urban archaeology to approach the biographical narrative of a site. See preliminary reports of the project: Kalaitzoglou and others 2012; forthcoming; Kalaitzoglou, Lichtenberger, and Raja 2013; 2014; 2015; Lichtenberger and Raja 2012; Lichtenberger, Raja, and Sørensen 2013; 2014; 2015. Also see the webpage of the project <<https://projects.au.dk/internationaljerashexcavation>> [accessed 10 June 2020] and a project bibliography on figshare <<https://doi.org/10.6084/m9.figshare.12116286>>.

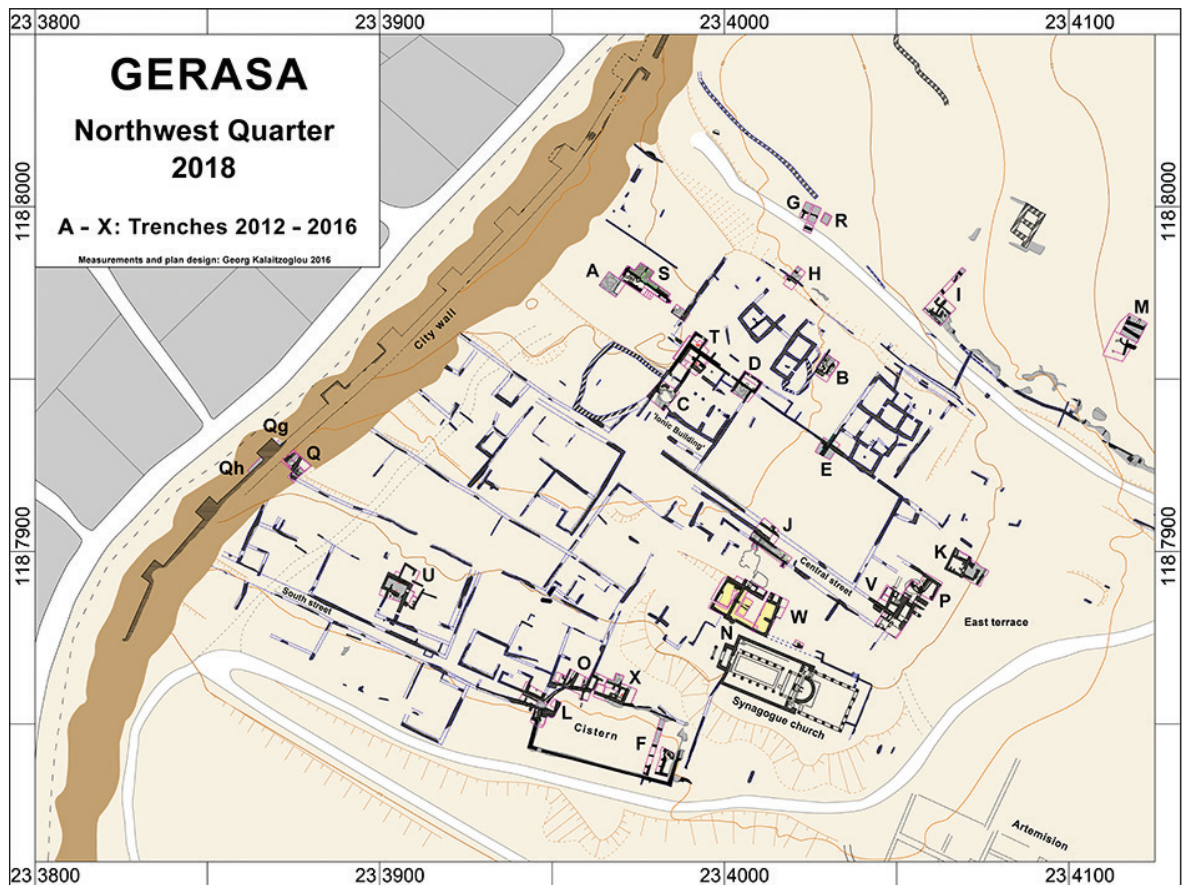


Figure 10.2. Plan of the Northwest Quarter. Plan by the Danish-German Jerash Northwest Quarter Project.

wider region with water, basically making life at the site possible.⁹ We also incorporate representative biographical close-ups by looking at the relatively small area of the Northwest Quarter (Fig. 10.2) and its settlement history in order to understand what such a small sector (4 ha) of a city, which covered a total of about 90 ha, may tell us about the biography of this specific place in a diachronic perspective. Finally, we turn to the Jewish community of Gerasa and investigate how the history of the Jews can be read as one aspect of the biography of Gerasa, which ties a certain religious group into the picture and sets out one approach of how to view the city in a different light.¹⁰

⁹ Lichtenberger and Raja 2016c. Also see the work done by the project in the Wadi Suf: Holdridge and others 2017; Lichtenberger and Raja 2018f; Lichtenberger and others 2019; Stott and others 2018.

¹⁰ For a recent ERC Advanced Grant project headed by Jörg Rüpke, which takes a novel approach to ancient religion, including Judaism, by looking at the perspective of lived ancient religion, see Raja and Rüpke 2015a; 2015b; Lichterman and others 2017; Albrecht and others 2018. Our approach to the biography of the Jewish community, although the evidence remains quite scattered, is inspired by the LAR approach.

The Perspective of the Public Monuments

Today, we know that Gerasa was an important Neolithic site, one of the so-called mega-sites of the region, comparable to Ain al-Ghazal (al-Nahar 2005; 2010; 2018). Approximately 1 km south of 'Hadrian's Arch', the Neolithic site has been investigated over the last years, revealing extensive evidence for settlement over thousands of years and societal organization at an early point in time. This adds to the overall biography of Jerash, since it provides knowledge about the importance of the site's privileged natural setting regarding availability of water and fertile land — a topography which also was crucial in historical periods (see e.g. Stott and others 2018; Lichtenberger and others 2019). The Bronze Age is also attested in Jerash, as is the Iron Age through scattered ceramic finds. However, as so often in the region, the Iron Age evidence is too scarce to say anything extensive about the nature of habitation during this period.¹¹

¹¹ Lichtenberger 2014. On the problematics of the Iron Age in



Figure 10.3. View of the main street of Gerasa. Photo by the Danish-German Jerash Northwest Quarter Project.

Although archaeological evidence does not offer extensive insight into the Hellenistic period either, we do know that the site existed in this period. We know this through earlier excavations in the area of the so-called Camp Hill, where the local on-site museum is situated today, and from the excavations within the perimeters of the Sanctuary of Zeus Olympios located across from Camp Hill (Seigne 1989; 1992). The Hellenistic period is also visible in scattered material finds in various places across the site. In the Northwest Quarter, the material is confined to stray finds, such as high-quality, Hellenistic-period, black-glazed ceramics (Lichtenberger and Raja 2016a, 185). Such stray finds add to our knowledge, since — although being scattered and not giving any coherent overview — they do tell us about activity that must have taken place in the Hellenistic period at the site. Black-glazed ceramics was imported from other regions. Therefore, by its presence, it attests to patterns — of more or less stable and established nature — of settlement and exchange with other places, even interregionally, although at Gerasa there seems to have been a strong preference for local wares from the late Roman periods onwards at least,

the region in general, but related in particular to the religious life, see Blömer, Lichtenberger, and Raja 2015 in which several contributions treat the theme through archaeological evidence or the lack thereof.

which still needs study in detail.¹² The extent to which the site flourished in the Hellenistic period remains unknown, since no substantial finds have been recovered from this period.

Cities of Classical Antiquity are to a large extent, also today, defined and described through their built environments, the most prominent features in the landscape, which are usually ‘leftovers’ or may be described as skeletons and backbones of the city, attesting to life which once was (Fig. 10.3).¹³ These environments are generally only partially known and understood, since archaeological research often does not cover all aspects of a city’s built environment over time.¹⁴ Public monuments, such as temples, churches, mosques, marketplaces, and shops, however, stand as central markers within the urban landscape and are today interpreted as expressions

12 See Romanowska and others 2018 as well as the recent status report from the collective research project *Ceramics in Context* for ongoing work on the full-quantification studies of the ceramics from the excavations by the Danish-German Jerash Northwest Quarter Project <<http://www.e-pages.dk/aarhusuniversitet/1897/html5/>> [accessed 10 June 2020]. Also see Möller 2017; Lichtenberger and Raja 2019b; Bes and others forthcoming.

13 On the nature of ruins and their perception by later cultures, see Schnapp 2014; 2018.

14 See Stott and others 2018 for a study on the mapping of archaeological features through the combination of aerial photos and LiDAR as well as further references to such studies; Lichtenberger, Raja, and Stott 2019.



Figure 10.4. View of the Sanctuary of Zeus Olympios.
Photo by the Danish-German Jerash Northwest Quarter Project.

of a communal civic identity and images of a society within which common values were shared. However, are these conclusions as straightforward as they often are presented to be?

Gerasa held numerous sanctuaries dating to the Roman period, which we know of through the written sources, literary and epigraphic.¹⁵ However, only two of these have survived in the archaeological record of the city and have been partly excavated, examined, and reconstructed over several decades. These are the sanctuaries of Zeus Olympios (Fig. 10.4) and of Artemis (Fig. 10.5). We know that the Sanctuary of Zeus already existed in the late Hellenistic period (first century BC), and an inscription from the first century AD tells us about the existence of a sanctuary of Artemis including at least a sacred lake and porticoes.¹⁶

¹⁵ See Lichtenberger 2003 for the most comprehensive collection of evidence relating to the religious life of the city to date. Kraeling 1938a also still offers a good overview of the knowledge then available.

