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43

The Economics of Urbanism in the Roman East

Panel 8.4

Rinse Willet (Ed.)

Propylaeum
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Proceedings of the

19th International Congress of Classical Archaeology

Volume 43: The Economics of Urbanism in the Roman East

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Cover illustration: Roman Entrance Gate of the Ancient Pisidian City of Ariassos (by Rinse Willet 2016)

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CONTENTS

PREFACE

On behalf of the 'Associazione Internazionale di Archaeologica Classica (AIAC)' the 19th International Congress for Classical Archaeology took place in Cologne and Bonn from 22 to 26 May 2018. It was jointly organized by the two Archaeological Institutes of the Universities of Cologne and Bonn, and the primary theme of the congress was 'Archaeology and Economy in the Ancient World'. In fact, economic aspects permeate all areas of public and private life in ancient societies, whether in urban development, religion, art, housing, or in death.

Research on ancient economies has long played a significant role in ancient history. Increasingly in the last decades, awareness has grown in archaeology that the material culture of ancient societies offers excellent opportunities for studying the structure, performance, and dynamics of ancient economic systems and economic processes. Therefore, the main objective of this congress was to understand economy as a central element of classical societies and to analyze its interaction with ecological, political, social, religious, and cultural factors. The theme of the congress was addressed to all disciplines that deal with the Greco-Roman civilization and their neighbouring cultures from the Aegean Bronze Age to the end of Late Antiquity.

The participation of more than 1.200 scholars from more than 40 countries demonstrates the great response to the topic of the congress. Altogether, more than 900 papers in 128 panels were presented, as were more than 110 posters. The publication of the congress is in two stages: larger panels are initially presented as independent volumes, such as this publication. Finally, at the end of the editing process, all contributions will be published in a joint conference volume.

We would like to take this opportunity to thank all participants and helpers of the congress who made it such a great success. Its realization would not have been possible without the generous support of many institutions, whom we would like to thank once again: the Universities of Bonn and Cologne, the Archaeological Society of Cologne, the Archaeology Foundation of Cologne, the Gerda Henkel Foundation, the Fritz Thyssen Foundation, the Sal. Oppenheim Foundation, the German Research Foundation (DFG), the German Academic Exchange Service (DAAD), the Romano-Germanic Museum Cologne and the LVR-LandesMuseum Bonn. Finally, our thanks go to all colleagues and panel organizers who were involved in the editing and printing process.

Bonn/Cologne, in August 2019

Martin Bentz & Michael Heinzelmann

The Economics of Urbanism in the Roman East: Introductory Notes

Rinse Willet

This book is the result of a panel held on the nature of urbanism in the Roman East. It deals with various aspects of urbanism under the Roman Empire. Although the Roman East has different definitions in academic literature, here it is used to encompass different parts of the eastern Mediterranean. For the sake of brevity, Egypt and North-Africa are left out of this discussion. One excursion is made to the far western part of the Mediterranean. Damjan Donev's contribution showcases the transformation of urbanism between Hellenistic and Roman Imperial times on the Balkan. Paul Kloeg's chapter studies the effects of the environment on Roman urbanism the Levant and Mesopotamia. Tønnes Bekker-Nielsen provides a case study on historical perspective of the development of urbanism in Northern Anatolia, particularly the impact of the city foundations by Pompey the Great. For a western Mediterranean perspective, Pieter Houten contributes on Roman urbanism of the Iberian Peninsula, focusing on the problems of the juridical status of settlements. Finally, my own chapter covers a geographic approach to the urbanism of Roman Asia Minor.

This brief introductory chapter provides an overview of the geography of urbanism in the Roman East. The research presented in this introduction and in the contributions by Donev, Kloeg, Houten and myself were conducted during the last four years within the framework of 'Empire of 2000 cities' project at Leiden University, which was funded by the ERC and directed by professors Luuk de Ligt and John Bintliff.[1] This project aimed to collect data on various civic and physical aspects of cities. These include the juridical status of settlements and territories, the size of settlements and the presence of public buildings in settlements. This was done to add a quantitative 'big data' approach to the study of urbanism under the Roman Empire, which hitherto has been dominated by qualitative/comparative approaches and/or historical approaches, whereby the civic autonomy of the city was paramount. Here it was essential to not only to attempt to collect detailed and up-to-date information on the various physical and juridical aspects of cities, but also analyse the data in order to discern patterns in spatial distribution, diachronic development, hierarchy (both in terms of juridical status and rank-size), monumentality, and functioning of local and regional centres.

These approaches are anchored in the disciplines of geography and economics. Research to (early) modern urban networks has suggested that economic integration of an urban system is reflected in the hierarchy of cities as manifested through their size.[2] The differences in size of cities is considered a reflection or a manifestation of deep economic structures that are present in the societies that bring forth these cities. To entangle potential networks of cities in the Roman Empire, a special focus in the project was laid upon the extent to which cities formed networks, their connectivity and economic integration. Yet other formative factors on the urban pattern received

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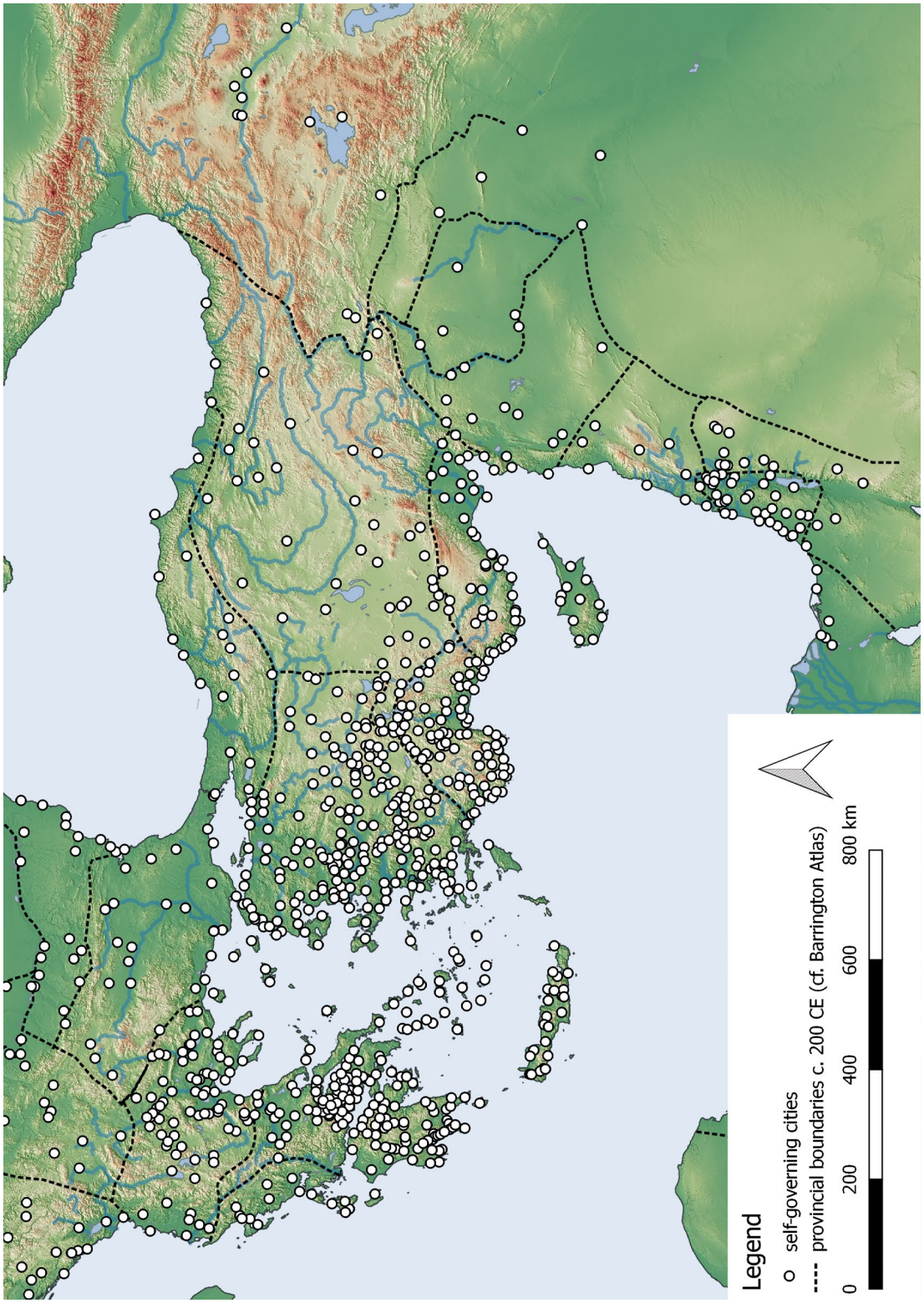

Fig. 1: The cities with civic autonomy (self-governing cities) in the Roman East.

equal attention, as previous interpretations of the economic integration of Roman urbanism have sometimes been too simplistic, ignoring assessment of the urban pattern within its political, historical and environmental contexts.[3] The contributions in this book explore the diverse factors acting upon the formation and development of the urban pattern of the Roman Empire, thereby showcasing not only the spatial distribution of cities over highly disparate landscapes, but also the underlying complexity of Roman urbanism.

The Urban Pattern of the Roman East

The collected data make it possible to showcase the results of the ERC project for the entire Roman East for the first time. The data were collected by Donev, Kloeg, Michalis Karambinis, and myself.[4] The primary focus will lie, for the sake of brevity, on those settlements which are considered cities by virtue of their civic autonomy during the second and third century CE. This category of juridical or self-governing cities proves a good starting point and indeed has been the focal point of past studies.[5] Cities and communities with civic autonomy generally had jurisdiction over the taxation of their territory, while subject settlements did not possess such sovereignty. They were self-governing and various statuses are known for these cities. *Coloniae, municipia*, *civitates* capitals and so on are more typical for cities encountered in the western parts of the Roman Empire, while for the east, the *polis* was the more typical in the nomenclature for the autonomous cities. The sources used to determine status include epigraphy and ancient (geographic) descriptions, such as the work by Strabo, Pliny and Ptolemy. For the East, the habit of issuing coins by individual autonomous cities already started in pre-Roman times and many cities minted under the Roman Empire. This numismatic evidence also proves highly useful to reconstruct a settlement's civic status.

Civic autonomy was a desired status for the elite living in a settlement, as is evidenced by inscriptions.[6] However, as Houten discusses for the Iberian Peninsula as well, settlements without civic autonomy could fulfil important functions as market places, residential foci, and so on. For an understanding of urbanism of the Roman world, and how cities came into existence and how they related to subject settlements, a full analysis of these 'secondary agglomerations' is necessary.[7]

The city was by no means a Roman invention and during the various stages of expansion towards the East, Rome encountered areas that were already heavily urbanized. The *polis* was a widespread phenomenon during Hellenistic times and although Bekker-Nielsen wonderfully presents examples of new Roman foundations, the majority of the cities existed before the Roman Empire took shape. Such historical path-dependency makes it perhaps less surprising that the resultant urban pattern is far from uniform in spatial distribution.

An overview of the self-governing cities demonstrates the variable density in settlement in the Balkans, Greece, Anatolia, and the Levant (fig. 1). In total, 997 self-governing cities

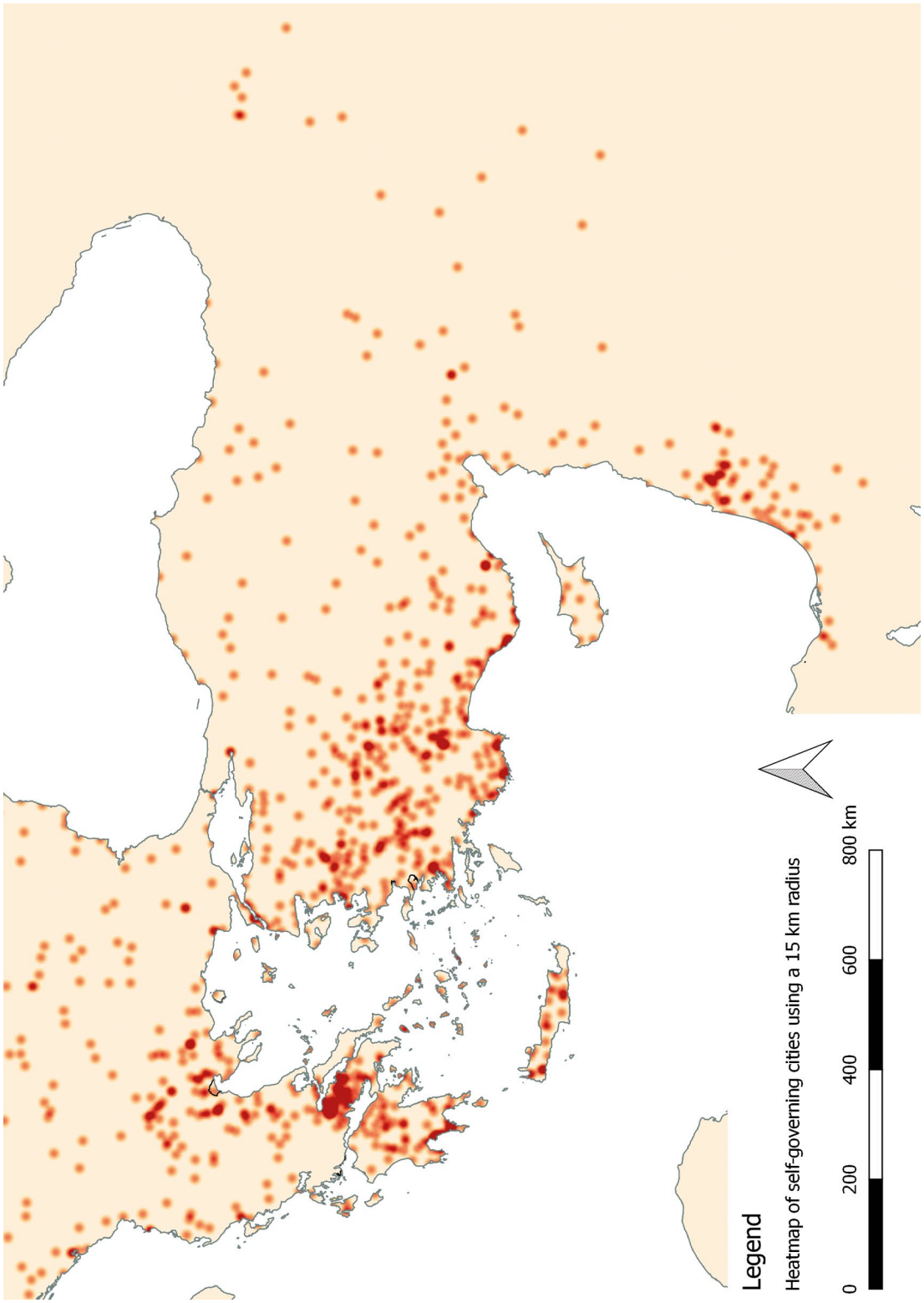

Fig. 2: The heatmap of self-governing cities shows clear clusters.