¹⁶ See e.g. Seigne 1985; 1993; 1997; 2014; 2016; Parapetti 2018. Also see Kraeling 1938a for the work done on these sanctuaries in the

However, archaeologically we can only grasp the Artemision from the second century AD, when one of the largest sanctuaries in the Roman world was constructed in Gerasa; a sanctuary that even traversed the River Chrysorrhoas and consisted of several terraces and a monumental frontal podium temple with enormous substructures (Raja 2009; Lichtenberger 2008). The urban landscape was dominated by these two sanctuary complexes, which were visible from all over the city. The Sanctuary of Artemis hovered above the city, while the Sanctuary of Zeus Olympios enjoyed a spot on a space which seems to have held ritual functions since at least the late Hellenistic period (Lichtenberger 2008; Raja 2013). It was situated right across from where the oldest part of the settlement was located, the so-called Camp Hill (Raja 2009; 2013). Later, in the post-pagan periods, churches came to dominate the landscape, and in Gerasa more than twenty churches have been identified, all dating to between the fourth and the seventh centuries AD.¹⁷

While these are not as monumental as the two main sanctuaries of the city, they did as a group make a significant imprint on the city and its landscape. When walking through the late antique cityscape, one would often have encountered one of these constructions, decorated with mosaics, marble, and wall-paintings, holding windows adorned with glass panels, donated by rich citizens and clergy members. After the Arab conquest and with the coming of Islam, at least two mosques were built in Jerash.¹⁸ The most prominent one was a substantial building constructed in the early Umayyad period on the spot of an earlier Roman bathhouse, lying at the intersection between the 'Cardo', the main street, and the 'South Decumanus', one of the side streets (Fig. 10.6) (Walmsley 2018; also see Walmsley and Damgaard 2005; Walmsley 2003a; 2003b). This mosque continued to be used until the earthquake of AD 749 (Lichtenberger and Raja 2019b; Walmsley 2018), which seems to have destroyed a large part of the ancient city and caused it to decline (Lichtenberger and Raja 2015a; 2017b; also see Lichtenberger and Raja 2019c).

Each construction of a monumental complex, be it religious or public, carried implications for the

earlier twentieth century.

¹⁷ For the churches in Gerasa, see Kraeling 1938a; Michel 2001. Also see Haensch, Lichtenberger, and Raja 2016; Lichtenberger and Raja 2018b for the newly excavated ecclesiastical complex (called the mosaic hall) in connection with the so-called Synagogue-Church, now renamed the Church of the Electi Justiniani by the excavators of the mosaic hall (no. 52 on Fig. 10.1).

¹⁸ Naghawi 1982, 20–22 for a second potential mosque; Walmsley (2003a, 113) doubts that the building was an early Islamic mosque and if so then at least of a much later (middle Islamic) date.



Figure 10.5. View of the Sanctuary of Artemis. Photo by the Danish-German Jerash Northwest Quarter Project.



Figure 10.6. The mosque on the main street. Photo by the Danish-German Jerash Northwest Quarter Project.

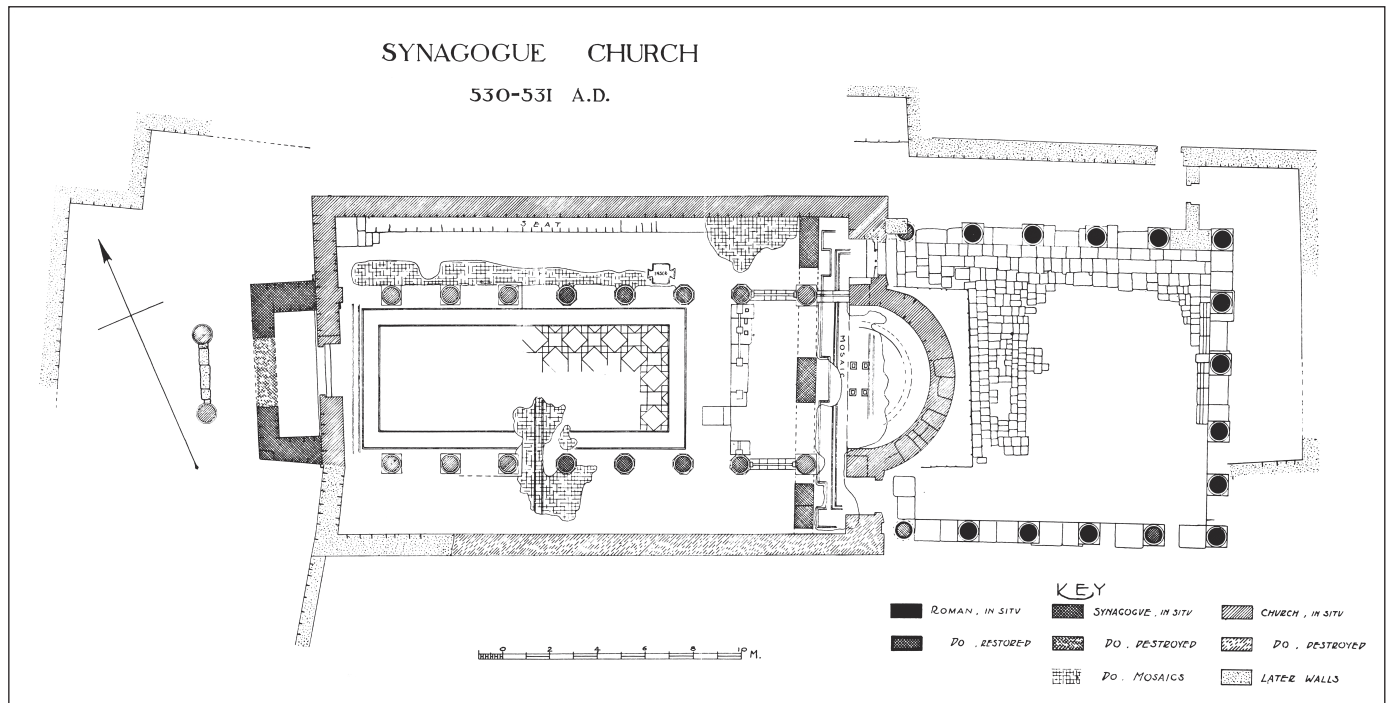


Figure 10.7. Plan of the so-called Synagogue-Church.
After Kraeling 1938a, 8.

overall urban setting and its biography. However, it was a partial biography, which cannot always be viewed and understood within its complete context. Archaeology has often focused on the excavation of monumental public monuments and not on the monuments which surrounded these public monuments and which were also integral parts of the local urban biography. Furthermore, often the temporal aspects and development over time are not taken into consideration due to a lack of information. Therefore, chronological perspectives might sometimes be lost in the desire to tell an 'exclusive' story about one single building complex without contextualizing it within its broader urban context and the development that the broader context underwent.

The monumental Roman-period sanctuaries in Gerasa could be seen as competing with each other for status within the cityscape as well as underlining the important religious and thus civic status of Gerasa within the region of the Decapolis (Lichtenberger 2008; also see Lichtenberger 2003). These sanctuaries were adorned over and again throughout a few centuries, in particular the first and second centuries AD, and must have borne visible traces of being ongoing construction sites. Stone blocks from quarries were lying around, scaffolding was visible, and workers who were actively engaged in a variety of crafts must have filled the urban spaces. Such stories of ongoing construc-

tion would have made an imprint on urban life as it took shape during periods of construction. People would have moved in these spaces, gone to work on building sites, and wondered about the progress or the lack thereof.

The two main sanctuaries still hovered over the city even in the post-pagan periods, while churches were being built in the areas all around them. Although turned into spaces where production places were located, they still architecturally remained features which would have been identifiable with the non-Christian past of the city (e.g. Raja 2015). One might also ask how or whether the numerous churches of Late Antiquity competed with each other for prominence in the urban landscape, or whether or not the construction of the centrally located early Umayyad mosque was an expression of the growing prominence of Islam or simply a statement of space available in the centre of the city, since churches took up much space outside the area of the central 'Cardo'. The question about how long and to what extent the churches were used in the early Islamic period is also one about which little is known, but also one that would give a quite different perspective on the biography of the city's changing religious and social landscape.¹⁹

19 See e.g. Lichtenberger and Raja 2018b. Furthermore, see Hahn, Emmel, and Gotter 2008 for contributions on the use and re-use of pagan structures in the Christian period. Also see Michel 2001 for churches in the region and the problems relating to understanding the duration of the use of these complexes.



Figure 10.8. View of the remains of the church. Photo by the Danish-German Jerash Northwest Quarter Project.

The So-Called Synagogue-Church as an Expression of Aspects of Urban Biographies

One prominent example of a monument in Jerash with a complex biography, adding to the overall biography of the city's history, is the so-called Synagogue-Church located in the Northwest Quarter of the city. This building, excavated within a three-week campaign in 1929, seems originally to have been part of a private house into which parts of the synagogue were built (Figs 10.7–10.8).²⁰ In the sixth century AD, the synagogue was converted into a church. The phases of the Roman-period house are not clear, since these were not published in detail by the excavators. Therefore an exact date for the construction of the synagogue is also not certain, but it is dated to sometime in the fourth century AD. However, it

is quite certain that the church was constructed and dedicated at the latest in AD 531, since a fragmented mosaic inscription inside the church gives us this date (Welles 1938, 483–84, no. 323; also see Haensch, Lichtenberger, and Raja 2016; Lichtenberger and Raja 2018b).

Since the excavation of this complex, it has been discussed what the reasons for the conversion of the synagogue into a church could have been. Was it simply a building that had fallen out of use? Was it a transformation of the building that was connected to a conversion of a Jewish congregation to Christianity, or was it a forceful transformation, in which a Jewish congregation had to give up its building to another group and was so to say thrown out of its congregational building? Such questions are important to answer in order to understand the biography of the monument and therefore a part of the urban biography of Gerasa.

Work conducted in recent years has shown that the so-called Synagogue-Church was closely connected with a special military unit stationed in Gerasa

²⁰ See the excavation reports on the Synagogue-Church: Detweiler 1942; Crowfoot and Hamilton 1929; Crowfoot 1931, 16–20; 1938, 234–41. Cf. also the broader syntheses by Piccirillo 1993, 290–91; Levine 2000, 239–40; Michel 2001, 251–55; Dvorjetski 2005. Furthermore, Lichtenberger and Raja 2018b; Haensch, Lichtenberger, and Raja 2016; Lichtenberger and Raja 2018b for the most recent research on this complex.