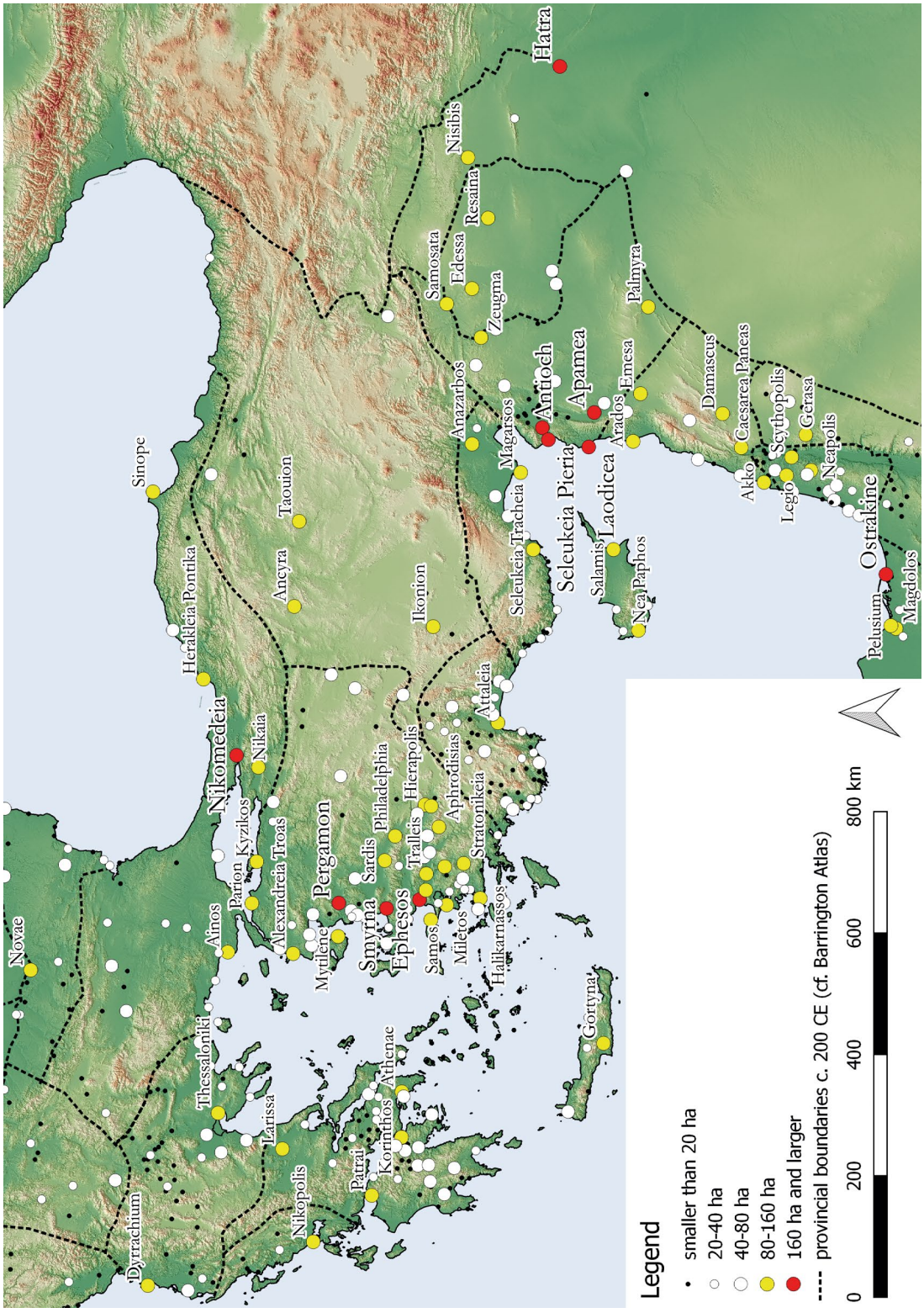

Fig. 3: The city sizes of cities in the Roman East.

were located here. Clearly, the coastlines facing the Mediterranean seem to form an attractor for urban settlement, with cities in inland areas being more evenly spaced. Yet in this general pattern, it is obvious that clusters of cities can be discerned, particularly when using a heatmap (fig. 2). This map is generated using 15 km radii around each autonomous city, or roughly a 3 hour walking radius. The clusters of cities clearly stand out in northern Greece, Boeotia and the Peloponnese. Also in Asia, Pisidia and Lycia and the Anatolian south coast, dense clusters are situated. The southern Levant also enclosed clusters of autonomous cities. The other areas clearly have a less dense pattern of cities with civic autonomy. This already shows the diversity of urban density in the Roman East but it also hints at the differences in the economic interactions between these places and the role cities played. Where dense clusters of autonomous cities are encountered, we can assume easier opportunities for interaction and exchange between these places.

The spatial distribution of self-governing cities already gives a complex pattern for the Roman East. With the addition of settlement size, the depth of this complexity increases. Although typically city size is expressed in the number of inhabitants, the size of a city during the Roman Empire, due to a virtual lack of ancient figures, must rely on proxies for ancient population levels. The most logical approximation for their size is the surface area covered by the city.[8] Reconstructions of surface areas are most reliable when based on sound archaeological research executed on the sites of cities through excavation, survey and / or geophysical prospection. With the aid of aerial photography and plans, accurate measurements of the size of a site can be obtained. In some cases, older descriptions and illustrations can help greatly, particularly when a site has been built over or destroyed by modern urban development.

Only the sizes of self-governing cities are discussed in this chapter. Size gives a deeper insight into the nature of Roman urbanism in the east, which shows some marked differences with the maps only showing the location of self-governing cities. In total, for 604 of the 997 self-governing cities in the Roman East a measurement could be obtained (table 1). These data clearly demonstrate that the vast majority of cities with civic autonomy was small, with more than 50 % being smaller than 20 ha. Less than 2 % are over 160 ha.

Size category (in hectares)	Number of self-governing cities
Smaller than 20 ha	322 (53.3 %)
20 – 40 ha	110 (18.2 %)
40 – 80 ha	101 (16.7 %)
80 – 160 ha	59 (9.8 %)
Over 160 ha	12 (1.9 %)

Table 1: Size of self-governing cities in the Roman East.

The geographic distribution of these five size categories also shows that the large and very large cities are not evenly spread (fig. 3). While the Balkans saw a comparatively wide spacing with few large cities, Roman Greece had a denser pattern with a few large cities. The west coast of Anatolia is set with large and a few very large cities, while the south coast is dotted with many smaller ones. Towards the interior, few but comparatively large cities are present. The Levantine coast has a concentration with some of the largest cities of the Roman East in Syria, while further south a dense cluster of large and medium-sized cities existed. The variation in urban density is indicative for the variation of economic interaction and the economic role cities played.

Conclusion

The relationship of city-size with the densest clusters of self-governing cities is not uniform. Western Anatolia shows dense clusters of self-governing cities and the presence of large to very large cities; Syria was not as densely settled with self-governing cities but was home to some of the largest cities of the ancient world (most notably Antioch). This introduction has provided an overview of general patterns in the cities found in the eastern part of the Mediterranean. They reflect the complex political, societal underpinnings of the cities under the Roman Empire and the factors that shaped the patterns. Although general geographic remarks on the spatial patterning can be made, it is clear that a discussion in more detail reveals more about these underpinnings and the interactions and interdependencies that were possible and that existed between cities.

Notes

[1] De Ligt et al. 2014.

[2] De Vries 1984; Krugman 1996.

[3] E.g. Marzano 2011; Hanson 2016; see also Donev – Willet 2017.

[4] Michalis sadly could not contribute to this book, but his findings on Roman Greece have been published in Karambinis 2018.

[5] E.g. Jones 1971.

[6] Kolb 1993.

[7] All the final publications by Donev, Karambinis, Kloeg, and myself included a study of these settlements as well. These also form the gazetteers of the primary data of cities and settlements used for the analyses.

[8] Hansen 2006; Willet 2012.

Image Credits

Figs. 1–3: by the author.

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Facets of Roman Urbanism in Anatolia

Rinse Willet

When Rome got involved in the struggles for power in the Eastern Mediterranean during the third and second centuries BCE, it found an area settled with many cities. Once Rome had obtained the former Attalid Kingdom in Western Anatolia from Attalos III in 133 BCE, it was quick to start exploiting this area through the *publicani*. Anatolia was home to magnificent cities such as Miletos, Priene, Nikomedeia, Kyzikos, Halikarnassos, Ephesos and Pergamon when the Romans arrived. However, in other areas such as Pontos, Rome was influential in the (re)foundation cities.[1] And under the Roman Empire, Asia Minor was one of the most densely settled parts of the Roman East.

In this chapter, I will discuss the spatial distribution of cities and their size in Anatolia during the second and early third century CE, at the height of the Roman Empire. But apart from outlining the general urban geography of this area, explanatory vistas for the observed patterns are explored. For the sake of brevity, in all these parts the focus will lie on those settlements, which are considered cities by virtue of their civic autonomy during the second and third century CE. For Anatolia, the patterns in the distribution of self-governing cities and the sizes of these places are tested against four interpretative frameworks: the distribution of natural resources and natural setting, the connectivity between cities, the function of self-governing cities as markets, and the historical path-dependency of the Roman urban pattern on the Classical and Hellenistic patterns. These four themes are used as a primary explanatory system for the complex phenomenon of urbanism in Anatolia. From this, general interpretations on the economic functioning of cities in Anatolia are drawn.[2]

The sources for the research on these Anatolian cities comprise, in the first place, of archaeological and historical analyses already present in academic literature, and a combination as well as evaluation of these sources. Yet, the primary sources are just as important and as many of them as possible have been collected. For the civic status of places, these include epigraphy, numismatics, and other historical texts, such as Strabo's Geography or Pliny's Natural History. Historical accounts have also been useful for the research on the physical attributes of cities, as they sometimes mention their size, presence of monuments, and so on. Yet, archaeological reports, aerial photography, and historic maps, illustrations, and descriptions form the most important source on the physical city in the majority of cases. Naturally, gazetteers on specific types of monuments are highly useful, but unfortunately rarely complete.[3] Some cities are only roughly located based on historical descriptions and inference. In many cases, the sites have been identified with historically attested cities, but, for Asia Minor particularly, these are not always (well) researched.[4] For cities with many standing ruins, but which saw limited excavation, a superficial appreciation has provided a good insight in their monumentality (fig. 1).

With the exception of Galen for the city of Pergamon, no numeric ancient references on population levels in cities are known for the Roman East.[5] Therefore, the area of the

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Fig. 1: The agora of Adada in Pisidia.

site of an ancient city is the best indicator for its size, but often there is not a good idea about the exact physical outline of a city.[6] Aerial photography, combined with both ancient and modern descriptions of the site has been helpful. The Hellenistic/Medieval city-walls of Trapezous were mapped during the late 19th and early 20th century and are clearly visible on Google Earth, revealing a walled area of c. 23 ha.[7] Even published figures can be conflicting. For example, Perge, situated on the Pamphylian plain, is clearly visible from the air, with citywall, orthogonal grid and spectacle buildings in the south clearly demarcating the ancient city. From satellite imagery georeferenced in GIS, measurements result in 63 ha, including the extramural theatre and stadion, or 57 ha without these buildings.[8]

The Pattern of Urbanism in the Anatolia

Clearly, the landscape of Anatolia must have been an important factor on shaping the spatial distribution of cities in Antiquity (fig. 2). Its landscape consisted of rugged mountain ranges running parallel to the Mediterranean and Black Sea coastline, while rivers cut through the western landscapes, forming rich valleys, before reaching the irregular Aegean coast. On the Southern coast, the Pamphylian and Cilician plains form fertile areas, while the Central Plateau is relatively flat and high. The concentrations of autonomous cities on the

Fig. 2: The topography of Anatolia. The dotted light grey lines demarcate the boundaries of the major geographical zones.

Cilician plain, the Pamphylian and Lycian coasts, Pisidia and Western Anatolia clearly stand out (fig. 3). With most of the cities situated in the provinces of Asia and Pisidia, Lycia et Pamphylia, they stand in sharp contrast with Galatia and Cappadocia / the Central Plateau and Bithynia et Pontus or the Black Sea Coastlands. In the West, particularly the rivervalleys of the Maiandros and Hermos are favoured. And although the Troad is less densely settled with autonomous cities, along the Dardanelles we find a clear concentration.

This pattern is, to an extent, also found in the size distribution of cities as well (fig. 4). Out of the c. 443 self-governing cities (of which 428 could be located), 169 could be measured, coming to about 38.2 % of the total. Of these, over 60 % were less than 40 ha and only 16 % would be large or very large, with a mere 2.9 % being larger than 160 ha (Table 1). With an average of c. 45.2 ha for self-governing cities (range: 1.5–250 ha), it is clear that cities tended to be mostly small settlements. The largest cities are situated in Western Anatolia. Nikomedeia (184 ha), Nikaia (137 ha) and Herakleia Pontika (80 ha) stand relatively isolated in Bithynia et Pontus. In the Troad large cities include Kyzikos (158 ha), the colony of Parion (114 ha) and the large port of Alexandreia Troas (250 ha walled, probably the built-up area was much smaller).[9] Towards the core of Asia, the

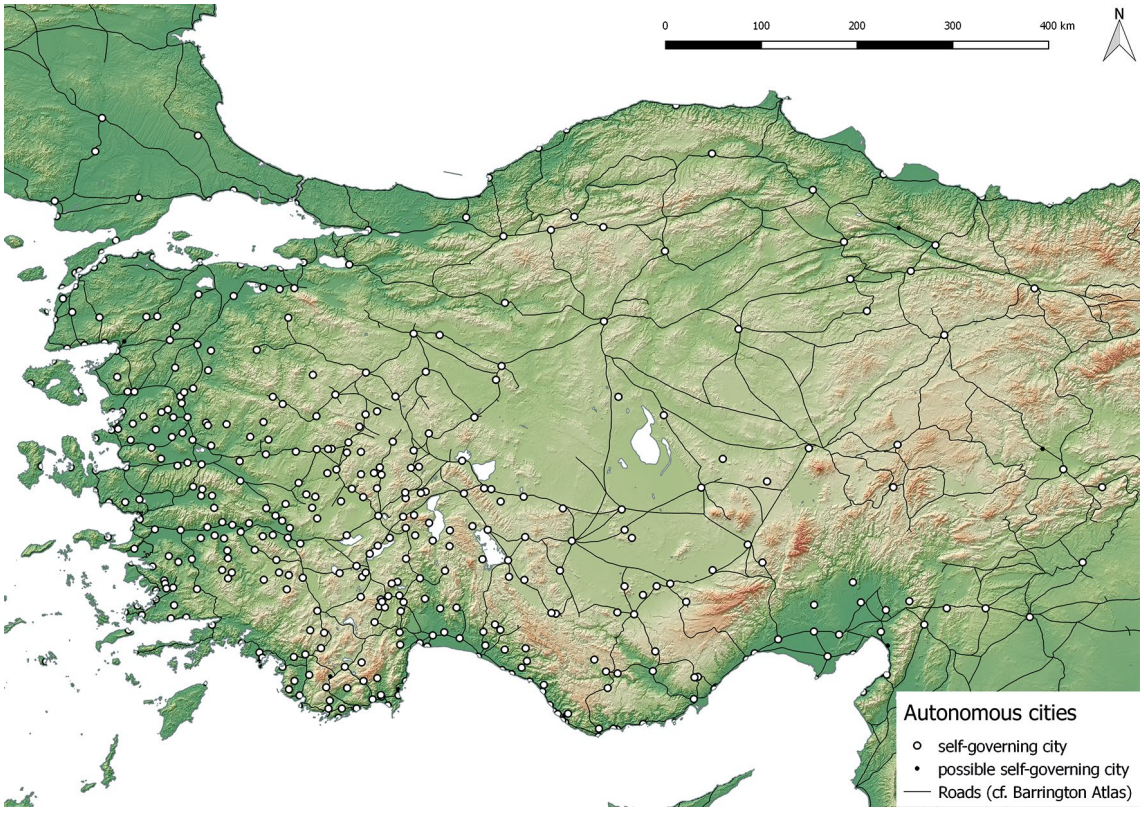

Fig. 3: Distribution of settlements with civic autonomy during the Roman Empire in Asia Minor.

largest cities are Pergamon (190 ha), Ephesos (185 ha) and Smyrna (193 ha). The high density of self-governing cities in this area is clearly accompanied by the presence of large cities. Lycia, Pamphylia and Pisidia have high concentrations of relatively small self-governing cities, of which Attaleia is the largest (83 ha). The relatively rugged and fragmented political and physical landscape of this region led to the formation of many small settlement chambers. With the scarcity of wide fertile plains, large cities may not have been able to take form. Cilicia has three large cities (Anazarbos, Magarsos, Seleukeia Tracheia) and few medium-sized ones. Moving inland, three large cities, Ancyra, Ikonion and Tauion, stand in isolation as does Sinope on the Black Sea Coast. Samosata on the *limes* formed a large city as well.