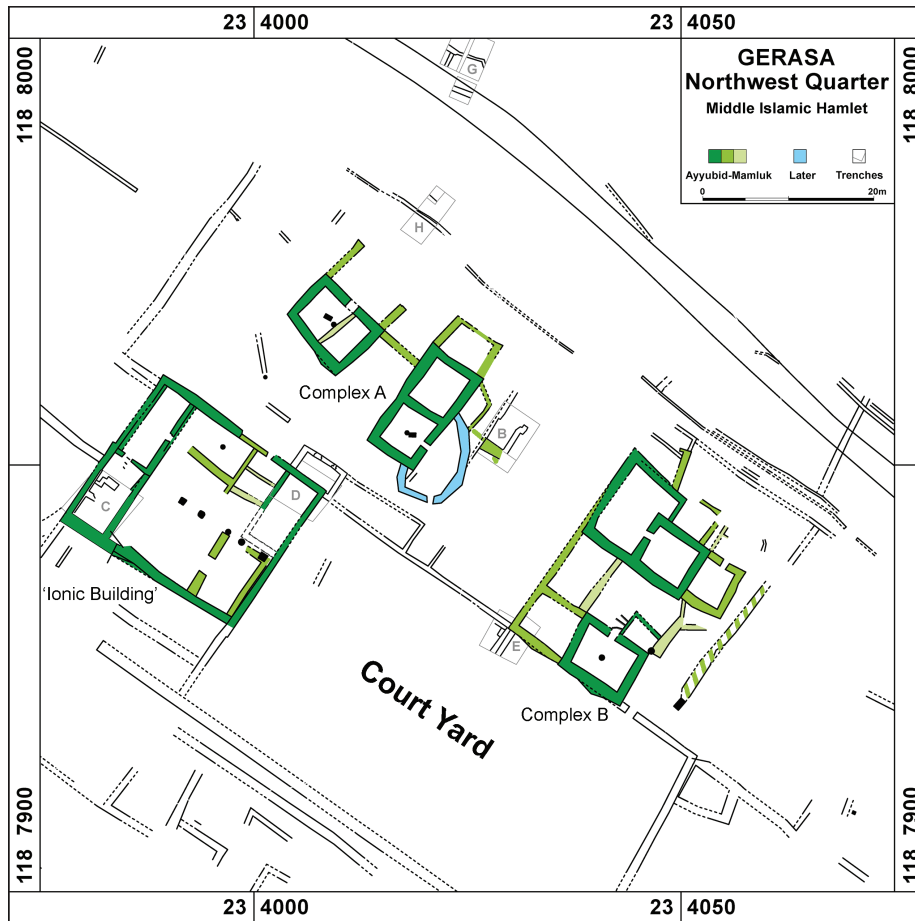


Figure 10.9. Plan of the middle Islamic settlement in the Northwest Quarter. Plan by the Danish-German Jerash Northwest Quarter Project.

in the sixth century AD under the Emperor Justinian, who was well known for his hostility towards Jews.²¹ The information about the special forces comes from mosaic inscriptions found in a complex to which there was direct access from the front courtyard of the church (Haensch, Lichtenberger, and Raja 2016; Lichtenberger and Raja 2018b). Although this might indicate that the former synagogue was appropriated under military influence, the inscriptions do not clarify the matter of whether the synagogue was still in use at the point in time when the building was turned into a church, or whether it had fallen out of use. So this biographical question must be left open. Nonetheless, the direct appropriation of already existing religious spaces by another religious group does tell us something about the attitude towards taking over former or other religious spaces. A direct appropriation of religious spaces

was in fact a rare phenomenon in Antiquity (Hahn, Emmel, and Gotter 2008).

Medieval, Circassian, and Modern Jerash — Biographies of Later Periods

On 18 January AD 749, a devastating earthquake hit large parts of the Levant. Numerous locations, including Jerash, were devastated (Willis 1928; Russell 1985, 47–49; Degg 1990, 298–99; Tsafir and Foerster 1992; Amiran, Arie, and Turcotte 1994, 266–67; Marco and others 2003; Sbeinati, Darawcheh, and Mouty 2005, 362–65). After the earthquake, Jerash did not recover, and in the Northwest Quarter there are no signs of activity after the earthquake (Lichtenberger and others 2016; Barfod and others 2015; also see Lichtenberger and Raja 2019b). It was only in the Ayyubid-Mamluk period from the twelfth century AD onwards that the site was resettled but on a much smaller scale than earlier (Lichtenberger and Raja 2016b; 2018c; 2018d; 2018e). Here, evidence from the Northwest Quarter also gives us insight into the biography of the place at this point in time. On the

21 Lichtenberger and Raja 2018b summarizes the evidence for such situations. However, for the destruction of the synagogue in Kallinikon, also see e.g. Haensch, Lichtenberger, and Raja 2016, 195. Also see the destruction of the synagogue of Rabbathmoba by Barsauma (Brenk 1991, 17) which, however, most likely is a hagiographic exaggeration.

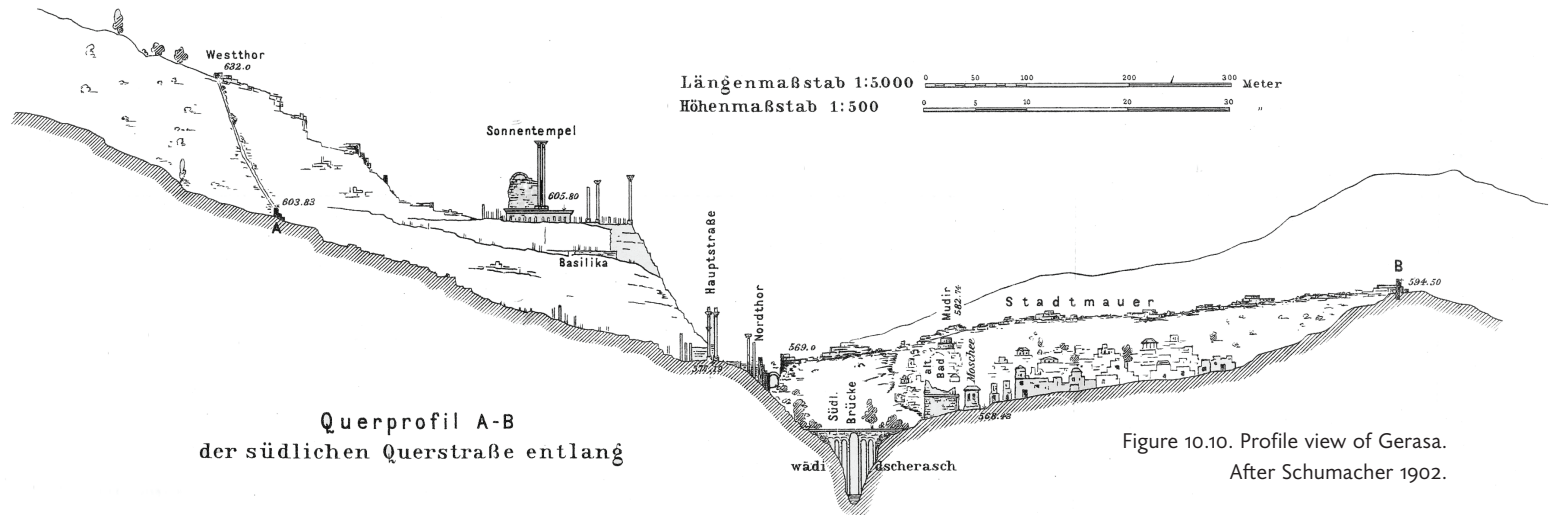


Figure 10.10. Profile view of Gerasa.
After Schumacher 1902.

top of the hill, a monumental building was located and partly excavated (Fig. 10.9) (Lichtenberger and Raja 2016b).

This building partly incorporated earlier structures, such as walls, but it also incorporated decorative architectural elements, spolia, originally coming from Roman-period buildings. The building was connected to other buildings of the same period, which were also of medieval date. The Northwest Quarter seems to have housed a medieval settlement, where houses, with one being more representative than the others, were situated around a large open courtyard. This evidence informs us about the settlement's structure in the region's under-researched medieval period, indicating that settlements in such places had the character of smaller settlements or villages concentrated around a main building (Lichtenberger and Raja 2016b).

After the Mamluk period, Jerash seems to have been fairly abandoned. In 1806 Ulrich Jasper Seetzen visited the site as the first Western traveller of the modern period. He described the place as lying in ruins and did not mention any inhabitants (Lichtenberger 2002). However, a few other early travellers do mention that some houses were occupied, suggesting that the city might not have been completely abandoned, as often assumed due to Seetzen's silence on the matter.²²

In the late nineteenth century, we are told that Circassians were resettled in Jerash, and a few houses date to this period. The Circassian population cultivated, among other areas, the Northwest Quarter and such agricultural activity is visible in later aerial photographs as well as in the archaeology, where ploughing traces are visible on many stones lying just below the surface.



Figure 10.11. Spring at Suf. Photo by the Danish-German Jerash Northwest Quarter Project.

The River Perspective

Roman Gerasa was divided by the steep Wadi Jerash, in Antiquity called the 'Gold River', the Chrysorrhoas (Fig. 10.10).²³ The river divides the city in a north-south direction into two distinct parts, and while the eastern part today is mostly covered by the modern town of Jerash, the western part is an archaeological zone, and numerous public monuments of the Roman, Byzantine, and early Islamic periods have been excavated.

The River Chrysorrhoas has its origin in the village Suf, approximately 7 km north-west of Jerash (Fig. 10.11) (Lichtenberger and Raja 2016c, 102–04; 2020; Holdridge and others 2017; Stott and others

22 See Lichtenberger and Raja forthcoming for a collection and edition of early travellers' account of visits to Gerasa.

23 On Gerasa/Jerash and the river, cf. Lichtenberger and Raja 2016c; 2018f; Lichtenberger and others 2019; Lichtenberger 2019. The earliest mention of the river as the 'Gold River' is attested on a lead weight, Seyrig 1950, 33, no. 45, but see now Gatier 2018.



Figure 10.12. View of the wadi valley in Suf. Photo by the Danish-German Jerash Northwest Quarter Project.

2018). The Chrysorrhoas is a tributary to the River Zarqa (Jabbok) into which it flows approximately 5 km south of Jerash. The springs at Suf play a crucial role for the water supply of Gerasa.

On the one hand, these springs feed the river, and its water was used for all kinds of irrigation and water-supply purposes of the city. On the other hand, water channels starting at Suf and in the wadi upstream supplied Jerash directly with fresh, running water.²⁴ The upper part of the Chrysorrhoas between Jerash and Suf is fertile even today and has been used for intensive agriculture over time (Fig. 10.12).

From the Roman period, we even know of an association of the ‘gardeners of the upper valley’, hinting at the profound impact the river had on social formations and groupings within the city (Gatier 1985, 310–12; Seigne 2004, 176; Lichtenberger and Raja 2016c, 110–11). The river also had a cultic and religious relevance. Personifications of the river are found on the city’s Roman-period coins together with the personification of the city, the Tyche (Fig. 10.14.7) (Lichtenberger 2003, 197–99; Lichtenberger and Raja 2016c, 108–10). Also, among the marble sculptures of the city, a small statuette of a reclining river

god is attested, hinting at cultic veneration of the river in the shape of a deity in the city (Fig. 10.13) (Lichtenberger and Raja 2016c, 110).

The river and its supply for domestic use had immense impact on the city’s urban layout. Since the river literally cut the city into two, these halves had to be bridged by several impressive bridges that connected the western side with the eastern. The river also had to be integrated into the Roman city walls, and at least at the southern exit of the city a water gate was located, specifically constructed for letting the river’s water out of the city (Kraeling 1938a, 12–13).

Because of all the mentioned aspects of the relationship between the river and the settlement, it is obvious that the river had a strong impact on the biography and the settlement’s life. Today, the river also serves as an archive for the settlement’s biography. The sediment profiles tell the story of the region as well as providing information about the biography of the city (Holdridge and others 2017).

Throughout the course of the wadi, thick sequences of river and slope deposits, formed during the Ice Age and the early Holocene, are found. These soils retain no traces of human activities, but anthropogenic activities in the landscape and inside the city are reflected in the alluvial sediments and colluvial soils in the wadi. These sediments and soils retain numerous artefacts, in particular ancient pottery, which have been washed out of the city and the

²⁴ Stott and others 2018 — also for further references including earlier published work on the springs of Gerasa/Jerash and water resources. Also see Boyer 2016a; 2016b; Lichtenberger and Raja 2015c, 483; Lachat and others 2000; Döring 2016; Lichtenberger and others 2015; Seigne 2008.



Figure 10.13. Fragment of under life-size river god. Department of Antiquities of Jordan, Jerash Office. Photo by the Danish-German Jerash Northwest Quarter Project.

surrounding constructions on artificial terraces during flash floods or have been dumped as garbage by humans and later reworked by the river. Wadi sediments can, when studied together with the on-site soils, significantly improve our knowledge of climatic conditions and extremes during the last millennia and are crucial for an understanding of the daily life and the catastrophes the inhabitants of Jerash experienced during previous generations.

Detailed palaeo-environmental knowledge from the southern Levant is in general limited by absence of high-resolution archives such as lakes and sea sediments, though soils may still retain microscopic evidence of former land-uses and climates. Inside Jerash, rare remains of non-disturbed soil surface suggest farming with irrigation and fertilization in the period before the city wall was erected. The first analysis of the red Mediterranean soils from within the city suggest that, at some stage since the Roman period, a more arid climate prevailed in Jerash (Holdridge and others forthcoming). This is evidenced in buried soil surfaces which are more alkaline, i.e. contain higher levels of salts, than what is feasible with the far more moist present-day climate. Hence, more common droughts, reduced vegetation cover, and more frequent extreme precipitation events were

encountered in Jerash with significant impacts on the wadi's water supply, and in turn this influenced the stability of the hinterland's food production.

Also, major flood events and changes in the maintenance of the hinterland's terraces are recorded in wadi sediments. However, the unusual thick layers of debris covering most parts of the ancient city, which have only partly been dug away during archaeological excavations, are also likely to be the result of surface-water actions during heavy-rain events. Such conclusions are supported by preliminary interpretations of the airborne laser scanning of the land surface, which suggests that bulldozing and tillage erosion over the last two centuries have only had a minor impact on the overall appearance of the city today, as a only few rectangular ploughing fields are visible (Stott and others 2018). Hence, studies of both the wadi's records and the debris within the city can be used to test and challenge the narratives about Jerash's development and demise, while at the same time providing new insight into natural changes in water-supply potentials and food security, which were two of the most basic factors for ensuring survival of urban life (Lichtenberger and others 2019; Cresswell and others 2018).

Biographies through Coins

Coinage is another perspective on the biography of cities such as Jerash. Especially the coins issued by the city's authorities can serve as autobiographical material since the civic coins not only served for financial transactions but also as civic display and for identity construction (see e.g. Howgego, Heuchert, and Burnett 2005). During the Roman period, numerous cities in the eastern Mediterranean minted their own coins, and these coins usually show the emperor or a member of his family on the obverse and local themes on the reverse (Harl 1987). These coins were issued by the civic administration and are therefore part of the story that the civic elite wanted to convey to the surrounding world about the city, and they thus testify to civic pride.

Gerasa began minting coins under the Emperor Nero shortly after the beginning of the Jewish War (AD 66–70) in the year AD 67/68.²⁵ The Jewish War seemingly affected the city considerably, and it is not by chance that the city started to mint coins in this

²⁵ On the coinage of Gerasa, cf. Spijkerman 1978, 156–67; Rosenberger 1978, 50–56; Meshorer 1985, 94; Lichtenberger 2003, 191–243; Meshorer, Bijovsky, and Fischer-Bossert 2013, 170–73; Kaplun 2020.



Figure 10.14. Nine bronze coins of Gerasa.

- 1) Bronze coin of Gerasa from the time of Nero.
Obv.: Head of Nero to l.; Rev.: Artemis standing. \varnothing 22 mm;
 - 2) Bronze coin of Gerasa from the time of Nero.
Obv.: Head of Tyche to r.; Rev.: Wreath. \varnothing 17 mm;
 - 3) Bronze coin of Gerasa from the time of Nero.
Obv.: Head of Zeus Olympios to r.; Rev.: Cornucopia. \varnothing 15 mm;
 - 4) Bronze coin of Gerasa from the time of Hadrian.
Obv.: Head of Hadrian to r.; Rev.: Bust of Artemis Tyche to r. \varnothing 21/23 mm;
 - 5) Bronze coin of Gerasa from the time of Marcus Aurelius.
Obv.: Head of Commodus to r.; Rev.: Artemis huntress to r. \varnothing 28 mm;
 - 6) Bronze coin of Gerasa from the time of Marcus Aurelius.
Obv.: Head of Marcus Aurelius to l.; Rev.: Standing Tyche and city founder. \varnothing 24 mm;
 - 7) Bronze coin of Gerasa from the time of Marcus Aurelius.
Obv.: Head of Marcus Aurelius to r.; Rev.: Seated Tyche in type of Tyche of Antioch. \varnothing 17 mm;
 - 8) Bronze coin of Gerasa from the time of Septimius Severus.
Obv.: Head of Septimius Severus to r.; Rev.: Head of Alexander the Great to r. \varnothing 24/26 mm;
 - 9) Umayyad pre-reform bronze coin from Jerash mint.
Obv.: Justin II and Sophia seated; Rev.: Large M, cross above. \varnothing 29 mm.
- 1–8) after Lichtenberger 2003, MZ 101, 110, 114, 103, 107, 111, 113, and 115;
9) photo from Classical Numismatic Group, Electronic Auction 240, 8 September 2010, lot 514.

period. Due to the presence of military units in the region, small change for local usage was needed, and such small change was provided by the cities themselves and might have been the incentive for Gerasa to start issuing.

However, minting coins also offered the opportunity to show one's attitude, and therefore it does not come as a surprise that the earliest coins fall into three relevant types: 1) the Emperor Nero on the obverse and a standing Artemis on the reverse (Fig. 10.14.1) (Spijkerman 1978, 158–59, no. 3); 2) the head of Tyche (the city goddess) on the obverse and a laurel wreath on the reverse (Fig. 10.14.2) (Spijkerman 1978, 158–59, no. 2); and 3) the head of Zeus on the obverse and a cornucopia on the reverse (Fig. 10.14.3) (Spijkerman 1978, 158–59, no. 1).

Two of the types relate to the two main deities of Gerasa, which were venerated in the large sanctuaries of Gerasa. Zeus in the south of the city and Artemis further north in the city.²⁶ Images of the most important public deities of a city are typical on coins, and a clear coherence between coins and built environment can be observed in this case.

The next phase of minting took place under the reign of the Emperor Hadrian, who visited the city and most likely stayed there in the winter of AD 129/30. Already before the visit of Hadrian, the city underwent an enormous urban development, and the Temple of Artemis was monumentalized under Hadrian. Therefore, it does not come as a surprise that all the coins from the Hadrianic period show Artemis, who was presented as Artemis Tyche, the main protective deity of Gerasa (Fig. 10.14.4) (Spijkerman 1978, 158–59, nos 4–7). It is remarkable, however, that Zeus, the other important deity, was not depicted on the coins in this period anymore. The deity does not occur at all on coins of Gerasa until the end of

²⁶ Another undated type of a small bronze coin with a stag and a rabbit possibly also relates to Artemis. Cf. Lichtenberger 2003, 195 MZ 102.

Elagabalus's reign (Lichtenberger 2008). Therefore, the coins in this period reflect only a partial image of Gerasa's biography.

Under the Antonines and the Severans, the civic coinage mirrored the prosperity of Gerasa in the second and third centuries AD. Many reverse types show Artemis as a standing huntress (Fig. 10.14.5) (Spijkerman 1978, 158–65, nos 8, 15, 20, 28, 30; Lichtenberger 2003, MZ 108–09; Kaplun 2020) or as a bust (Spijkerman 1978, 160–65, nos 13, 14, 18, 19, 24–27), others have the theme of Tyche. Tyche comes in two types. One standing type is the classical type with oar and cornucopia (Fig. 10.14.6) (Spijkerman 1978, 160–63, nos 9, 10, 16, 21), the other is Tyche shown as the iconic seated Tyche of the northern Syrian city Antioch (Fig. 10.14.7) (Spijkerman 1978, 160–65, nos 11, 12, 17, 22, 23, 32), emphasizing the geographic setting of the city on a river (cf. Meyer 2006). The personification of the river is literally seen crawling under the seated goddess in the water. This is a common Tyche type in the Near East, and the citizens of Gerasa chose this type in order to visualize the geographically favoured position of the city directly at the Chrysorrhoas. The Tyche coin with the classical standing Tyche type is combined with a person standing behind Tyche. This person is most likely a Greek founder such as the Seleucid king Antiochos, who was the founder of the city and who also allegedly gave the city its Greek name (Lichtenberger 2008). Another Greek founder of the city is depicted on a new reverse type, which was introduced during the reign of Septimius Severus and shows the bust of Alexander the Great, who according to one tradition was the founder of Gerasa (Fig. 10.14.8).²⁷ The coins of the Antonine and Severan periods clearly show civic pride related to Artemis, but also to the two Tyche figures, which are personifications of the positive characteristics of the city. The city's citizens also took pride in the Greek tradition by showing Greek founders on the coins.