Explaning the Urban Pattern

Climatological data illuminate the pattern of cities only partially (fig. 5). Although these modern data do not necessarily reflect the ancient situation, the overall variation in

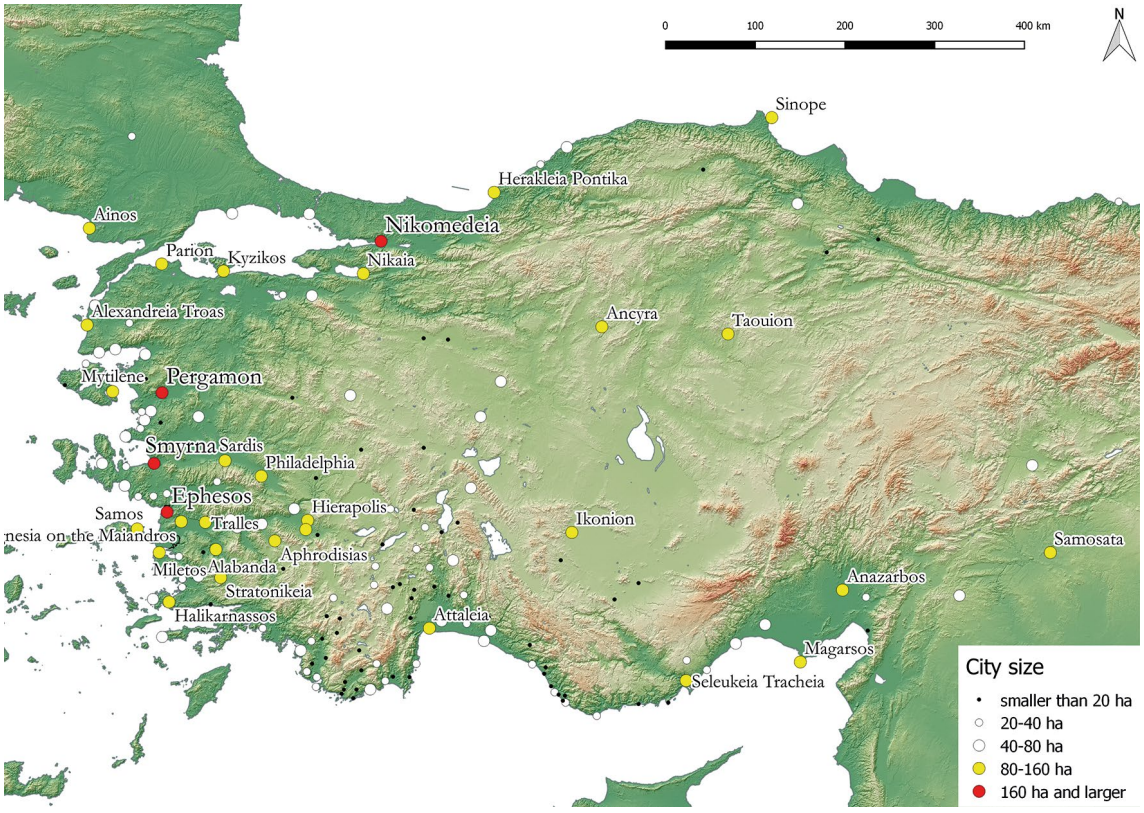

Fig. 4: Distribution of city size in Asia Minor.

Size category (in hectares)	No. of self-governing cities
Total	169
> 160 ha	4 (2.9 %)
81–160 ha	24 (14.2 %)
41–80 ha	38 (22.5 %)
21–40 ha	42 (24.7 %)
< 20 ha	61 (35.9 %)

Table 1: City size per size category.

climate of a dry climate on the Central Plateau with hot summers and severe winters seems reflected in past and present.[10] Dense concentrations of self-governing cities are found in the semi-dry to semi-humid climatological zones, while very humid parts are not densely settled. However, large parts of Cappadocia (with the same rainfall patterns) are not densily settled.

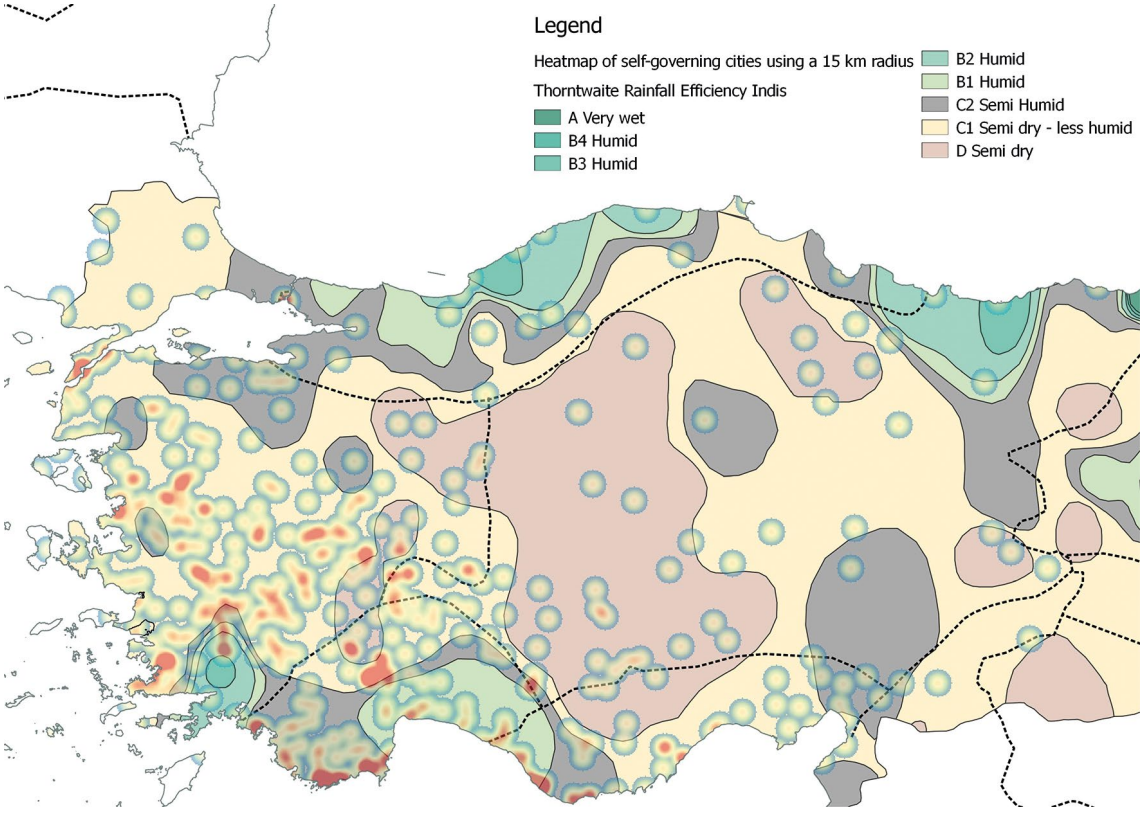

Fig. 5: City distribution plotted on climatological map. The dotted lines demarcate the second century CE provincial boundaries.

The distribution of natural resources affected the urban pattern as well. Although there is plenty of evidence from ancient descriptions and archaeological finds of the exploitation of a wide array of natural resources (timber, marble, etc.), the foundation of a city's economy must have been its agriculture. Agricultural potential has been shown to be a good predictor for urbanization during the Ottoman period.[11] Unfortunately, no quantified information on the performance of agriculture in Roman Anatolia exists. However, the evidence for the import of staples from outside Anatolia is rare and only associated with exceptional shortages for large cities.[12] Most cities were supplied from their own territory or from territories in the vicinity. Therefore, agricultural potential of the landscape must have impacted not only the density of the urban pattern, but probably also the size of cities. Apart from ancient references to agricultural fertility, one of the earliest sets of quantified data are the agricultural censuses that were conducted in the 1920s at the beginning of the Turkish Republic. These are obviously affected by the historical context, and particularly the divergent development of the railroads impacted the intensity of agricultural production. The rampant presence of malaria on the Mediterranean coast hampered urban and agricultural development until the 1950s.

Despite all those limitations, the agricultural census provides a very useful comparative tool for the interpretation of the semi/pre-modern agricultural setting of Anatolia. The highest grain production in 1927, shows high yields in Western Anatolia, European Turkey and the Cilician plain, while also presenting relatively high yields in Cappadocia, with Galatia having lower figures.[13] At the same time, when the inventories of livestock are taken into account, the Central Plateau has relatively low concentrations of livestock (the area is large) yet the numbers of animals that were registered are high. The highest number of animals are registered in the districts of Konya, followed by Ankara and they mostly consist of goats and sheep.[14] Studies of Ottoman Anatolia also reflect this pattern and the high agricultural potential of Western Anatolia can be correlated with density of self-governing cities in the Roman period.[15]

Agricultural potential is, to some extent, a structural determinant, as it is formed by the landscape and climate. Connectivity too, is at least in part a structural determinant. The presence of sealanes, valleys and mountains all influence the ease with which one can travel. In Anatolia during the Roman Empire, sealanes as well as roads and paths facilitated transport, while river shipping is not attested. The proximity to the coast and the availability of harbours clearly impacted the distribution of cities: of the 428 (plus 13 possible) located self-governing cities, 140 are situated less than 15 km from the coast. Nearly a third of the cities is situated very close to the coast and the largest cities are all at or in close vicinity of the coast. Pergamon was located furthest away at some 24 km from the coast, however, this city had access to the sea via the large port of Elaia. Of the 18 large (80–160 ha) cities, 6 (33 %) are located less than 30 km from the coast and only very few are situated deep inland (Samosata, Taouion, Ikonion and Ancyra). Of the 31 medium-sized cities (40–80 ha), 19 (61 %) are located less than 30 km from the coast.

However, we must be careful not to overemphasize the impact on connectivity by the presence of the sealanes *vis a vis* the road system. The Roman road network was set up to connect cities, making the correlation between the distribution of cities and the presence of roads less meaningful.[16] The road system clearly shows the relationship between self-governing cities and the presence of roads, whereby the roads connected up with individual or clusters of self-governing cities. The roads were constructed for military and administrative transport. For example, an inscription found near modern Burdur contains an edict of the provincial governor, Sextus Sotidius Strabo, regulating the transport services the people of the city of Sagalassos were obliged to provide to officials.[17] It seems a safe assumption, however, that once the local inhabitants had fulfilled their obligations, they would have carried some goods and people back on the return journey. The administrative and military function of the roads therefore probably drove the distribution of goods outside the official framework as well.

Transhumance probably also played a role in the movement of goods over land in Antiquity.[18] The ethnographically attested routes for South-Western Anatolia connect the Pamphylian plain straight through Pisidia with Lykaonia and Southern Galatia. Despite the fact that there were few self-governing cities in these latter areas during the

Geographic region	No. of self-governing cities	Average distance (in km)	Minimum distance (in km)	Maximum distance (in km)
Western Anatolia	177	17.4	3.4	64.0
European Turkey	14	42.9	2.5	119.4
Black Sea Coastlands	20	70.1	21.3	181.9
Southern Coastlands	153	18.1	1.9	151.3
Central Plateau	48	44.8	11.3	130.6

Table 2: Distances between self-governing cities using a nearest neighbour analysis (linear ($N^*k \times 3$) with $k = 2$).

Empire, many estates have been attested here. Furthermore, a few of the owners of these estates were originally from or were based at Pamphylian cities. Examples include M. Plancius Varus of Perge, M. Calpurnius Rufus of Attaleia and Sextus Flaccus of Attaleia.[19] The ethnographic evidence makes scenarios whereby caravans or transhumant groups connected the Central Plateau to the Pamphylian coast plausible. Either they transported goods, or they transported animals raised in the Central Plateau. This puts some nuance on the impact of the proximity of sealanes on the shape of the urban pattern, despite the fact that they obviously were an important factor.

Another aspect in the formation of the pattern of autonomous cities may be their function as market centres. There are different catchment areas from market towns for different types of markets and fairs. However, for short cycle markets, archaeologists as well as historians who borrowed from Central Place Theory, have often used a catchment area of 3 hours walking, or 15 km on a flat plane from a market centre.[20] Using this information, a nearest neighbour analysis gives an insight of the extent to which the pattern of self-governing cities could have functioned as a system of markets (Table 2). The average distances between cities in European Turkey, the Central Plateau and particularly the Black Sea Coastlands, is simply too large to cover the entire area within a 3 hour range. Put simply, an average of 40 km or more would constitute a trip of at least 8 hours or more one way. These figures stand in contrast with Western Anatolia and the Southern Coastlands, where, with average distances under 20 km, self-governing cities could in many cases form networks of short cycle markets. The distances from this analysis (i.e. as the crow flies) are less realistic in landscapes with a hilly or mountainous profile. Yet, we may also note that markets are

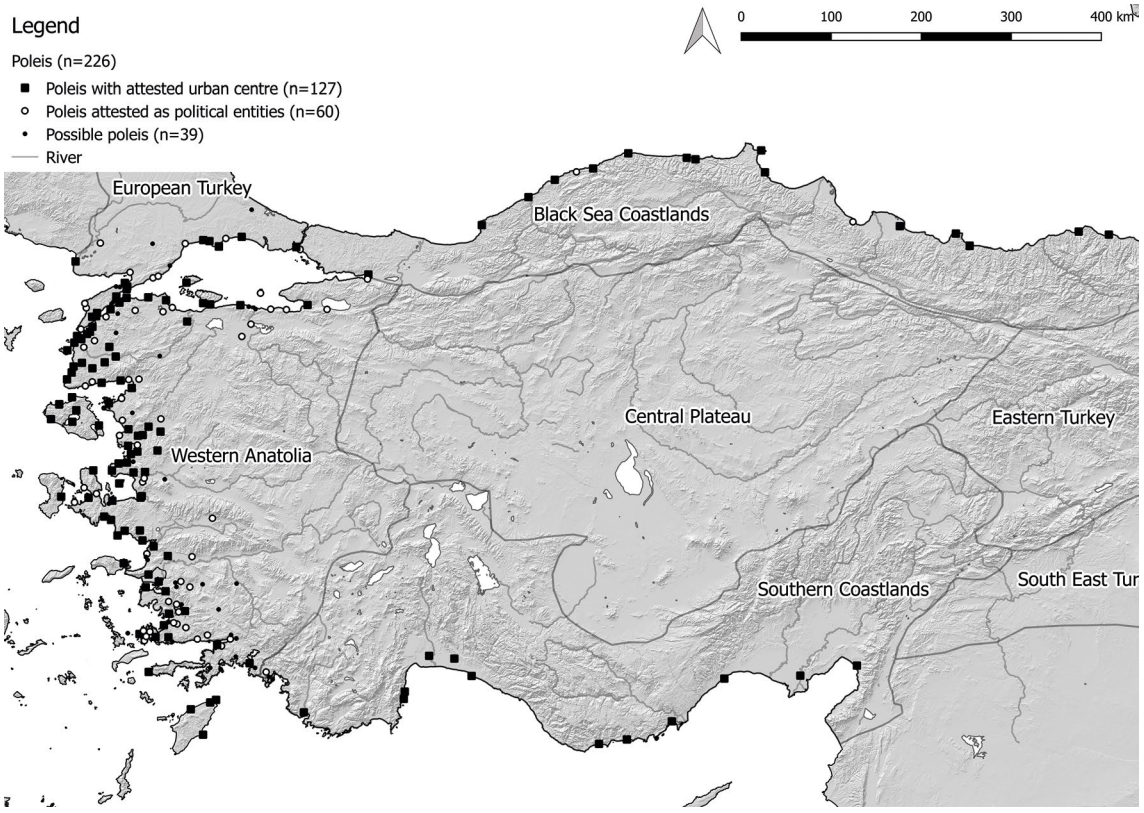

Fig. 6: The urban pattern of Anatolia during Classical times, based on Hansen – Nielsen 2004. Note that for figures 6–8, the light grey lines represent rivers, while the thick dark grey lines demarcate the boundaries of different geographical zones.

attested at villages as well and we may assume that settlements without civic autonomy (secondary agglomerations) fulfilled an important role as market places in sparsely settled areas.

Historical path-dependency clearly impacted the formation of the urban pattern of Anatolia during the Roman Empire. When Rome acquired the Attalid Kingdom in 133 BCE in Western Anatolia, the area was already filled with cities and villages. Cities established under the Hellenistic and in earlier times would continue to exist into Imperial times and some cities already saw extensive monumentalization during Classical and especially Hellenistic times.