It has been suggested that the coinage of Gerasa is reflecting two groups of people among the citizens of the city (Lichtenberger 2008). One group focused its identity around the city name Gerasa and displayed Artemis as the main deity and possibly also Alexander the Great as the most important founding figure, while another group used the name Antioch on the Chrysorrhoas and related strongly to the Greek Tyche, Antiochos, and Zeus Olympios. If this interpretation is correct, then the coinage clearly

reflects the remarkable urban situation of two large sanctuaries that groups with different civic identities used as their urban religious foci. These two groups had to share the space, physically, within the city, but they created their own biographies of the place, giving it different names and different deities, which were communicated to the outside world.

After Elagabalus, civic coinage was not minted any longer in Gerasa as far as we know, but in the early Islamic period, Jerash again became a minting city (Amitai-Preiss, Berman, and Qedar 1994–1999; Meshorer, Bijovsky, and Fischer-Bossert 2013, 173, nos 33–36). For some decennia in the late seventh century AD, Jerash minted the so-called Arab-Byzantine coins. These coins copy Byzantine types, such as the follis of Justin II and Sophia with seated figures holding crosses, but they have Arabic inscriptions showing that they were minted under Arab rule (Fig. 10.14.9). The coins testify to another aspect of the biography of Jerash, which after the Islamic conquest remained a Byzantine city, with churches and Byzantine material culture (Lichtenberger and others 2016; Lichtenberger and Raja 2015a). These Arab-Byzantine coins are strong evidence for the cultural profile in the time of Umayyad Jerash.

Coinage does not provide us with a different biography of the city, but it is obvious that certain civic phenomena and events such as the Jewish War in neighbouring Judaea and Galilee, the visit of Hadrian, the urban development of the city in the second and third centuries AD, and the Islamic conquest of the Byzantine city are reflected in the local coinage, therefore adding to our knowledge about Gerasa's urban biography.

Jewish Perspectives on Gerasa

Already since the Hellenistic period, when the Hasmonean state expanded, Gerasa seems to have been an object of interest to Jewish communities. Sources tell us that Alexander Jannaios conquered the city (Jos., *BJ*, I. 104; *Ant. Iud.*, XIII. 393 (where Gerasa is named Essa); also see Kasher 1990; Lichtenberger and Raja 2018b; Raja 2017). Allegedly, he even died while besieging the fortress of Ragaba, which was part of the territory of Gerasa (Jos., *Ant. Iud.*, XIII. 398). It is not clear for how long Gerasa remained under Jewish rule and how much Gerasa was influenced by Jewish culture. However, at the latest in 64/63 BC, it was liberated by the Roman general Pompey, who assigned the city to the newly founded Roman province of Syria. In the following period, we have no information about Jewish presence in

27 Spijkerman 1978, 164–67, nos 29, 31, 34, 35. Regarding the Alexander tradition, cf. *EM* s.v. Gerasenos. Also see Lichtenberger 2003, 191–92, 199–200; Dahmen 2007, 131–32 for the coins.

Gerasa. Sources only begin to give information again around the time of the First Jewish Revolt during AD 66–70.

At this point in time, we get important insight into Jewish communities in Gerasa. It is clear that, at the beginning of the revolt, a significant Jewish community existed in Gerasa since we hear that, although the city was attacked by Jewish rebels from Judaea (Jos., *BJ*, II. 458), the inhabitants of the city spared their Jewish citizens (Jos., *BJ*, II. 480). This underlines not only that a considerable number of Jews lived in the city, but obviously also that these Jews were well integrated and respected by their pagan compatriots. The excavations in the Northwest Quarter also brought to light a fragment of a stone vessel, typical for Jewish material culture during the pre-AD 70 period, underlining the written testimonies of Jewish presence in Gerasa during this period (Lichtenberger and Raja 2015c).

In the context of the Jewish War (see also Lichtenberger 2018), there are two peculiar testimonies, which, because of their peculiarities, most researchers do not regard as referring to Gerasa at all. However, they are important to mention, since they in fact may refer to Gerasa.

1) The first is the information handed down to us by Josephus, the former rebel turned Roman informer, who tells us that during the siege of Jerusalem by Vespasian, Vespasian sent Lucius Annianus out to destroy Gerasa (Jos., *BJ*, IV. 487). Usually, this Gerasa is not identified with the Gerasa which we refer to, ‘because as a Greek city it would certainly have been friendly towards Rome’ and there would have been no reason to send the Roman military against it (Schürer 1979, 150). Usually, it is argued that other smaller places in Judaea need to be identified with the Gerasa mentioned by Josephus, even though it is clear from the story of Josephus that Lucius Annianus destroyed a large city and also many villages in its territory, which would indeed fit with our Gerasa and not some small settlement in Judaeian territory. Therefore, it indeed needs to be taken into serious consideration that Gerasa/Jerash might have been destroyed by the Romans during the First Jewish War. Such a destruction might have related either to Gerasa being seen as a threat to the Roman army because of the Jewish presence in the city, or even as a result of Gerasa or parts of its community having joined the Jewish Revolt.

2) Josephus also reports that one of the leaders of the revolt, Shimon Bar Giora (Simon, son of the proselyte) was born in Gerasa (Jos.,

BJ, IV. 503). Again, this Gerasa is usually identified with other places in Judaea or Samaria, but there are also other voices who regard the tradition as trustworthy and assume that our Gerasa was indeed the hometown of Simon (Hengel 2011, 373; Elitzur 2004, 110 n. 16). The information that his father was a proselyte would add to the picture we get about the cultural milieu of Gerasa, and this would fit much better with a mostly pagan city than with a village in Judaea or Samaria, where in most cases the inhabitants would have been exclusively Jewish.

If we accept that the hometown of Shimon Bar Giora and the town destroyed by Lucius Annianus were indeed Gerasa, then it becomes obvious that Jewish presence in Gerasa must have been much stronger than usually assumed. This of course does not imply that Gerasa was a Jewish city during this period, but it implies that considerable portions of the population were Jewish.

An enigma of the Jewish presence in Gerasa during the first and second centuries AD are the fragments of a building which were thrown into the construction fill in the Hadrianic arch, erected in AD 130 (Detweiler 1942). From the stratigraphy, these architectural fragments need to be attributed to a pre-AD 130 building in Gerasa that at one point before AD 130 had been destroyed. A. Henry Detweiler (1942, 13, fig. 2.4) assumed that a feature on one of the capitals was a menorah, and therefore they stemmed from a pre-Hadrianic synagogue. This view is followed by Estée Dvorjetski (2005, 143) and cautiously by Ben Zion Rosenfeld (2010, 154 n. 38) who, however, argues that the occurrence of a menorah at that early point in time would be surprising. Since the stones are lost today and the menorah on the published photos is not properly visible, this evidence needs to be treated with caution and remains doubtful. Of course it would be fascinating to assume that the stones indeed belonged to a synagogue that was either destroyed shortly before AD 130 or already in the time of Lucius Annianus, but at the moment this remains pure speculation.

It is obvious that the biography of Gerasa from a Jewish perspective is quite different than the one told by other perspectives. But they are indeed intertwined perspectives. Surely, Gerasa was never a purely Jewish city, but the Jewish component of the city's inhabitants during the Hellenistic and Roman periods should not be underestimated and seems to have been stronger and more complex over centuries than hitherto thought (Lichtenberger and Raja 2018b).

However, overall Gerasa was regarded as a pagan city, which also shines through in the Gospels where

Mark (5.1) and Luke (8.26–37) localize an exorcism exercised by Jesus in the territory of Gerasa. Since Jesus sent the demon, which calls himself Legion, into a herd of pigs, who after that ran to the Sea of Galilee and drowned themselves, there seems to be some confusion about the topography (Gerasa is about 50 km away from the Sea of Galilee), and therefore the parallel story in Matthew (8.28) has Gadara as the place of the miracle. Gadara is much closer to the Sea of Galilee than Gerasa. There have been other attempts to localize a Gerasa or Gergesa toponym closer to the Sea of Galilee, but such attempts do not take the biblical narrative properly into account. These accounts clearly intended to situate the miracle with the demon named Legion and the pigs in a pagan milieu. Therefore, it is more important what the text narrates than whether it fits well to the topography of the region. Gerasa as *lectio difficilior* has to be given preference over localizing the story in the immediate vicinity of the Sea of Galilee. A place was needed as setting for this story, which was thought of as being a pagan place (Klinghardt 2007), but it is also clear that Jews, like Jesus himself, interacted with this place.

Conclusion

Bringing out the numerous perspectives above, which all add to the biographical knowledge about Gerasa, also give insight into the ways in which urban biographies of historical periods are complex to disentangle and to narrate. While focus easily can be given to one perspective, it is often difficult, if not impossible, to bring perspectives together to form one coherent biography, which gives an idealized image of the history of a city. However, while this might not be surprising, since the lives of cities are complex and often constructed — as shown above — through various events and developments, what is important is to attempt to bring out and highlight such differing aspects of biographies. When considered on their own, each narrative brought out here might be said to have constructed a high-definition narrative — delving into one part of the complex urban history. Urban histories in historical periods may often be enriched by applying high-definition perspectives and taking the invisible narratives which archaeology and its methods bring to the larger picture seriously. When holding these up against the various historical narratives, another layer about the urban biography is added, which brings in issues such as climate, landscape change, and the impact that the urban constructed environment had on the urban

society. While the history of the Jews in Gerasa and the conversion of the late antique synagogue into a church in the sixth century AD bring out the narrative of potential religious conflicts and imperial policies involving anti-Jewish legislation, this was also a time in which the landscape in and around Gerasa changed majorly due to the lack of management of the hinterland terraces. Furthermore, evidence from the city around the Northwest Quarter suggests that the moving of massive amounts of soil was undertaken by human beings and was not the result of erosion, perhaps implying the involvement of the army or other organized labour on a larger scale. While monuments, such as the large sanctuary complexes, tell us about groupings and economics of the Roman-period city, it is the restructuring during Late Antiquity and well into the early Islamic period that informs us about the resilience and adaptability of the local society. The earthquake evidences of the mid-eighth century AD tell us yet another story, namely that the society, which seems to have been flourishing in an urban context until then, did not have the means and resilience to reconstruct the city on as large a scale as it was before the earthquake. By bringing together all these high-definition narratives, a grander narrative might be constructed in a more detailed light, and a more nuanced view of the urban biography can begin to be constructed.

Abbreviations

EM	<i>Etymologicum magnum</i>
Jos., <i>Ant. Iud.</i>	Josephus, <i>Antiquitates Iudaicae</i>
Jos., <i>BI</i>	Josephus, <i>Bellum Iudaicum</i>
Nep.	Cornelius Nepos
Suet.	Suetonius

Works Cited

- Albrecht, J. and others. 2018. 'Religion in the Making: The Lived Ancient Religion Approach', *Religion*, 2018: 1096–1151.
- al-Nahar, M. 2005. 'The Neolithic Site of Tell Abu as-Suwwan: Preliminary Report', *Neo-Lithics*, 1.6: 7–12.
- . 2010. 'Tell Abu Suwwan, A Neolithic Site in Jordan: Preliminary Report on the 2005 and 2006 Field Seasons', *Bulletin of the American Schools of Oriental Research*, 357: 1–18.
- . 2018. 'The Neolithic Site of Tell Abu Suwwan in Jerash, Jordan', in A. Lichtenberger and R. Raja (eds), *The Archaeology and History of Jerash: 110 Years of Excavations*, Jerash Papers, 1 (Turnhout: Brepols), pp. 7–14.
- Al-Soub, A., M. Haddad, and D. Atiyat, 'Revive the Circassian Cultural Heritage in the City of Jerash', *Journal of Environment and Earth Science*, 5.15: 13–20.
- Amiran, D. H. K., E. Arie, and T. Turcotte. 1994. 'Earthquakes in Israel and Adjacent Areas: Macroseismic Observations since 100 B.C.E.', *Israel Exploration Journal*, 44: 260–305.
- Amitai-Preiss, N., A. Berman, and S. Qedar. 1994–1999. 'The Coinage of Scythopolis-Baysān and Gerasa-Jerash', *Israel Numismatic Journal*, 13: 133–51.
- Barfod, G. and others. 2015. 'Revealing Text in a Complexly Rolled Silver Scroll from Jerash with Computed Tomography and Advanced Imaging Software', *Nature Scientific Reports*, 5: 1–10.
- Bes, P. and others. Forthcoming. 'Ceramics in Cities in Context: An Overview of Published Roman Imperial to Umayyad Pottery in the Southern Levant', in A. Lichtenberger and R. Raja (eds), *Hellenistic and Roman Gerasa: The Archaeology and History of a Decapolis City*, Jerash Papers, 5 (Turnhout: Brepols), pp. 55–118.
- Blömer, M., A. Lichtenberger, and R. Raja. 2015. *Religious Identities in the Levant from Alexander to Muhammad: Continuity and Change*, Contextualizing the Sacred, 4 (Turnhout: Brepols).
- Boswell, J. 1791. *The Life of Samuel Johnson* (London: Henry Baldwin).
- Boyer, D. D. 2016a. 'Aqueducts and Birkets: New Evidence of the Water Management System Servicing Gerasa (Jerash), Jordan', in R. Stucky, O. Kaelin, and H.-P. Mathys (eds), *Proceedings of the 9th International Congress on the Archaeology of the Ancient Near East, 9–13 June 2014, Basel 2014* (Wiesbaden: Harrassowitz), pp. 517–31.
- . 2016b. 'Recent Advances in Understanding the Water Delivery System to Gerasa of the Decapolis', in G. Wiplinger (ed.), *De Aquaeductu atque Aqua Urbium Lyciae Pamphyliæ Pisidiæ / The Legacy of Sextus Julius Frontinus: Tagungsband des Internationalen Frontinus-Symposiums Antalya, 31. October – 9. November 2014* (Leuven: Peeters), pp. 143–54.
- Brenk, B. 1991. 'Die Umwandlung der Synagoge von Apamea in eine Kirche. Eine mentalitätsgeschichtliche Studie', in E. Dassmann and K. Thraede (eds), *Tesserae: Festschrift für Josef Engemann*, Jahrbuch für Antike und Christentum: Ergänzungsband, 18 (Münster: Aschendorff), pp. 1–25.
- Cresswell, A. J. and others. 2018. 'Luminescence Dating of Soils and Sediments from Jerash, Jordan', *Biological and Environmental Sciences Research Reports* <<http://hdl.handle.net/1893/27524>>.
- Crowfoot, J. W. 1931. *Churches at Jerash: A Preliminary Report of the Joint Yale-British Expeditions to Jerash, 1928–1930*, British School of Archaeology in Jerusalem, Suppl. 3 (London: Council of the British School of Archaeology in Jerusalem).
- . 1938. 'The Christian Churches', in C. H. Kraeling (ed.), *Gerasa: City of the Decapolis* (New Haven: American Schools of Oriental Research), pp. 171–262.
- Crowfoot, J. W. and R. W. Hamilton. 1929. 'The Discovery of a Synagogue in Jerash', *Palestine Exploration Quarterly*, 6: 211–19.
- Dahmen, K. 2007. *The Legend of Alexander the Great on Greek and Roman Coins* (London: Routledge).
- DeGeorgi, A. 2016. *Ancient Antioch: From the Seleucid Era to the Islamic Conquest* (Cambridge: Cambridge University Press).
- Degg, M. R. 1990. 'A Database of Historical Earthquake Activity in the Middle East', *Transactions of the Institute of British Geographers*, 11: 294–307.
- Detweiler, A. H. 1942. 'Some Early Jewish Architectural Vestiges from Jerash', *Bulletin of the American Schools of Oriental Research*, 87: 10–17.
- Döring, M. 2016. 'Wasser für die Dekapolis – Römisches Wasserversorgungssystem im Norden Jordaniens', *Schriften der Deutschen Wasserhistorischen Gesellschaft*, 5: 183–216.
- Dvorjetski, E. 2005. 'The Synagogue-Church at Gerasa in Jordan: A Contribution to the Study of Ancient Synagogues', *Zeitschrift des Deutschen Palästina-Vereins*, 121: 140–67.
- Elitzur, Y. 2004. *Ancient Places Named in the Holy Land: Preservation and History* (Jerusalem: Magnes).
- Fisher, C. S. 1938. 'Description of the Site', in C. H. Kraeling (ed.), *Gerasa: City of the Decapolis* (New Haven: American Schools of Oriental Research), pp. 11–26.
- Gatier, P.-L. 1985. 'Nouvelles inscriptions de Gerasa', *Syria*, 62: 297–312.
- . 2018. 'Antioche du Chrysorhoas', *Topoi*, 22: 225–49.
- Haensch, R., A. Lichtenberger, and R. Raja. 2016. 'Christen, Juden und Soldaten im Gerasa des 6. Jhr. Neue archäologisch-epigraphische Befunde', *Chiron*, 46: 177–204.