A reconstruction of the Classical urban pattern, which is based on the Inventory of Classical Poleis shows a focus of early poleis on the coasts, particularly the Aegean coast (fig. 6).[21] For the Hellenistic period, a tentative reconstruction was created based on a variety of works.[22] The reconstruction shows an expansion of the distribution of cities inland, which is mostly the result of cities and settlements being founded or refounded by Hellenistic dynasties, especially the Attalid and Seleucid dynasties (fig. 7). These new

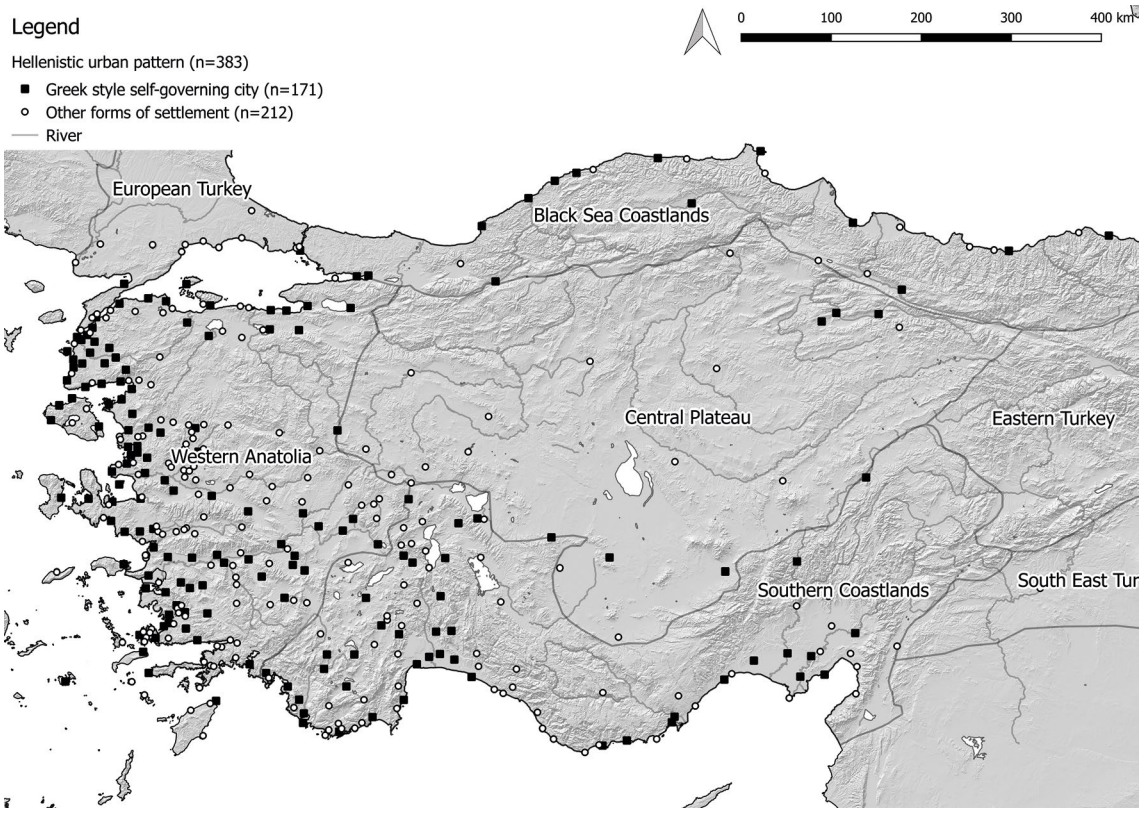

Fig. 7: The urban pattern of Anatolia during Hellenistic times. This tentative reconstruction is based on Head et al. 1911, Cohen 1995, Schuler 1998 and many others. Other forms of settlement include towns, villages and colonial foundations.

foundations were mostly aimed at areas with fertile land, such as the river valleys of Western Anatolia and the coastal plains of Pamphylia and Cilicia.[23] The pattern of the Roman Empire clearly is a further expansion and intensification of settlement of the Hellenistic pattern (fig. 8).

Summary

Clearly, there was much regional variation in the density of settlement and city size in the Roman East at large and even within Asia Minor itself. The factors that possibly influenced this pattern in Anatolia, from climate to historical path-dependency, each only form a part of the explanation of the phenomenon of urbanism. Naturally, particular events and contexts acted on the fate of cities. Cities could rely on their own or neighbouring territories for their food supply, although possibilities for exchange were clearly present and the distribution of ceramics and other products shows that movement of goods took place.[24] The concentration of villa estates on the Central Plateau suggests interregional exchange within

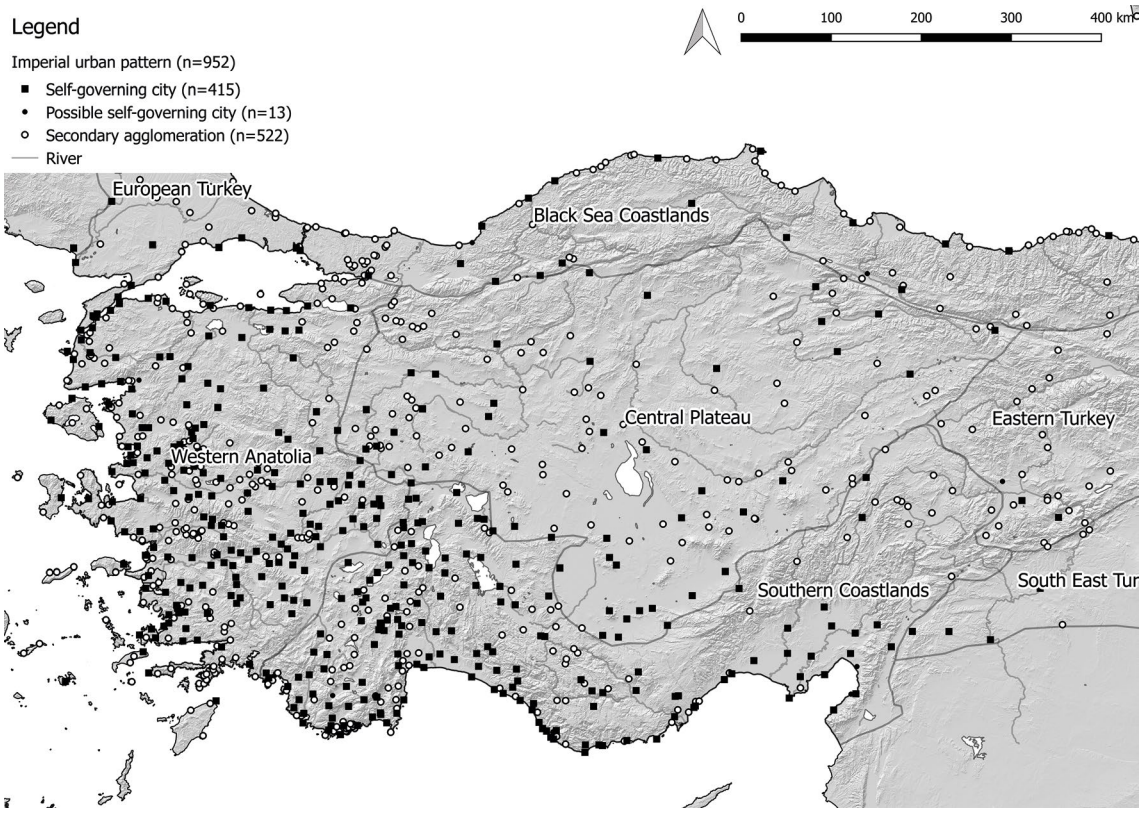

Fig. 8: The urban pattern of Anatolia during Imperial times.

Anatolia itself as well. It is likely that the uneven distribution of natural resources caused exchange, and it is not unthinkable that it is this exchange, albeit perhaps nowhere the brunt of a city's economy, could generate the income that enabled the city councils to engage in programs of (sometimes extensive) monumentalization. Connectivity, landscape, climate, agricultural potential and historical context not only each explain part of the puzzle that is Roman urbanism in Anatolia, but they also relate to each other. Hellenistic foundation policies clearly were related to the agricultural potential of the land, while a higher potential of connectivity and fertility increased the possibilities of a city to engage in the exchange of goods. The factors discussed here, albeit brief, already demonstrate the underlying complexity of settlement patterns in Roman Anatolia.

Notes

[1] See Bekker-Nielsen in this book.

[2] The primary data used in this paper and a fuller analysis are published in Willet 2020.

[3] E.g. Isler 2017; Sear 2006; McNicoll 1997; Broughton 1938 and Jones 1971 still are wonderful sources of information.

[4] Eg. Alia in Phrygia; Aulock 1980, 47; Drew-Bear 1980, 951; Belke – Mersich 1990, 181.
[5] Galen, *De Propriorum Animi Dignotione et Curatione* 9 (Kühn 5.49 = Corpus Medicorum Graecorum 5.4.1.1.33); Beloch 1886, 236.
[6] E.g. Humann – Puchstein 1890, 23 merely describe the site of the city of Midaion in Phrygia as "*200 Schritt lang, 80 Schritt breit und an 15 m hoch*". More recent descriptions are not available.
[7] Miller 1968, 10; Lynch 1901; Marek 1993, 62.
[8] Published figures for Perge range from 26 ha (Hanson 2011, 255) to 55 ha (Hellenkemper – Hild 2004, 193).
[9] Ricl 1997, 1; Schwertheim 2006, 12 fig. 1; Strabo 13.1.26.
[10] Eastwood et al. 1998; Haldon et al. 2014; Haldon 2016.
[11] Faroqhi 1990, 147–148.
[12] Ephesos: Wörrle 1971; Tralleis: Pap. Amer. School I.108. nr. 10; CIG 2927; 2930F.
[13] Stratil-Sauer 1933, fig. 6.
[14] Riza 1935, 93–94.
[15] Faroqhi 1984; 1990.
[16] French 1980.
[17] Mitchell 1976, 109.
[18] De Planhol 1959.
[19] Mitchell 1993, 151–161.
[20] De Ligt 1993, 15; 78; Bintliff 2002, 218; Koder 2006, 173–174.
[21] Hansen – Nielsen 2004.
[22] Notably Cohen 1995, Schuler 1997 and Head et al. 1911.
[23] Sartre 2001, 129; Aperghis 2004, 30–32.
[24] Willet 2018.

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Aspects of Roman Urbanization in the Hellenistic Balkans

Damjan Donev

The first word that springs to mind when looking at the basic parameters of the urban geography in the Hellenistic part of the Balkan Peninsula in Roman Antiquity is modularity. If we exclude the mountainous zones, the spacing of Early Roman towns in this area is fairly regular and the differences in size between individual towns are relatively small. This property of the regional urban network is inscribed in the physical geography of this region, made up of series of discrete micro-regional units, separated from each other by high mountains. It seems that the urban map of the area is merely an echo of its physical geography; each micro-regional unit hosts an urban centre that was largely indistinct from the urban centres in the neighbouring micro-regions. This impression is reinforced by the view that the Romans, in concurrence with their principles of minimum interference in the newly-conquered territories and respect for local autonomy, made little changes to the existing network of urban settlements that traces its roots to the late Classical – early Hellenistic period. Although there is some kernel of truth in this description of the regional urban geography, it is far from encapsulating the local specifics and it ignores the dynamic aspects of the urban system. This brief study of the transformation of the regional urban system between the periods prior to and after the Roman conquest will demonstrate that, although only a few urban settlements had been established after the conquest, the urban geography of the area had undergone important changes.[1]

The Limits of the Study Area; How Do We Define the Hellenistic Balkans?

The term Hellenistic Balkans is used to denote those parts of the Balkan Peninsula that had come under Greek influence by the time the Roman Republic got actively involved in this part of the Mediterranean. This was one of the crucial factors that differentiated the study-area from the lands in the Balkan interior in the period after the Roman conquest. The towns and settlements that belong to the following historical regions are included in the analysis: Liburnia, coastal Dalmatia, the territories of the Illyrian and Macedonian kingdoms, Thrace and the Black Sea coast (fig. 1). At a first sight, it may appear strange that our notion of the Hellenistic Balkans includes areas – Liburnia or the Dalmatian coast – that were brought fully into the Roman sphere of influence, but of far greater significance for the present analysis was the fact that the introduction of the urban form of life in these regions preceded the Roman conquest and was mediated by the Greeks.[2] This zone also roughly corresponds to the areas that had been under continuous control of stable polities for centuries prior to the Roman conquest. In contrast to the Balkan interior, the great majority of the Roman towns in the Hellenistic Balkans predate the Roman conquest of the area.

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Fig. 1: Map of the Balkan Peninsula and the study area.

The Limits of the Dataset: which Settlements Qualified as Towns in the Late Hellenistic and Early Roman Balkans?

From a Hellenocentric perspective there were no other towns in the study-area apart from the Greek colonies on the Adriatic and Black Sea coast prior to the Roman conquest. If we loosen the definition in order to include the central places of the Hellenistic kingdoms and *koina* in the Balkan interior, it will be very difficult to differentiate between major military and economic centres and local tribal strongholds. However, the truth is that this conundrum seems more complicated than it really is. The two principal criteria used to delimit the dataset were the existence of references to the town and its institutions in the written sources and the archaeological evidence of public buildings, large private residences, local crafts and industry and the construction technique of the circuit walls. In other words, both functional and juridical criteria are used to define the dataset for the present study.[3] A closer look at the empirical data will doubtlessly discover examples of settlements that satisfied these criteria but had never been recorded as towns, or of historically attested autonomous towns that did not have the material attributes of

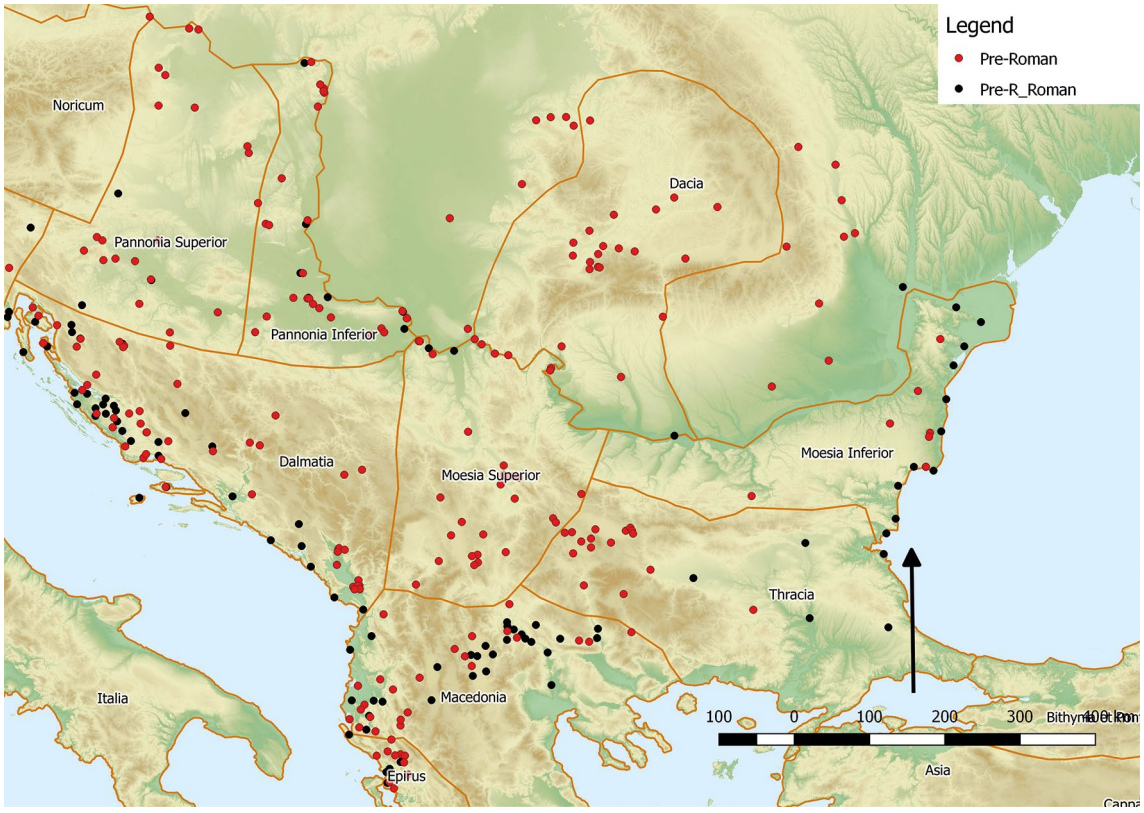

Fig. 2: Map of pre-Roman settlements, abandoned (red dots) and existent (black dots) under the High Empire.

urban settlements, but it has to be admitted that, for the greater part, these two sets overlap. Within a big-data approach, this is virtually all that matters.

The Map of Urban Settlements in the Study Region on the Eve of the Roman Conquest and in AD 200

From a cross-cultural perspective, the parts of the Balkan Peninsula that are the focus of this study were highly urbanised in the centuries prior to the Roman conquest. In certain parts of the study area – Liburnia, the southern Dalmatian coast, northern Epirus and parts of Macedonia – the urban density is close to that recorded in the most urbanised parts of the Hellenistic world, central or southern Greece or the western coast of Asia Minor.[4] Urban settlements had emerged in nearly every settlement niche that included arable territories of at least 20 km^2. Consequently, the territories of most of these towns fell in the range between a few hundred and 1000 km^2, whereas the presence of secondary agglomerations is poorly attested (fig. 2).

Obviously, this pattern is not uniform across the study-area. In the mountainous parts of the Illyrian and Macedonian kingdoms and in Thrace, the inter-city distances increase to over 50 km. However, this is mainly a consequence of the regional geography. The only true outlier in relation to the urban density in the study-region is Thrace. Only a handful of Thracian settlements can be qualified as towns in the period prior to the Roman conquest, most of which continued into the Roman period. Although Thrace had been exposed to the urbanising influences from the Greek world centuries prior to the Roman conquest, the advance of urbanism was held back by a set of social and economic factors that are poorly understood.[5]

Fig. 2 also shows the settlements that had been attested as towns in the written sources dated to the Roman period and those on which continuous occupation after the Roman conquest has been demonstrated archaeologically. It is evident that de-urbanization was the predominant trend in most parts of the study-region after the Roman conquest. This is particularly pronounced in southern Illyria and northern Epirus, an area in which less than half of the urban settlements had survived the Roman conquest.[6] However, this conclusion is fully dependent on the criteria used to discriminate between the settlements that had survived the conquest and retained their urban status and those that had been abandoned or lost their status. For example, the towns that are not mentioned in the written record after the conquest are excluded from the map of Roman towns. The question is, is this enough to proclaim a demotion or complete abandonment of these towns? Even in cases in which systematic excavations have recorded a caesura after the Roman conquest, the possibility that the settlement had shifted to another location should not be excluded.[7]

	Pre-Roman	Roman
Liburnia	34	28 (22)
Illyria/Epirus	35	11
Upper Macedonia	32 (25)	21

Table 1: Number of pre-Roman and Roman towns by region; alternative estimates in brackets.

Table 1 summarises the fluctuations in the number of urban settlements between the Hellenistic and Roman periods in the regions of southern Liburnia, Epirus and Illyria and Upper Macedonia. This simple comparison shows that the transformations of the urban map followed different paths in different parts of the study region. Whereas there is an evident decline in the number of towns in Liburnia, parts of Illyria and Epirus, the changes in Upper Macedonia are hardly perceptible, especially if we accept the possibility that the local *koina* known from inscriptions were autonomous communities.[8]

It is difficult to make a similar comparison for Thrace, but if we reject the view that the western Thracian towns continued from the pre-Roman period, we will have to conclude that the Roman conquest of Thrace resulted in an increased number of urban settlements.[9]

The main dilemma of the present study is to decide if the Roman conquest of the area lead to de-urbanization or restructuring of the existing urban networks? Admittedly, simply comparing the number of urban places between the two periods does not take us very far, because the decrease in the number of towns could have been offset by the growth of the towns that outlived the Roman conquest. However, any attempt to study the changes in settlement size between these two periods is impeded by inadequate data. Nevertheless, the little evidence we have, suggests disparate developments, even within the same micro-region. (Table 2) In Liburnia, southern Illyria and Epirus, it seems that the size of most settlements did not change after the conquest. But this is merely a consequence of the fact that most of these towns have been poorly researched. The only indicator of their size are the Hellenistic city walls. It is highly symptomatic that some of the better-researched towns in southern Illyria had experienced significant changes in the size of their built-up areas under the High Empire. In the case of Apollonia, the built-up area seems to have contracted by at least 20–30% by the Severan period,[10] while Buthrotum nearly tripled in size after the Roman conquest.[11] If we nonetheless accept the figures in table 2, we would have to conclude that, although the number of towns declined in both Liburnia and Epirus, the underlining trends in these two areas were divergent. The total urban area – and also possibly the urban population – saw an increase of about 15% in Liburnia after the Roman conquest, but in southern Illyria and northern Epirus, it had been reduced by one quarter. Upper Macedonia and Thrace conform to the Liburnian pattern. With the exception of some of the Greek colonies on the western Pontic coast, most of the pre-Roman towns that survived the Roman conquest had multiplied their built-up areas by the time of the late Principate. Stobi and Philippopolis are the most telling examples.[12] Thus, in these parts of the study-area, the number of urban settlements may have declined after the Roman conquest, but the sizes of a few chosen towns had increased substantially.

	Min_Hel	Max_Hel	Min_Rom	Max_Rom
Liburnia	90.6	213.4	144.5	252.7
Illyria/Epirus	/	472.1	294.7	368.7
Upper Macedonia	145.5	249.5	196.7	283.2

Table 2: Changes in the total urban area (in hectares) between pre-Roman and Roman times.

Fig. 3: Distribution of Liburnian settlements by size-ranges in the pre-Roman and Roman period.

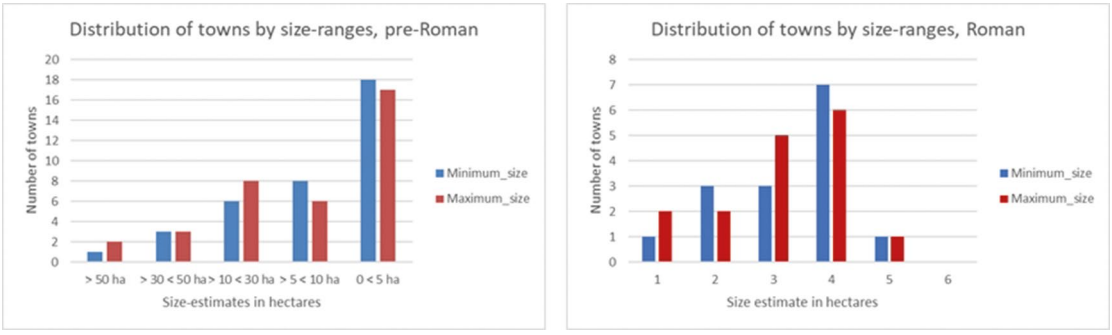

Fig. 4: Distribution of Illyrian and north Epirote settlements by size-ranges in the pre-Roman and Roman period.

These patterns become somewhat more comprehensible once we turn to the changes in the settlement hierarchies. Figures 3 and 4 show the distribution of Liburnian and Epirote settlements by size-ranges in the periods before and after the Roman conquest. As in table 2, both the minimum and maximum size-estimates are considered. In both areas, the post-conquest period saw a massive reduction in the number of very small settlements, i.e. those that measure less than 5 ha. This is in tune with the observed decline in urban density. The key difference between the two areas is in the upper size-ranges. Whereas in Liburnia, the decimation of the settlements smaller than 5 ha is offset by an increase in the number of medium-sized settlements (>10 <30 ha) and the emergence of a new regional centre, (>30 ha) in Epirus and Illyria, the changes in the upper size-ranges are insignificant and mostly negative. In addition to the near disappearance of the smallest size-category, the number of medium-sized settlements is also visibly reduced. Seen from this angle, centralisation had taken place in Liburnia and Upper Macedonia, de-urbanization in Illyria and Epirus.

The greatest obstacle to the study of the dynamics of the urban systems in the study-area is the poor quality of the data on size. Because most of our size-figures refer to the walled areas of the settlements in the pre-conquest period, the likely fluctuations in the built-up

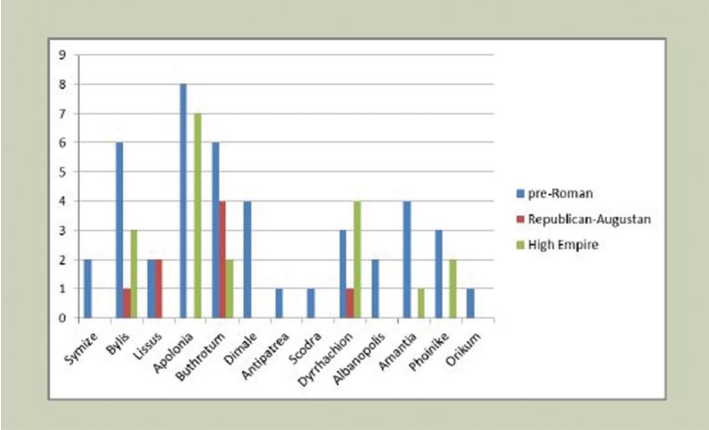

Fig. 5: Distribution of major public constructions in the towns in Illyria and northern Epirus.

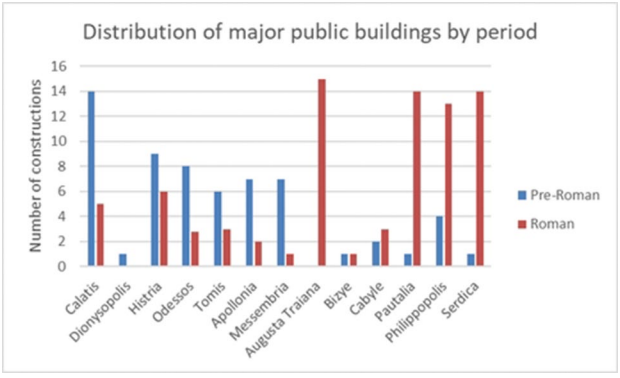

Fig. 6: Distribution of major public constructions in the towns in Thrace and on the western Black Sea coast.

area are veiled. In some areas, it seems as if nothing has changed from pre-conquest times. An alternative way of measuring the changing fortunes of the urban systems between the two periods is to compare the number of newly constructed public buildings in the pre-Roman and early Roman period (figs. 5 and 6). This analysis shows that, yet again, developments were not uniform across the study area. Nonetheless, it is both possible and useful to make a few general observations. The urban fabric of the late Hellenistic towns in Liburnia, Thrace and Upper Macedonia is lost under the buildings constructed in the Roman period. The only sign of the pre-Roman origin of these towns is their micro-location and, in some cases, the city-walls. Although they had been founded in the pre-Roman period, towns like Iader, Philippopolis or Stobi were Roman creations. Almost the opposite trend prevails among the towns in northern Epirus and southern Illyria, and the Greek colonies on the western Black Sea coast. These towns had preserved their ancient layout and a large number of public buildings, especially the temples, were constructed prior to the Roman conquest.

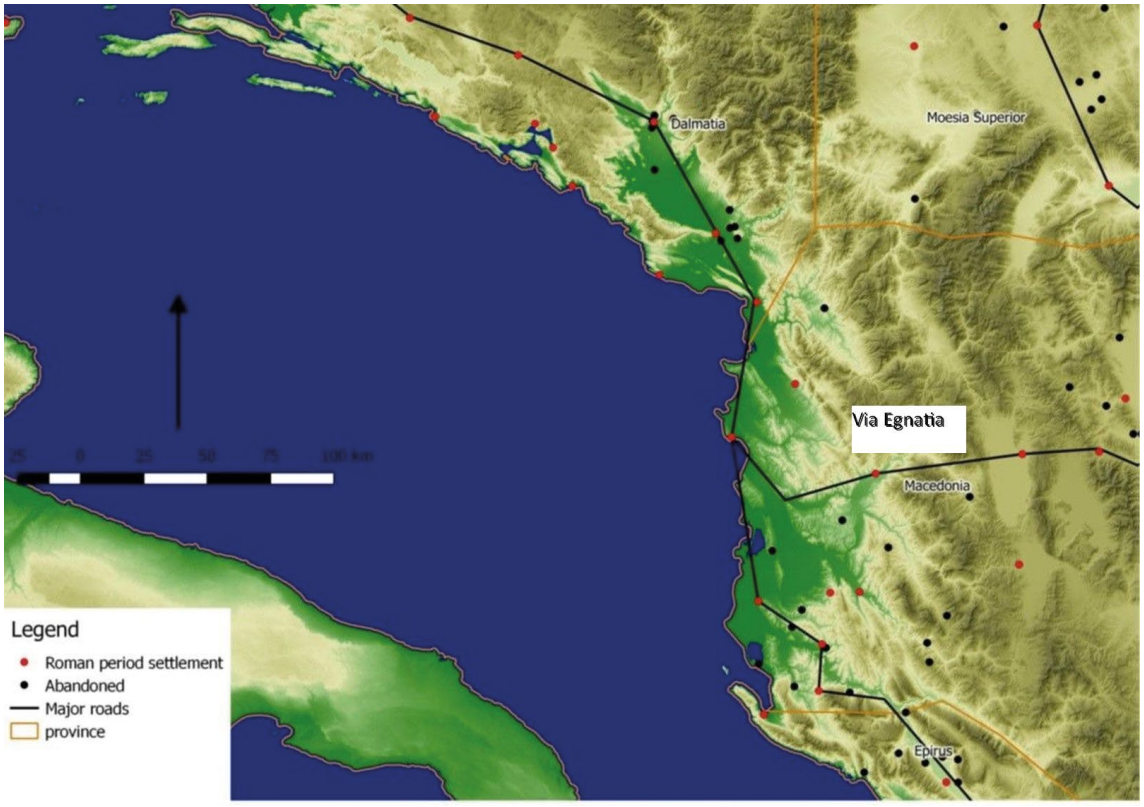

Fig. 7: Map of pre-Roman settlements and major roads in Illyria and northern Epirus.

This is not a straightforward indication of the changing levels of prosperity between the two periods. It can be argued that, in many of these towns, the basic amenities of urban life had been established by the time of the Roman conquest and the construction of new public buildings would have been unnecessary. It is equally plausible to argue that the elites in the towns that had preserved their pre-Roman constitution and identity were more inclined towards investing in festivities than in public construction. However, for some of the towns in figures 5 and 6, the lack of evidence of construction works, in conjunction with the inconspicuousness of the urban elite in the epigraphic record, can only be read as a sign of urban decline.

So far, we have observed the transformations of the urban systems by sub-regions and the differential developments of individual towns or town-categories have been shifted out of focus. Probably the most important aspects of the urban geography of the study-region after the Roman conquest are the partial preservation of the old settlement network and the reshaping of the old hierarchy. Which segments of the old urban network were privileged under the High Empire? It has already been demonstrated that the great majority of the towns that were abandoned after the conquest were those that belonged to the smallest size-category. Turning to the spatial distribution of the towns that were abandoned and

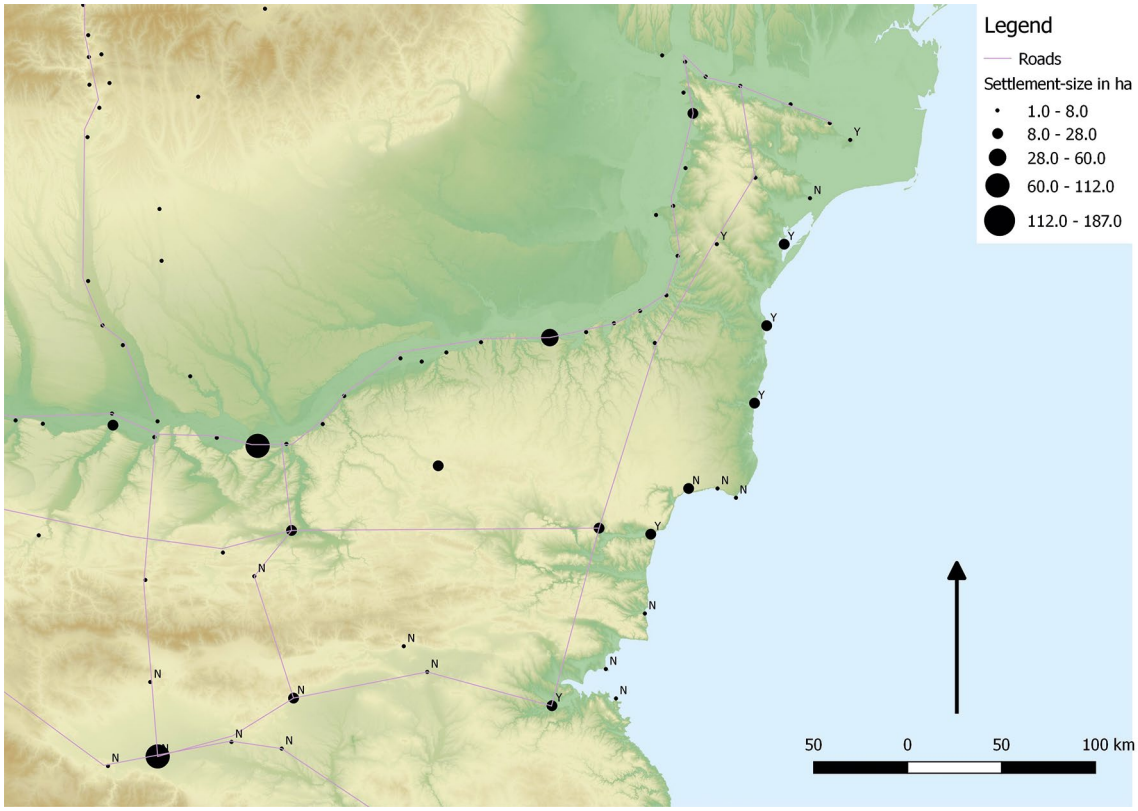

Fig. 8: Settlement size and distribution of communities of Roman citizens in Thrace and on the Black Sea coast.

those that continued after the Roman conquest, it does not take much to notice that in all parts of the study-region, in which a decrease in the number of towns has been recorded, the urban network had contracted to the main axes of communication that linked these areas to the Italian Peninsula and Rome (fig. 7). The old market and religious centres of remote and mountainous areas were either abandoned or in decline. Furthermore, only the towns that were located on major regional crossroads and ports of call saw an increase in the size of their built-up areas and an increased frequency of construction of public buildings. It is not by accident that this group of towns closely matches the group of pre-Roman *poleis* that had been granted the status of *municipia* or colonies in the late Republican or augustan periods, or the *poleis* that attracted sizeable communities of Roman citizens, usually organised in *conventus* or *phylai* (fig. 8).