- Hahn, J., S. Emmel, and U. Gotter (eds). 2008. *From Temple to Church: Destruction and Renewal of Local Cultic Topography in Late Antiquity*, Religions in the Graeco-Roman World (Leiden: Brill).
- Harl, K. W. 1987. *Civic Coins and Civic Politics in the Roman East A.D. 180–275* (Berkeley: University of California Press).
- Hengel, M. 2011. *Die Zeloten: Untersuchungen zur Jüdischen Freiheitsbewegung in der Zeit von Herodes I. bis 70 n. Chr.*, 3rd and rev. edn, ed. by R. Deines and C.-J. Thornton, Wissenschaftliche Untersuchungen zum Neuen Testament, 283 (Tübingen: Mohr Siebeck).
- Holdridge, G. and others. 2017. 'City and Wadi: Exploring the Environs of Jerash', *Antiquity Project Gallery*, 91.358: e7.
- . Forthcoming. 'Soils, Sediments, and Urban History of the Ancient City Jerash', in A. Lichtenberger and R. Raja (eds), *Environmental Studies, Remote Sensing, and Modelling: Final Publications from the Danish-German Jerash Northwest Quarter Project*, 1, Jerash Papers, 6 (Turnhout: Brepols).
- Howgego, C., V. Heuchert, and A. Burnett (eds). 2005. *Coinage and Identity in the Roman Provinces* (Oxford: Oxford University Press).
- Kalaitzoglou, G., A. Lichtenberger, and R. Raja. 2013. 'Preliminary Report of the Second Season of the Danish-German Jarash Northwest Quarter Project 2012', *Annual of the Department of Antiquities of Jordan*, 57: 57–79.
- . 2014. 'The Danish-German Jarash North-West Quarter Project 2013: Preliminary Report of the Third Season', *Annual of the Department of Antiquities of Jordan*, 58: 11–37.
- . 2015. 'Preliminary Report of the Fourth Season of the Danish-German Jerash Northwest Quarter Project 2014', *Annual of the Department of Antiquities of Jordan*, 59: 11–43.
- Kalaitzoglou, G. and others. 2012. 'Report on the Geophysical Prospection of the Northwest Quarter of Gerasa/Jarash 2011', *Annual of the Department of Antiquities of Jordan*, 56: 79–90.
- . Forthcoming. 'Preliminary Report of the Fifth Season of the Danish-German Jerash Northwest Quarter Project 2015', *Annual of the Department of Antiquities of Jordan*, 60.
- Kaplun, A. 2020. 'New Examples of a Rare Coin Type of Gerasa in the Decapolis', *OzeAN: Online Zeitschrift zur Antiken Numismatik*, 2 <<https://doi.org/10.17879/ozean-2020-2632>>.
- Kasher, A. 1990. *Jews and Hellenistic Cities in Eretz-Israel: Relations of the Jews in Eretz-Israel with the Hellenistic Cities during the Second Temple Period (332 BCE – 70 CE)*, Texte und Studien zum Antiken Judentum, 21 (Tübingen: Mohr).
- Klinghardt, M. 2007. 'Legionsschweine in Gerasa. Lokalkolorit und historischer Hintergrund von Mk 5,1–20', *Zeitschrift für die neutestamentliche Wissenschaft*, 98: 28–48.
- Kraeling, C. H. (ed.). 1938a. *Gerasa: City of the Decapolis* (New Haven: American Schools of Oriental Research).
- . 1938b. 'The History of Gerasa', in C. H. Kraeling (ed.), *Gerasa: City of the Decapolis* (New Haven: American Schools of Oriental Research), pp. 27–69.
- Lachat, C. and others. 2000. 'Les Thermes de Birketein à Gerasa (Jérash, Jordanie) et le rôle du bain dans la vie religieuse du Proche-Orient', *Syria*, 92: 45–65.
- Levine, L. I. 2000. *The Ancient Synagogue: The First Thousand Years* (New Haven: Yale University Press).
- Lichtenberger, A. (ed.). 2002. *Ulrich Jasper Seetzen: Unter Mönchen und Beduinen; Reisen in Palästina und angrenzenden Ländern 1805–1807* (Stuttgart: Erdmann).
- . 2003. *Kulte und Kultur der Dekapolis: Untersuchungen zu numismatischen, archäologischen und epigraphischen Zeugnissen* (Wiesbaden: Harrassowitz).
- . 2008. 'Artemis and Zeus Olympios in Roman Gerasa and Seleucid Religious Policy', in T. Kaizer (ed.), *The Variety of Local Religious Life in the Near East in the Hellenistic and Roman Periods* (Leiden: Brill), pp. 133–53.
- . 2014. 'Continuity, Discontinuity and Change in the Religious Life of Northern Jordan in the Roman Period', in R. Raja and E. Frood (eds), *Redefining the Sacred, Contextualizing the Sacred*, 1 (Turnhout: Brepols), pp. 209–29.
- . 2018. 'The First Jewish Revolt as Reflected on the City Coins of the Southern Levant', *Israel Numismatic Research*, 13: 121–38.
- . 2019. 'Antioch at the Chrysorrhoeas – Gerasa, but which River?', *Syria*, 96: 471–76.
- Lichtenberger, A. and R. Raja. 2012. 'Preliminary Report of the First Season of the Danish-German Jarash Northwest Quarter Project 2011', *Annual of the Department of Antiquities of Jordan*, 56: 231–40.
- . 2014. 'Jarash Northwest Quarter Project', *American Journal of Archaeology*, 118: 643.
- . 2015a. 'A Hoard of Byzantine and Arab-Byzantine Coins from the Excavations in Jerash: 6. Jerash 2014', *Numismatic Chronicle*, 175: 299–308.
- . 2015b. 'An Architectural Block with Altar-Iconography from the Northwest Quarter of Jerash', *Levant*, 47: 112–30.
- . 2015c. 'New Archaeological Research in the Northwest Quarter of Jerash and its Implications for the Urban Development of the Roman Gerasa', *American Journal of Archaeology*, 119: 483–500.
- . 2016a. 'The Danish-German Northwest Quarter Project at Jarash: Results from the 2011–2013 Seasons', in *Studies in the History and Archaeology of Jordan*, XII: *Transparent Borders* (Amman: Department of Antiquities), pp. 173–88.

- . 2016b. 'Ġeraš in the Middle Islamic Period: Connecting Texts and Archaeology through New Evidence from the Northwest Quarter', *Zeitschrift des Deutschen Palästina-Vereins*, 132: 63–81.
- . 2016c. 'Living with and on the River-Side: The Example of Roman Antioch-on-the-Chrysorrhoeas-Formerly-Called-Gerasa', in J. K. Madsen, N. O. Andersen, and I. Thuesen (eds), *Water of Life: Festschrift for Peder Mortensen*, Proceedings of the Danish Institute in Damascus, 11 (Copenhagen: Orbis), pp. 98–115.
- (eds). 2017a. *Gerasa/Jerash: From the Urban Periphery* (Aarhus: Fællestrykkeriet, AU).
- . 2017b. 'Mosaicists at Work: The Organisation of Mosaic Production in Early Islamic Jerash', *Antiquity*, 91: 998–1010.
- . 2017c. 'Urban Archaeology and the Understanding of the Past: Antiochia on the Chrysorrhoeas, also Called Gerasa', in A. Lichtenberger and R. Raja (eds), *Gerasa/Jerash: From the Urban Periphery* (Aarhus: Fællestrykkeriet, AU), pp. 9–19.
- (eds). 2018a. *The Archaeology and History of Jerash: 110 Years of Excavations*, Jerash Papers, 1 (Turnhout: Brepols).
- . 2018b. 'From Synagogue to Church: The Appropriation of the Synagogue in Gerasa/Jerash under Justinian', *Jahrbuch für Antike und Christentum*, 61: 85–98.
- . 2018c. 'Middle Islamic Jerash through the Lens of the Longue Dureé', in A. Lichtenberger and R. Raja (eds), *Middle Islamic Jerash (9th Century – 15th Century): Archaeology and History of an Ayyubid-Mamluk Settlement*, Jerash Papers, 3 (Turnhout: Brepols), pp. 5–36.
- (eds). 2018d. *Middle Islamic Jerash (9th Century – 15th Century): Archaeology and History of an Ayyubid-Mamluk Settlement*, Jerash Papers, 3 (Turnhout: Brepols).
- . 2018e. 'The Middle Islamic Period in Northern Jordan and its Pottery: Ceramics in Context', in A. Lichtenberger and R. Raja (eds), *Middle Islamic Jerash (9th Century – 15th Century): Archaeology and History of an Ayyubid-Mamluk Settlement*, Jerash Papers, 3 (Turnhout: Brepols), pp. 1–4.
- . 2018f. 'River Archaeology and Urban Resilience in Jerash', in R. Raja and S. M. Sindbæk (eds), *Urban Network Evolutions: Towards a High-Definition Archaeology* (Aarhus: Aarhus University Press), pp. 125–30.
- . 2018g. 'Urban Networks Seen through Urban Peripheries: The Case of Gerasa on the Golden River', in R. Raja and S. M. Sindbæk (eds), *Urban Network Evolutions: Towards a High-Definition Archaeology* (Aarhus: Aarhus University Press), pp. 101–08.
- (eds). 2019a. *Byzantine and Umayyad Jerash Reconsidered: Transitions, Transformations, Continuities*, Jerash Papers, 4 (Turnhout: Brepols).
- . 2019b. 'Defining Borders: The Umayyad-Abbasid Transition and the Earthquake of AD 749 in Jerash', in A. Lichtenberger and R. Raja (eds), *Byzantine and Umayyad Jerash Reconsidered: Transitions, Transformations, Continuities*, Jerash Papers, 4 (Turnhout: Brepols), pp. 265–86.
- . 2019c. 'Introduction: The Conundrum of Chronologies of the Byzantine and Umayyad Periods in Jerash', in A. Lichtenberger and R. Raja (eds), *Byzantine and Umayyad Jerash Reconsidered: Transitions, Transformations, Continuities*, Jerash Papers, 4 (Turnhout: Brepols).
- . 2020. 'Management of Water Resources over Time in Semiarid Regions: The Case of Gerasa/Jerash in Jordan', *WIREs Water*, 7: e1403 <<https://doi.org/10.1002/wat2.1403>>.
- (eds). Forthcoming. *On the Golden River: Gerasa through the Eyes of 19th and Early 20th Century Visitors*, Jerash Papers, 2, 2 vols (Turnhout: Brepols).
- Lichtenberger, A., R. Raja, and A. H. Sørensen. 2013. 'Preliminary Registration Report of the Second Season of the Danish-German Jerash Northwest Quarter Project 2012', *Annual of the Department of Antiquities of Jordan*, 57: 9–56.
- . 2014. 'The Danish-German Jerash Northwest Quarter Project 2013: Preliminary Registration Report', *Annual of the Department of Antiquities of Jordan*, 58: 39–103.
- . 2015. 'Preliminary Registration Report of the Fourth Season of the Danish-German Jerash Northwest Quarter Project 2014', *Annual of the Department of Antiquities of Jordan*, 59: 45–131.
- Lichtenberger, A., R. Raja, and D. Stott. 2019. 'Mapping Gerasa: A New and Open Data Map of the Site', *Antiquity Project Gallery*, 93.367: e7.
- Lichtenberger, A. and others. 2015. 'Radiocarbon Analysis of Mortar from Roman and Byzantine Water Management Installations in the Northwest Quarter of Jerash, Jordan', *Journal of Archaeological Sciences: Reports*, 2: 114–27.
- . 2016. 'A Newly Excavated Private House in Jerash: Reconsidering Aspects of Continuity and Change in Material Culture from Late Antiquity to the Early Islamic Period', *Bibliothèque de l'antiquité tardive*, 24: 317–59.
- . 2019. 'Urban-Riverine Hinterland Synergies in Semi-Arid Environments: Millennial-Scale Change, Adaptations, and Environmental Responses at Gerasa/Jerash', *Journal of Field Archaeology*, 44: 333–51 <<https://doi.org/10.1080/00934690.2019.1625619>>.
- Lichterman, P. and others. 2017. 'Grouping Together in Lived Ancient Religion: Individual Interacting and the Formation of Groups', *Religion in the Roman Empire*, 3: 3–10.

- Marco, S. and others. 2003. 'Archaeology, History, and Geology of the A.D. 749 Earthquake, Dead Sea Transform', *Geology*, 31: 665–68.
- Meshorer, Y. 1985. *City-Coins of Eretz-Israel and the Decapolis in the Roman Period* (Jerusalem: Israel Museum).
- Meshorer, Y., G. Bijovsky, and W. Fischer-Bossert. 2013. *Coins of the Holy Land: The Abraham and Marian Sofaer Collection at the American Numismatic Society and the Israel Museum*, Ancient Coins in North American Collections, 8, 2 vols (New York: American Numismatic Society).
- Meyer, M. 2006. *Die Personifikation der Stadt Antiochia: Ein neues Bild für eine neue Gottheit*, Jahrbuch des Deutschen Archäologischen Instituts, Ergänzungshefte, 33 (Berlin: De Gruyter).
- Michel, A. 2001. *Les Églises d'époque byzantine et umayyade de la Jordanie (provinces d'Arabie et de Palestine), v^e-viii^e siècle: typologie architecturale et aménagements liturgiques*, Bibliothèque de l'antiquité tardive, 2 (Turnhout: Brepols).
- Möller, H. 2017. 'Ceramics in Context: Interpreting Life through Pottery', in A. Lichtenberger and R. Raja (eds), *Gerasa/Jerash: From the Urban Periphery* (Aarhus: Fællestrykkeriet, AU), pp. 59–66.
- Naghawi, A. 1982. 'An Umayyad Mosque at Jerash', *Annual of the Department of Antiquities of Jordan*, 26: 20–22 (Arabic).
- Parapetti, R. 2018. 'Recent Italian Restoration Work and Excavation in the Sanctuary of Artemis 2008–14', in A. Lichtenberger and R. Raja (eds), *The Archaeology and History of Jerash: 110 Years of Excavations*, Jerash Papers, 1 (Turnhout: Brepols).
- Piccirillo, M. 1993. *Mosaics of Jordan*, American Center of Oriental Research Publications Series, 1 (Ammam: American Center of Oriental Research).
- Peterson, A. 2017. 'Medieval Pottery from Jerash: The Middle Islamic Settlement', in A. Lichtenberger and R. Raja (eds), *Gerasa/Jerash: From the Urban Periphery* (Aarhus: Fællestrykkeriet, AU), pp. 67–74.
- Raja, R. 2009. 'The Sanctuary of Artemis in Gerasa', in T. Fischer-Hansen and B. Poulsen (eds), *From Artemis to Diana: The Goddess of Man and Beast*, Acta Hyperborea, 12 (Copenhagen: Museum Tusculanum Press), pp. 383–401.
- . 2013. 'Changing Spaces and Shifting Attitudes: Revisiting the Sanctuary of Zeus in Gerasa', in T. Kaizer and others (eds), *Cities and Gods: Religious Space in Transition* (Leuven: Peeters), pp. 31–46.
- . 2015. 'Bishop Aeneas and the Church of St Theodore in Gerasa', in É. Rebillard and J. Rüpke (eds), *Group Identity and Religious Individuality in Late Antiquity* (Washington, DC: Catholic University Press), pp. 270–92.
- . 2017. 'Zeus Olympios, Hadrian and the Jews of Antiochia-on-the-Chrysorrhoeas-Formerly-Called-Gerasa', in E. Minchin and H. Jackson (eds), *Text and the Material World: Essays in Honour of Graeme Clarke*, Studies in Mediterranean Archaeology (Uppsala: Astrom), pp. 171–95.
- Raja, R. and J. Rüpke (eds). 2015a. *A Companion to the Archaeology of Religion in the Ancient World* (Malden, MA: Wiley-Blackwell).
- Raja, R. and J. Rüpke. 2015b. 'Archaeology of Religion, Material Religion and the Ancient World', in R. Raja and J. Rüpke (eds), *A Companion to the Archaeology of Religion in the Ancient World* (Malden, MA: Wiley-Blackwell), pp. 1–26.
- Romanowska, I. and others. 2018. 'Urban Networks Seen through Ceramics: Formal Modelling Approaches to Pottery Distribution in Jerash', in R. Raja and S. M. Sindbæk (eds), *Urban Network Evolutions: Towards a High-Definition Archaeology* (Aarhus: Aarhus University Press), pp. 131–37.
- Rosenberger, M. 1978. *The Coinage of Eastern Palestine and Legionary Countermarks, Bar-Kochba Overstrucks* (Jerusalem: Rosenberger).
- Rosenfeld, B. Z. 2010. *Torah Centers and Rabbinic Activity in Palestine, 70–400 CE: History and Geographic Distribution*, Supplements to the Journal for the Study of Judaism, 138 (Leiden: Brill).
- Sbeinati, M. R., R. Darawcheh, and M. Mouty. 2005. 'The Historical Earthquakes of Syria: An Analysis of Large and Moderate Earthquakes from 1365 B.C. to 1900 A.D.', *Annals of Geophysics*, 48: 347–435.
- Schnapp, A. 2014. *Was ist eine Ruine? Entwurf einer vergleichenden Perspektive*, Historische Geisteswissenschaften, 7 (Göttingen: Wallstein).
- . 2018. 'What Is a Ruin? The Western Definition', *KNOW: A Journal on the Formation of Knowledge*, 2: 155–73.
- Schumacher, G. 1902. 'Dscherasch', *Zeitschrift des Deutschen Palästina-Vereins*, 25: 109–77.
- Schürer, E. 1979. *The History of the Jewish People in the Age of Jesus Christ (175 B.C. – A.D. 135)*, new English version, rev. and ed. by G. Vermes, F. Millar, and M. Black (Edinburgh: T. & T. Clark).
- Seigne, J. 1985. 'Le Sanctuaire de Zeus à Jerash: éléments de chronologie', *Syria*, 62: 287–95.
- . 1989. 'History of Exploration at Jerash: The Sanctuary of Zeus', in C. Hennessy and D. Homès-Fredericq (eds), *Archaeology of Jordan*, 11.1: *Field Reports, Surveys and Sites (A–K)* (Leuven: Peeters), pp. 319–23.
- . 1992. 'Jérash romaine et byzantine: développement urbain d'une ville provinciale orientale', *Studies in the History and Archaeology of Jordan*, 4: 331–41.
- . 1993. 'A l'ombre de Zeus et d'Artémis. Gerasa de la Décapole', *ARAM Periodical*, 4: 185–95.

- . 1997. 'De la grotte au périptère: Le Sanctuaire de Zeus Olympien à Jerash', *Topoi*, 7: 993–1004.
- . 2004. 'Remarques préliminaires à une étude sur l'eau dans la Gerasa antique', in H.-D. Bienert and J. Häser (eds), *Actes du symposium international sur Men of Dikes and Canals: The Archaeology of Water in the Middle-East; International Symposium Held at Petra, Wadi Musa (H.K. of Jordan) 15–20 June, 1999*, *Orient-Archäologie*, 13 (Rahden: Leidorf), pp. 173–85.
- . 2008. 'Fontaines et adduction d'eau à Gerasa (Jerash, Jordanie)', *Syria*, 85: 35–50.
- . 2014. 'Des portiques du *naos* de Zeus Olympien aux entrées des thermes de l'évêque Placcus: emprunts et recyclages d'éléments architecturaux à Gerasa' (and additional note: 'Date de construction de la "cathédrale" de Gerasa'), *Topoi*, 19: 595–627.
- . 2016. 'Limites des espaces sacrés antiques: permanences et évolutions, quelques exemples orientaux', in Y. Lafond and V. Michel (eds), *Espaces sacrés dans la Méditerranée antique: colloque de Poitiers, 13–14 octobre 2011* (Rennes: Presses Universitaires de Rennes), pp. 153–67.
- Seigne, J. and I. Zubi. 1997. 'Roman Villa', in C. Castel, M. al-Maqdissi, and F. Villeneuve (eds), *Les Maisons dans la Syrie antique du III^e millénaire aux débuts de l'Islam: pratique et représentations de l'espace domestique; actes du colloque international, damas, 27–30 juin 1992* (Beirut: Institut français d'archéologie du Proche-Orient).
- Seyrig, H. 1950. *Notes on Syrian Coins*, Numismatic Notes and Monographs, 119 (New York: American Numismatic Society).
- Shami, S. 1992. '19th Century Circassian Settlements in Jordan', *Studies in the History and Archaeology of Jordan*, 4: 417–21.
- . 2009. 'Historical Processes of Identity Formation: Displacement, Settlement, and Self-Representations of the Circassians in Jordan', *Iran & the Caucasus*, 13: 141–59.
- Spijckerman, A. 1978. *The Coins of the Decapolis and Provincia Arabia*, Biblici Franciscani collectio maior, 25 (Jerusalem: Franciscan Printing Press).
- Stig Sørensen, M. L. and D. Viejo-Rose (eds). 2015. *War and Cultural Heritage* (Cambridge: Cambridge University Press).
- Stott, D. and others. 2018. 'Mapping an Ancient City with a Century of Remotely Sensed Data', *Proceedings of the National Academy of Sciences of the United States (PNAS)*, 115.24: E5450–58.
- Tsafir, Y. and G. Foerster. 1992. 'The Dating of the "Earthquake of the Sabbatical Year" of 749 C.E. in Palestine', *Bulletin of the School of Oriental and African Studies, University of London*, 55: 231–35.
- Viejo-Rose, D. 2011. *Reconstructing Spain: Cultural Heritage and Memory after Civil War* (Sussex: Sussex Academic Press).
- Walker, D. A. 1894. 'The Circassian Colonies at Ammân and Jerash', *The Biblical World*, 4: 202–04.
- Walmsley, A. 2003a. 'The Friday Mosque of Early Islamic Jarash in Jordan: The 2002 Field Season of the Danish-Jordanian Islamic Jarash Project', *Journal of the C. L. David Collection*, 1: 111–31.
- . 2003b. 'The Newly Discovered Congregational Mosque of Jarash in Jordan', *Al-Usur al-Wusta*, 15: 17–24.
- . 2018. 'Urbanism at Islamic Jarash: New Readings from Archaeology and History', in A. Lichtenberger and R. Raja (eds), *The Archaeology and History of Jerash: 110 Years of Excavations*, *Jerash Papers*, 1 (Turnhout: Brepols).
- Walmsley, A. and K. Damgaard. 2005. 'The Umayyad Congregational Mosque of Jarash in Jordan and its Relationship to Early Mosques', *Antiquity*, 79: 362–78.
- Welles, C. B. 1938. 'The Inscriptions', in C. H. Kraeling (ed.), *Gerasa: City of the Decapolis* (New Haven: American Schools of Oriental Research), pp. 355–69.
- Willis, B. 1928. 'Earthquakes in the Holy Land', *Bulletin of the Seismological Society of America*, 18: 73–103.