Although a large number of small poleis in the study area had retained their autonomy after the Roman conquest, the economic outreach of their elites would have been limited to the micro-regional horizon. In contrast to this, the romanised elites of the towns that were granted the status of *municipia* or colonies enjoyed access to a wider range of economic resources, often located beyond the urban territories. This could have been one of the key

factors that led to differential growth among the pre-Roman towns in the study-region. The Roman conquest of the area brought an end to the existing urban constellations that served the interest of the regional powers. Only those segments of the urban network that were positioned on the main roads that linked the area to Italy were successfully integrated into the new urban system. These points in the network would have been far more attractive to the Roman coloniser than the remote polis, regardless of the latter's age, status or renown. This preferential colonisation of the urban network would have led to further differentiation between the pre-Roman *poleis*, because the native aristocracy would have also chosen to move to the new regional centres.

Summary

In view of the large extent of the study-area, the variable developments in its different parts should not be surprising. Although the Hellenised belt of the Balkan Peninsula had been exposed to urbanising influences ever since the Archaic period, its constituent parts were not equally receptive to the processes of urbanisation. In most of the study area, urbanisation took hold centuries prior to the Roman conquest, but Thrace was an exception and it remained comparatively under-urbanised throughout the early Roman period. In most parts of the study region – Thrace was obviously an exception – the number of urban settlements decreased after the conquest. This process of de-urbanisation was of variable intensity. It was particularly pronounced in Epirus, and certain parts of Liburnia and Illyria, less so in Upper Macedonia, whereas in Thrace, the opposite tendency prevailed. Even in those areas in which the Roman conquest resulted in a decreased number of urban settlements, it is unclear if the overall trend was one of de-urbanisation because, although a number of small towns probably declined or were abandoned, some of the towns that continued after the conquest multiplied their built-up areas or were thoroughly rebuilt. In fact, we can be certain in claiming that genuine de-urbanisation took place only in Epirus and Illyria, but the transformations of the urban systems in Liburnia and Upper Macedonia can only be described as centralisation.

Not all of the towns that were incorporated into the system of provincial government prospered equally under the Romans. Only a small percentage of these towns experienced a period of growth and prosperity under the High Empire. These towns were the key points in the newly established network of supra-regional roads and shipping lanes. They were also the hubs of Roman colonization of this region. The towns that made up this urban category were visibly larger than the majority of the old *poleis* and usually boasted a wider range of public buildings when compared to the average polis. Although the Romans introduced only a small number of newly founded settlements in the Hellenistic part of the Balkan Peninsula, the incorporation of this region into the Roman Empire laid the foundations of a new urban hierarchy.

Notes

[1] For more details, see Donev forthcoming.
[2] Wilkes 1969; Davison et al. 2006.
[3] De Ligt 2012.
[4] Hanson 2016.
[5] Valeva et al. 2015.
[6] Shpuza 2009.
[7] Cf. the example of Albanopolis, an ancient town in Illyria that, according to the archaeological excavations, were abandoned soon after the Roman conquest; Islami 1972. However, Albanopolis is recorded as a civitas of woman from Scupi in a second-century inscription; Josifovska-Dragojević 1971.
[8] Papazoglou 1988.
[9] Ivanov 2012.
[10] Lamboley et al. 2012.
[11] Hansen et al. 2013.
[12] Mikulčić 2003; Kolarova – Bospatčieva 2005.

Image Credits

Fig. 1–8: author.

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The Urban Levant

Paul Kloeg

This paper gives a preliminary overview of some of the results of a forthcoming PhD thesis on the urban system of the Roman Levant between the first and third centuries C.E. It looks at the patterns in urban development as had started to take shape in the Hellenistic period, and crystallized in the Roman period. As is virtually a given in any topic related to antiquity, our knowledge of Roman settlement systems, and perhaps especially when it concerns the Near East, contains several big lacunae. Notably, there is little direct evidence for the economic and demographic performance of the cities of the Syrian and Arabian provinces. What can be created though, is a reasonable overview of urban sizes and monumentality. In this paper patterns in urban size and geographic distribution will be placed in the perspective of natural constraints and agricultural productivity.

The following figures show the size distribution of settlements, grouped by province. Out of the settlements in the region that are considered to have been self-governing cities, for two thirds a size can be given for this period (fig. 1). Including local central places without civic autonomy (fig. 2), doubles the number of measured settlements. This means that for 40% of the settlements, a size could be ascertained. It should be noted however that besides a small number of more city-like places such as Jericho, Umm el Jimal and Nessana, lower order settlements were only possible to study in considerable detail in four focus areas: the Decapolis, the Negev, Galilee and the Antiochene. This is clearly reflected in figure 2, with almost no settlements of this order in the provinces of Syria Phoenice and Mesopotamia, where there was no adequate data for a comparable case study. While survey data has improved considerably over the past decades, especially for the Roman period, there are still considerable gaps in regional coverage. For villages lacking any indication of centrality (fig. 3), this study focused on those found in the Antiochene. In total size, the impact of these smaller settlements is evidently limited: they only add 356 hectares (secondary places) and 316 hectares (villages) to the far larger figure of 4630 hectares for the self-governing cities, only 12.6% of their combined total. If even in the most extreme case study of the Antiochene with its exceptionally large primate centre, the non-urban settlements make up over 40% of the size distribution, it is to be expected that there were many more of these towns and villages spread throughout the Roman Levant.

Looking at the urban level, it is immediately clear that Coele-Syria dominated the Levant in terms of urban scale. Antioch alone covers 10.6% of all cities combined, and the province contains well over a third of the urban surface area of the entire study area. The differences between Syria Palestina, Syria Phoenice and Arabia are not as pronounced, with respectively 22, 20 and 11% of the whole. Both Osrhoene and Mesopotamia are rather smaller, reflecting their different nature and development path compared to the other provinces. Of course, data limitations are especially visible here, where Osrhoene,

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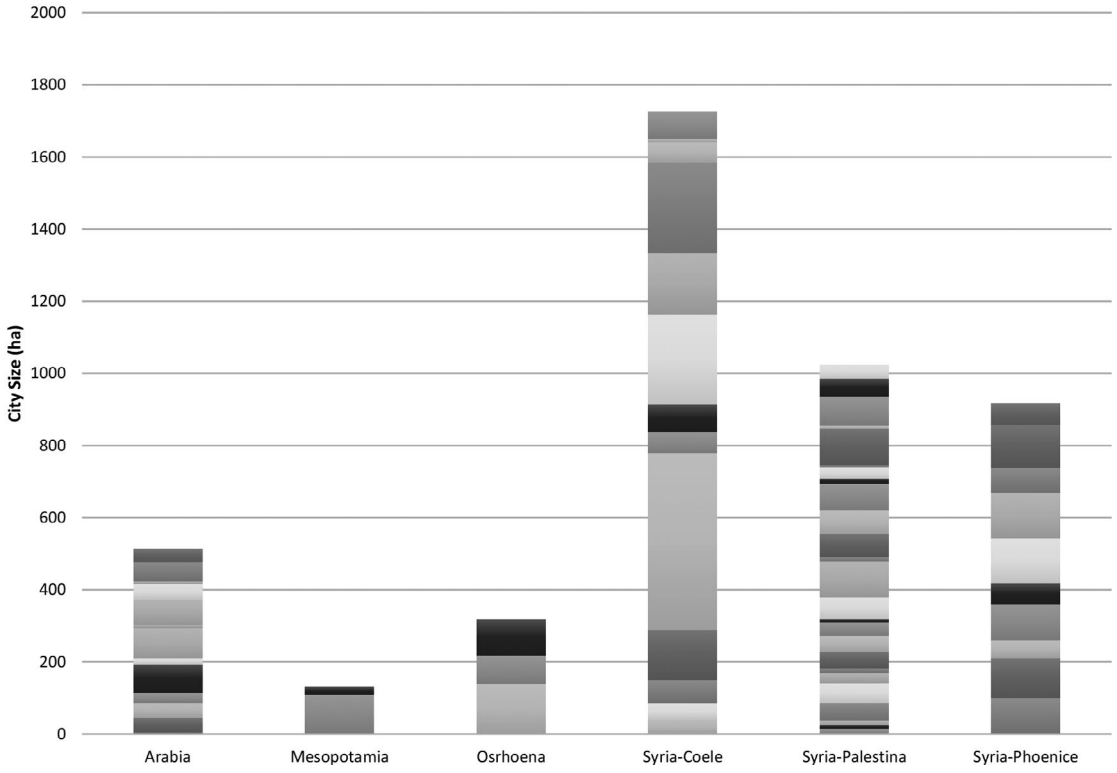

Fig. 1: Graph of self-governing city sizes per province.

the smaller of the two, only has sizes for two of its three Roman cities, Nisibis and Singara. A size for Amida would probably make quite a difference.

The core question for this paper is whether this size distribution can be explained by looking at the agricultural productivity within these cities' territories. As figure 4 shows, the majority of cities in the Fertile Crescent lie above the 300 mm isohyet – based on modern data. This meets what is considered the minimum level of rainfall for rain-fed cultivation of cereals.[1] Note that there is considerable difficulty in paleo-environmental modelling, but core samples from Lake Van, the Ghab valley and the Soreq cave suggest that the first to third century period may have been slightly more arid than nowadays, with humidity increasing again from the third century onwards.[2] As a thoroughly agricultural society, the expectation is that the more agricultural resources a city can control, the larger it's economic impact, and therefore demographic attraction. Essentially, the larger a cities' agricultural resources, the larger the city.

The most straightforward way to look at this is to consider an urban territory as its catchment area. Each site uses those resources around it that it can reach, and where there are multiple sites, their surroundings are divided between them. The assumption is that those sites with access to larger catchments or more resources will be able to sustain a larger population. In the Roman East there is little to suggest a more complex political hierarchy than that of provincial capitals above cities, and non-urban settlements below

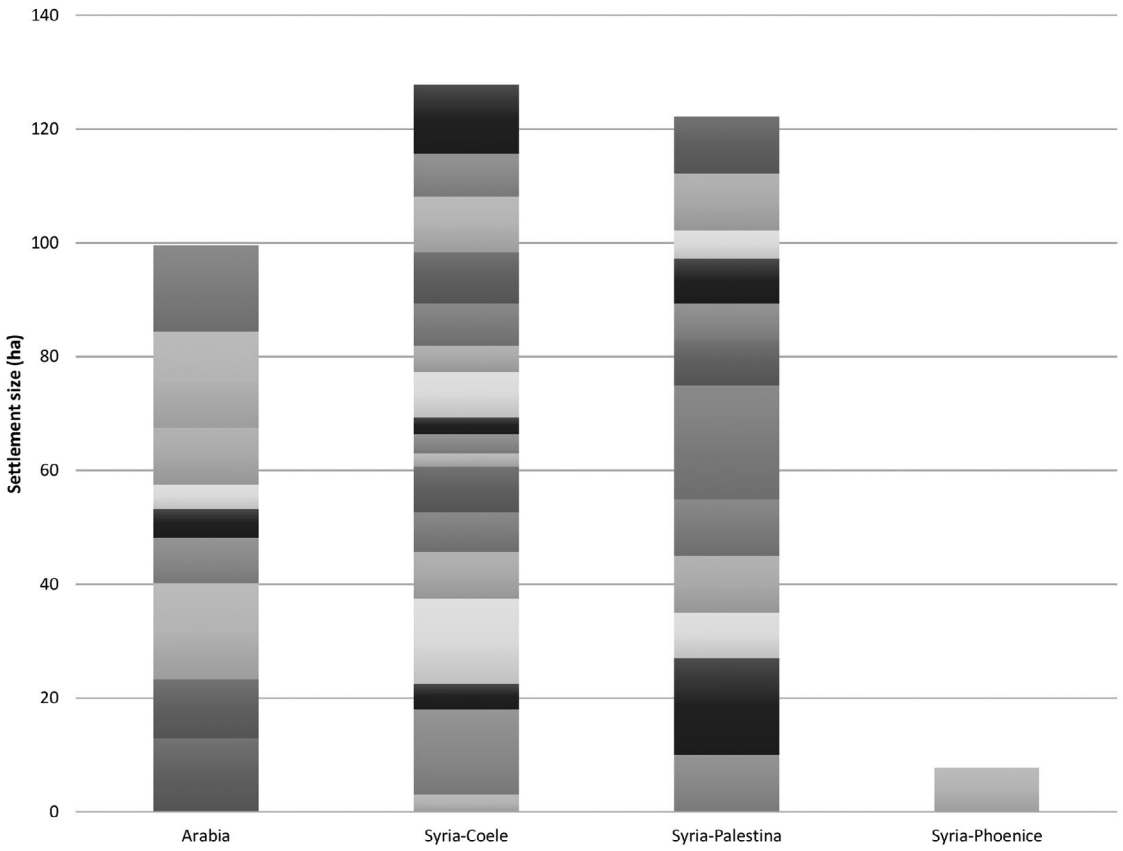

Fig. 2: Graph of secondary settlement sizes per province.

them. So a large number of cities with relatively equal status would make equal claims to their surrounding territory when dividing it between them.

Actual evidence for where urban territories lay in the Roman East is in fact very limited, with only a few indications from a handful of sites. There are for example decent suggestions for the extent of the Antiochene and there are some border stones known from Gerasa enclosing roughly 450 km^2.[3] Generally, it is therefore necessary to recreate territories using artificial means. The simplest approach to divide an area between a set of points (in this case our settlements), is to create Thiessen polygons. This method draws borders exactly halfway between each point and its neighbours, using Euclidean distance. As such, shapes are created where each originating point is the closest central point to any location within the surrounding shape. As was perhaps to be expected, there appears to be no correlation between settlement size and that of its surrounding Thiessen polygon (fig. 5). Naturally, this is exacerbated by the vast territories assigned to those settlements on the boundaries of the study area, or those bordering on the desert. But even if correcting for those, either by ignoring them, or by including boundary settlements from adjoining study areas and clipping away low rainfall zones, there is no correlation present.

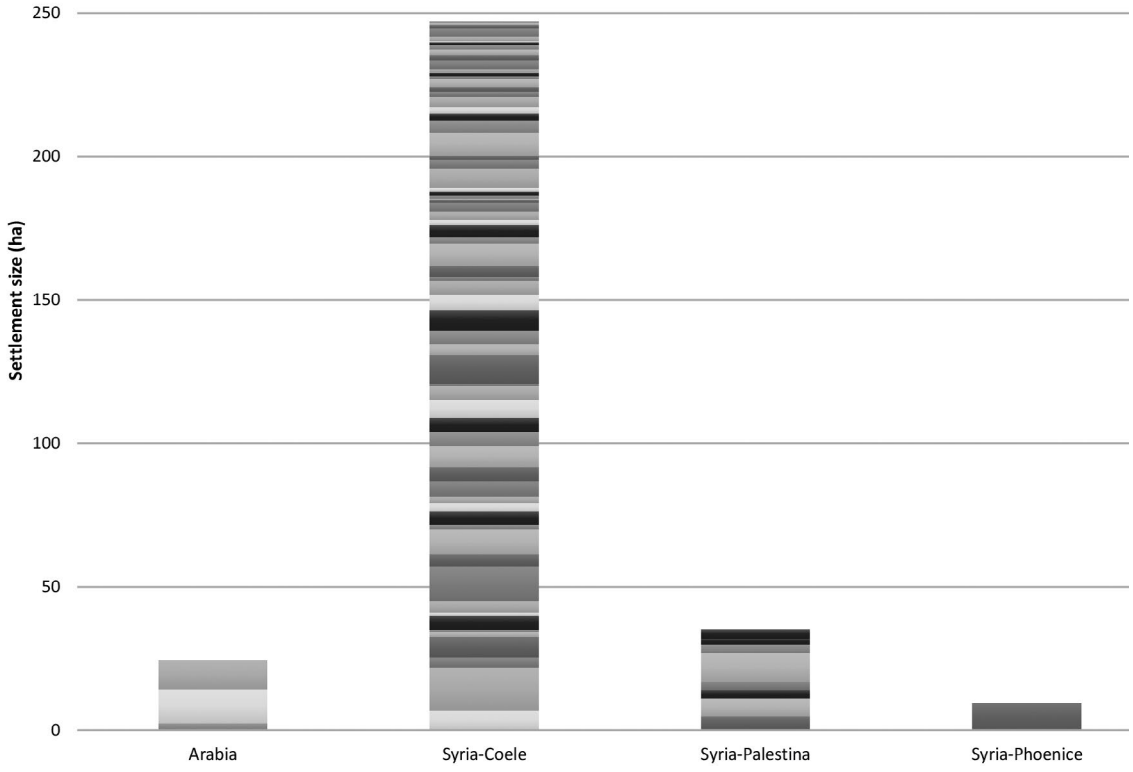

Fig. 3: Graph of non-urban settlement sizes per province.

Rather than using Euclidean distance, the same exercise could also be performed using travel time. The core concept is that by taking obstacles such as elevation, rivers and vegetation into account, one gets a more reliable indication of the potential extent of a territory. Figure 6 shows the reconstructed territories and travel time in hours on the basis of Tobler's hiking function, based on elevation alone as landcover cannot be reconstructed for antiquity in enough detail.[4]

As you can see, the differences from Euclidean distances are minimal, with only specific cases such as the Amanos Mountains and the Syrian coastal range causing considerable deviation. A detailed look shows that this result is not caused by an underestimation of terrain effects, but rather a logical effect of the distances involved. At shorter distances the influences of mountains are very pronounced, while at long distances the isochrones approach a circular Euclidean distance (in this case, due to limitations in the algorithm, it actually approaches an octagonal shape). The explanation lies in figure 7. Paths taken from the point of origin (in this case Antioch) to arrive at a random set of locations, shows that efforts are made to circumvent highly sloped areas. The further away, the more likely it is that there are alternative routes through passes or around mountains that cost far less time than going straight through them. When more time is spent travelling, the percentage of time lost to detours around obstacles decreases.

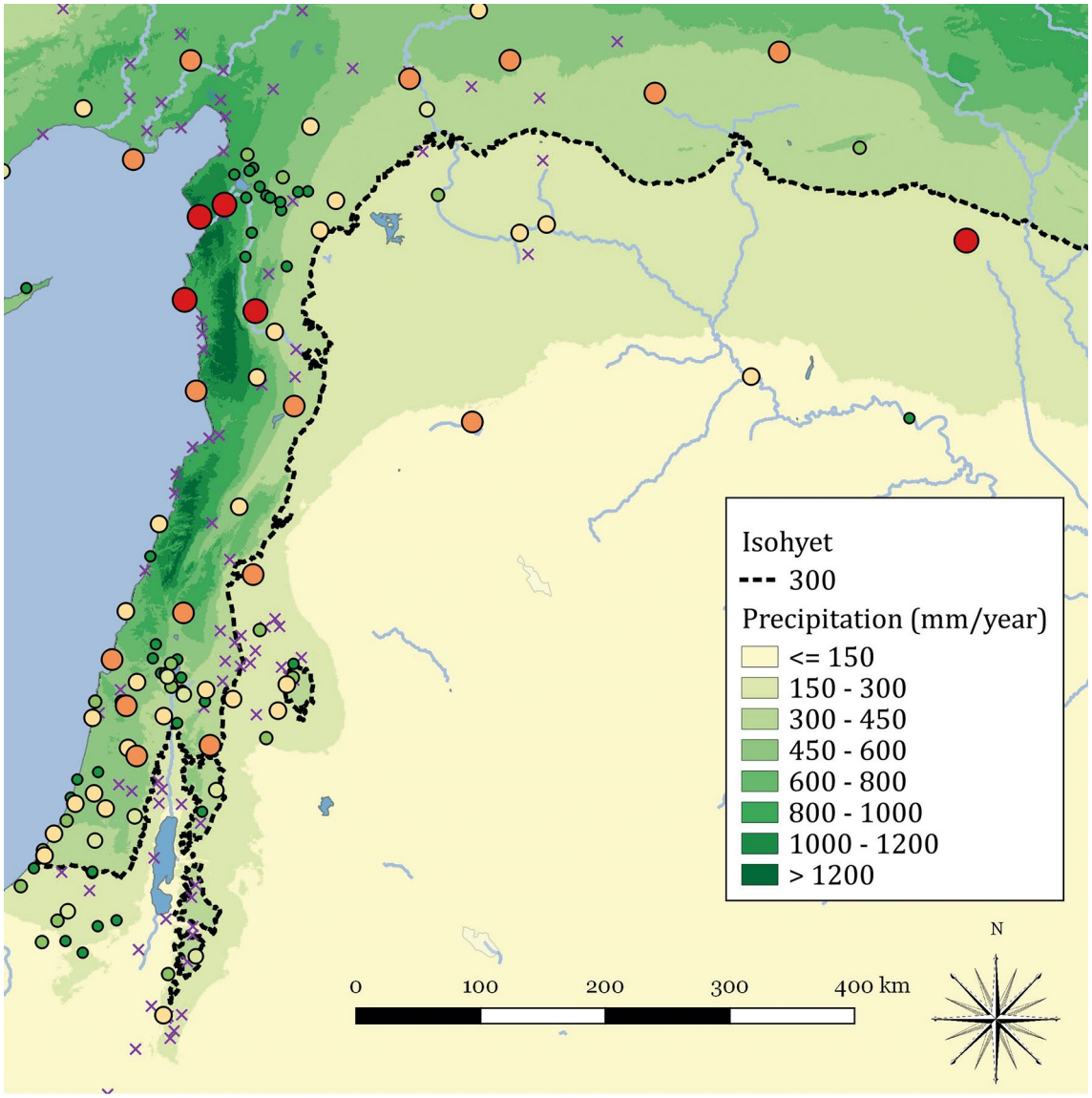

Fig. 4: Map of modern precipitation and Roman settlement distribution.

As the resultant areas approach those of regular Thiessen polygons, the same conclusions can be drawn as regards the relationship between territory size and urban area: there is none. Using isochrones does create the opportunity to look at only those areas reachable within a certain time limit. This links back to the concept of market distance and willingness to travel from a village to farmland. Within a hierarchical system, it can be assumed that a central settlement would for its food provision not only depend on its direct surroundings, but also on surplus generated by lower order settlements in its surroundings, in this case the villages within its territory. For the

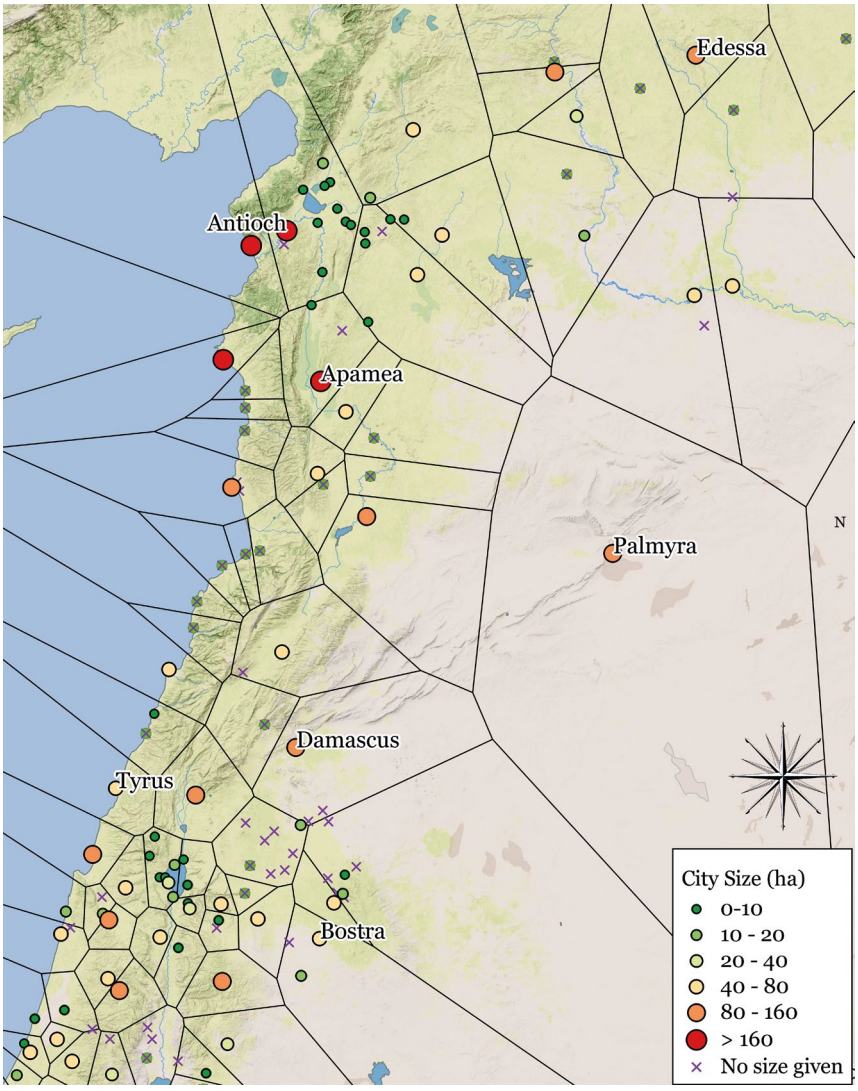

Fig. 5: Map of Thiessen polygons around Roman cities (basemap by the Ancient World Mapping Centre, CC BY-NC 3.0).

following, it is furthermore assumed that only those villages played a role in primary production for the settlement that lay within such a distance that would allow travel to the city, the sale of goods and a return trip within a single day. The commonly accepted maximum figure for such a single day return trip would be three hours.[5] As such, the resultant areas could be interpreted as an ideal model for what could have functioned as practical territories.

Territory size alone does not seem sufficient to explain urban size. Perhaps then, the answer lies in what those territories could actually produce. While in the last case, correlation between recreated territory and urban size was as weak as in the previous examples,

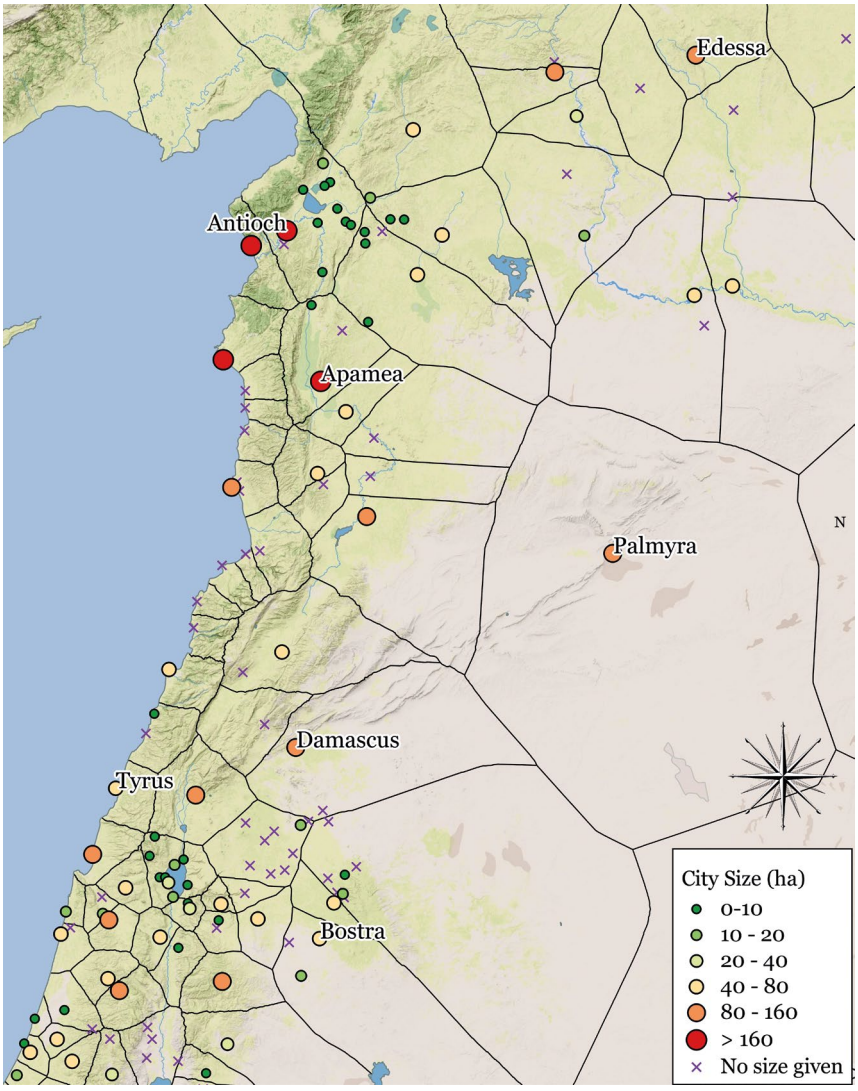

Fig. 6: Map of terrain-weighted cost distance around Roman cities (basemap by the Ancient World Mapping Centre, CC BY-NC 3.0).

the recreated functional territories do give the best basic regional unit for the following calculations, as they are less vulnerable to the influence of border effects and missing data points than Thiessen polygons, terrain-weighted or not. Several additional assumptions need to be made however concerning the translation of urban area to actual population, the rate of urbanisation and food consumption. It has to be conceded that these figures may have differed considerably in reality, with regional differences in urban layouts and diet, as well as locally varying rates of urbanisation – and there remains discussion on any of these topics for the Roman period.[6] For this exercise though, the following parameters are used: 20% urbanisation rate (so for each city-dweller, 4 people in its surrounding territory), a diet

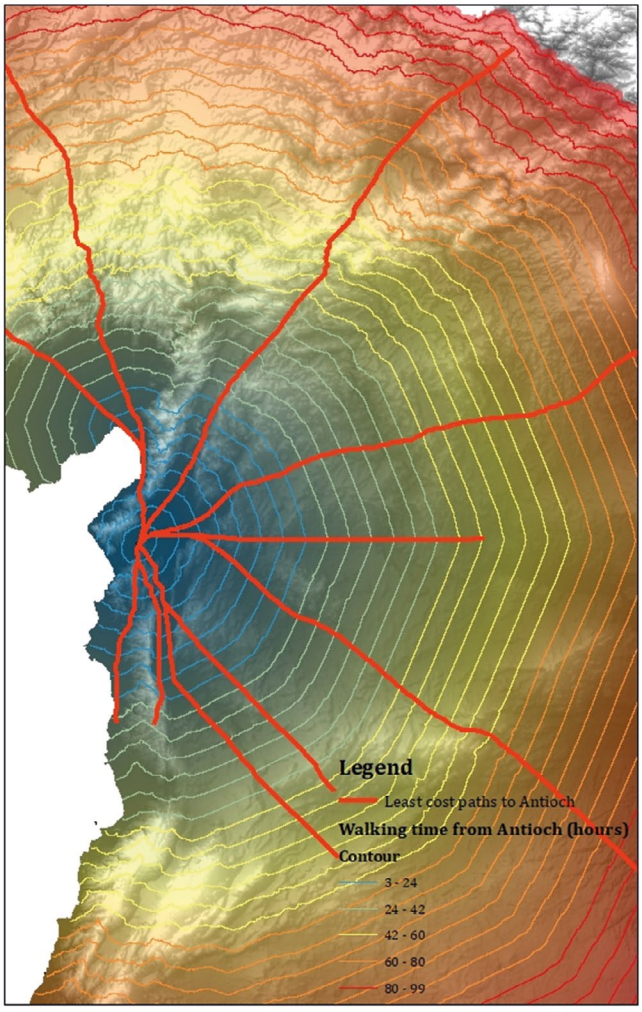

Fig. 7: Map of least cost paths from Antioch to random locations.

of 250 kg of cereals or equivalent per year per person, and an urban population density of 250 people per hectare. For levels of agricultural production, the lowest potential production estimates were used from the global agro-ecological zones (GAEZ) dataset of the United Nations Food and Agricultural Organisation (FAO).[7] Figure 8 gives an overview of all the cities and places with potentially central roles, as well as those that can clearly be identified as cities. They show that for a majority of central settlements, local production within a 3 hour distance would be able to sustain an urban population plus four times as many people in its surrounding countryside.

Figure 8 shows that within the given parameters and when using the average potential yield figures from the FAO, only 28 out of 177 areas would not be able to sustain their population, 10 of which being areas not having a known size for the area of the urban centre, but only able to sustain a population under 10.000. As expected, barring a handful of

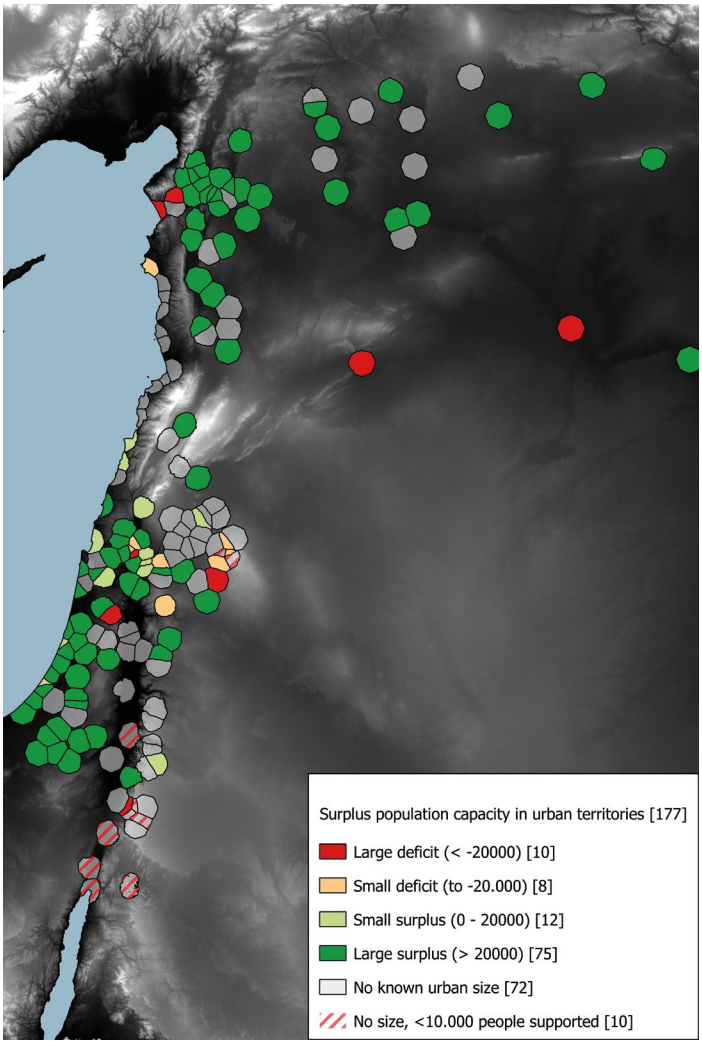

Fig. 8: Map of surplus carrying capacity of settlement territories.

exceptions, lower yield zones are concentrated around the desert edge, with larger areas in fact producing less due to limited rainfall. For some of these ten that may in fact be a realistic limit for the population of the settlement, based on sizes for earlier or later periods: the port of Aila for instance, was under three hectares in the early Islamic period, and if Parker's map of 1997 gives a good estimation of the Roman period size, that would have been even smaller.[8] 87 regions would be able to sustain their populations, and a further 72 areas with no known urban size, but able to support total populations over 10.000 people. Furthermore, almost all sites below 125 hectares fell within areas that could sustain them.

The concept of carrying capacity, and especially when it involves humans, is not without its critiques. A core issue as a scientific tool is that it expects the formation of a stable equilibrium.[9] It ignores that there can be a number of factors that may influence

population dynamics, such as migration. Similarly, a number of assumptions are made about diet, resource availability, production and acquisition methods, which impose the population ceiling for a given area. Human agency allows reality to divert considerably from this ideal model. Changes in diet, specialised methods for resource acquisition, and trade allow populations to adapt and shift the initial population cap. These very limitations are however exactly the reasons why this analysis does have value: it allows for making the distinction between regions that fit within the model, and places where people live despite the model suggesting otherwise. This allows us to investigate how and why people lived in less than ideal places.

As such, carrying capacity offers a solid baseline for the majority of these settlements, not suggesting that they necessarily depended on their hinterlands, but nonetheless probably could within the given parameters. For the remainder, the explanations for why the various cities were larger than the constrains of their surrounding territories should be sought in the very limitations of the model: better adaptation to the terrain using terracing and alternative methods to provide enough water and nutrients to crops, larger territories, different diets or the acquisition of foodstuffs through trade. Here, we will only look at some of the examples of how a local population could cope with a problematic territory.

In his 2016 study, Will Kennedy calculates the possible extent of Petra's effective agricultural hinterland using similar methods to those above, looking at travel cost on the basis of slope. Within the larger part of this area, containing the sandstone slopes of what Paula Kouki classifies as the Escarpment Zone, the annual average rainfall of at most 150 mm would hardly be sufficient for the farming of barley. As Kouki further adds, the nutrient-poor and shallow soils would require manuring to support the cultivation of more demanding plants over longer periods of time.[10] On the eastern side Petra's hinterland also includes the western side of the Jabal ash-Shara. This area is somewhat better suited for rain-fed farming: the higher elevation of this area results in a higher mean annual rainfall of 200 mm, lower temperatures and therefore lower evaporation rates. In addition, a diverse lithology of permeable limestones and nonpermeable sandstone layers furthermore allows for the existence of numerous springs.[11]

Even this more favourable agricultural zone had clear limitations. As is the case for the whole Levant, most of the rain here falls between December and April, and most heavily between January and March. Furthermore, interannual variation can be considerable, with dry years only reaching a third of the average, and usually several dry years following each other.[12] In order to deal with this, the people of the Petra region practiced run-off cultivation. By building dams in wadi-beds and terraces on hillslopes, during the rainy months water was diverted towards lower lying agricultural plots. Furthermore, terracing was also necessary to counter soil erosion on the steep slopes of the Ash-Shara.[13] Numerous structures related to run-off cultivation could be clearly dated to the Roman period around the Jabal Harun, to the southwest of Petra, but there

are also good indications for Nabatean or Roman dates for water diversion structures throughout the rest of the region. In addition, to deal with annual and interannual variation in rainfall, both collected run-off water, as well as water from springs would be stored in reservoirs, with cisterns found everywhere both in the escarpment and the Jabal ash-Shara regions. The locations of reservoirs and water conduits within agricultural fields further show that stored water was not just used for domestic use, but clearly intended for irrigation as well.[14]

In the other drier parts of the Levant similar practices can be found. Throughout Nabatean lands there are indications of terracing, run-off irrigation and ground-level aqueducts. John Peter Oleson gives an overview of various examples from Zoara down to Humayma, and includes an interesting example from the Babatha archive, where two papyri give an irrigation schedule for when which landowners were allowed to irrigate their crops.[15]

Another notable example lies somewhat further to the north. Jericho, and the other villages and estates lying in the lower Jordan valley, also based their irrigation on water from springs. In the case of Jericho, the main source of water is the Ain al-Sultan spring (Elisha's Spring), which is fed from the watershed of the Judean Highlands, and its high volume and perennial water flow have always been the basis of that settlement and agriculture around it. Jericho's water supply is furthermore augmented by two other clusters of springs along the Wadi al-Qelt and the Wadi Nueima.[16] While the Roman period settlement is poorly studied, its plantations were well known in antiquity, and counted among the domains that Marc Antony had given to Cleopatra. Pliny, Strabo and Josephus mention the cultivation of cash crops in the irrigated Jericho plain, with a focus on dates and balsam.[17]

The Negev, another arid region, would flourish in the fourth century with irrigated viticulture geared towards export through the city of Gaza.[18] Before that time however, there is only some evidence of small-scale, limited agriculture based on the capture of spring-water around Nabatean sites and road stations. It should be no surprise then that up to that point settlements remained comparatively small and limited in number, with a larger focus on pastoralism and trade.[19] An indication that agriculture was limited comes from a study by Ruth Shahack-Gross et al. analysing livestock dung, showing how at an Iron IIA site in the Negev animals were only fed by free grazing, while at a late Roman and Umayyad site their diet included cultivated grains.[20]

It is apparent that the size distributions for the Roman Levant cannot easily and directly be explained by looking just at urban territories or their agricultural potential. The majority of settlements lay well within the parts of the Fertile Crescent that could sustain them, and most were small enough that they did not reach the productive ceiling of their hinterlands. The distribution of sizes mostly tapers off at the point where this ceiling is reached, but a number of exceptions break free from the model. As shown in the examples above, in the case of those places found in the more arid regions of the Levant, the explanation can lie in better adaptation to the demands of a harsher environment, with specialised forms of agriculture and water management.

Notes

[1] Wirth 1971.
[2] Wilkinson 2003, 20; Kouki 2012, 64–68; Lawrence et al. 2016, 9.
[3] Balty 2000, 169; Kennedy 1998, 48–50.
[4] Tobler 1993.
[5] Wilkinson et al. 1994.
[6] To give but a small insight compare the following: Kennedy 2006; Wilson 2011; Garnsey 2004; Willet 2012.
[7] Fischer et al. 2012.
[8] Parker 1997, 27.
[9] Brush 1975.
[10] Kennedy 2016, 144; Kouki 2012, 103.
[11] Besançon 2010, 39.
[12] Besançon 2010, 28–29; Kouki 2012, 104.
[13] Kouki 2012, 104–106.
[14] Kouki 2012, 106–108.
[15] Oleson 2007.
[16] Jennings 2015, 16, 122.
[17] Jennings 2015, 96–97.
[18] Erickson-Gini 2012.
[19] Erickson-Gini 2012; Rosen 2007.
[20] Shahack-Gross et al. 2014.

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Roman Urbanism in the Pontic Frontier Zone[1]

Tønnes Bekker-Nielsen

Mithradates VI has been called Rome's deadliest enemy.[2] Even if he may not quite have been that, he was certainly one of Rome's most persistent enemies. Over a period of 25 years, he waged three major wars against Rome, one of which – the first Mithradatic war (89–85 BC) – for a time brought the whole of Roman Asia Minor, as well as Athens, under his control. The third Mithradatic war lasted for more than a decade, until the Roman general Gnaeus Pompeius cornered the army of Mithradates in the upper Lykos valley.[3] At the last moment, Mithradates succeeded in making his escape with a small group of soldiers. After an epic march along the eastern Black Sea coast, he eventually arrived in the Bosporan Kingdom, ruled by his son Machares. It is said that Mithradates now hatched a fantastic plan to march an army up the valley of the Danube and invade Italy from the north. Finding Machares unwilling to risk an open confrontation with the Romans, Mithradates took control of Pantikapaion (Kerch), forced Machares to flee and installed another son, Pharnakes, on the vacant throne. Pharnakes, however, proved equally unenthusiastic about engaging in a conflict with the Romans. Increasingly isolated and fearful that his son would hand him over to Pompey, Mithradates committed suicide.[4] Pharnakes had the corpse embalmed and sent to Pompey as a token of his loyalty to the Roman cause.[5]

Having fought three wars at an immense cost in materiel and Italian lives, the Roman senate was determined to prevent a fourth Mithradatic war. While the Romans had failed to capture Mithradates alive, they nonetheless had control of his kingdom. The problem was how to maintain that control.

Normal Roman practice was to conclude alliances with the city-states of conquered territories. But there were few cities to speak of in Mithradates' kingdom, which had been controlled by a sort of "command economy" operating through a network of castles and strongholds. Strabo tells us that one of Pompey's first actions was to demolish the fortifications of these hilltop strongholds and destroy their water supply, to prevent their re-occupation.[6]

But what was to replace them? To secure Roman control, Pompey created a new province by combining the former kingdom of *Bithynia* with the newly conquered territory, *Pontus*. Bithynia was well furnished with cities, but in Pontus there were only a handful. To create an urban network, Pompey founded seven new cities in the newly conquered territories. In so doing, he was clearly following the example of Alexander the Great, whom he tried to emulate in many ways, even taking Alexander's epithet "the great" as his own *cognomen*: *Magnus*.[7]

Pompey also, however, followed good Republican precedents in placing five of his seven cities on a *road*. The annexation of Cisalpine Gaul in the 180's and Transalpine Gaul in the 120's had been followed by the construction of new roads through the conquered territories: the *via Aemilia* from the upper Po valley to the

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Fig. 1: The "Pompeian road" through northern Anatolia.

sea at Rimini, and the *via Domitia* from the Pyrenees to the Rhône. Both precedents would be familiar to Pompey, as would both roads, which formed links in the chain of communication between the Spanish provinces and Italy. From 77 to 72 BC, Pompey had held an extraordinary command in Spain, where he campaigned against another of Rome's enemies, Sertorius. Pompey's victory was commemorated by a monument at the western end of the *via Domitia* in the Pyrenees.[8]

Pompey's road (fig. 1) formed part of an overland connection from Armenia to the Bosporus.[9] At its eastern end, Pompey planted a colony of veterans, Nikopolis, the "city of victory". The road ran down the Lykos valley past Diospolis, "the city of Zeus", and Magnopolis, taking its name from Pompey' epithet *Magnus*,[10] near the confluence of the Lykos and the Iris (figs. 4–5).[11]

Having crossed the Lykos and the Iris at their confluence, the road now followed the valley of a minor tributary of the Iris to reach the Kılıçarslan pass, then down to the plain of lake Stiphane, today Ladik Gölü. It followed the northern shore of the lake westward, intersecting the old highway linking the capital of the Pontic kings at Amaseia to the Black Sea at Amisos, and eventually reached Neapolis, the "new city" established by Pompey in the centre of the fertile plain known as the Phazemonitis.[12] Its final stage took it upstream first along the Halys, then along the Amnias, a tributary of the Halys, to reach *Pompeiopolis*. The distance from Nikopolis to Pompeiopolis was about 500 km, with another 500 separating Pompeiopolis from the Marmaran coast. In other words, the city named after Pompey was at about the

Fig. 2: The site of Nikopolis, now known as Yeşilyayla, seen form the south.

mid-point of new province of Pontus et Bithynia and may have been intended as the provincial capital.

Whatever Pompey's intentions may have been, he was not to see them realised. Fifteen years later, Rome was split by a bloody civil war between the partisans of Caesar and Pompey. When the news of Pompey's shattering defeat at Pharsalos reached Pantikapaion, king Pharnakes abandoned his loyalty to the Romans and seized the opportunity to take control of northeastern Asia Minor while the Roman forces were embroiled in fighting elsewhere – in effect, trying to re-establish his father's dominion.[13] The attempt was initially successful but came to a violent end on the battlefield of Zela (Zile) in 47 BC. Caesar's account of his victory was famously brief: *veni, vidi, vici.*[14]

It is an irony of history that though Caesar emerged as the eventual victor, the events of 48–47 confirmed the foresight of his opponent, Pompey, in rendering the mountain strongholds of Mithradates useless for the future. The invasion of Pharnakes was precisely that fourth Mithradatic war during which the Romans had wanted to avoid.

The civil war came to an end in 46 BC but soon another round of conflicts erupted following the murder of Caesar in 44. The victors were Octavian and Mark Antony, who divided the Empire between themselves and their partner Lepidus, Antony receiving the east. In the course of Antony's ten-year dominion over Pontus, Pompey's settlement was undone.[15] The eastern part of the province was dismantled and distributed among client rulers. The five cities now found themselves outside the *imperium Romanum*, into which they were eventually re-integrated during the course of the first century AD.[16]

Fig. 3: This substantial subterranean structure, probably a *cryptoporticus*, attests to the continued prosperity of Neokaisareia under the later Empire.

The easternmost city, Nikopolis, enjoyed the initial advantage of being a veteran settlement as well as a good defensive position on the slopes well above the pass linking the upper waters of the Lykos to those of the Euphrates; it also possessed a city wall. Given the virtual non-existence of epigraphic evidence from Nikipolis, it is impossible to judge whether Pompey's veterans and their descendants remained or whether the city's population took on a more indigenous character after the city had been transferred from Roman rule to the Pontic dynast Dareios. He was the son of the same Pharnakes who had opposed Caesar at Zela in 47 BC.[17] Dareios' place was soon taken by Polemon, a Cilician aristocrat who had served with Antony and was rewarded with Pontus as well as Armenia Minor.[18] According to Strabo, Nikopolis was a flourishing city in his time and later served as provincial capital of Armenia Minor.[19] Today, the site is occupied by modern Yeşilyayla (fig. 2), which has a few hundred inhabitants, most of whom are descendants of Turks transferred from northern Greece to Turkey during the population exchange that followed the treaty of Lausanne (1923).

Diospolis, by contrast, remains a large and populous provincial city, having spread from its original hilltop site downwards and outwards in the direction of the Lykos river (fig. 3). It changed its name several of times during antiquity, eventually becoming known as *Neokaisareia*, whence its modern name, Niksar.

Of the next city on the route, Magnopolis, the remains are even sparser than those of Nikopolis. Indeed, the site of the city was not located until 2015.[20] The decline of

Fig. 4: This *türbe* in the cemetery of Çevresu rests on a foundation of large, regular stone blocks, possibly the remnants of a Roman structure.

Magnopolis set in far earlier than that of Nikopolis; by the end of the second century at the latest – perhaps already by the end of the first – it had lost its status as a self-governing *polis*. As in Nikopolis, the present-day village, known as Çevresu, is home to only a few hundred souls. Visible remains are limited to some spoils, a single inscription and, in the cemetery, the solidly built substructure of a *türbe* (fig. 4) which by its appearance could well go back to the first century BC or AD, later having been reused for the *türbe*.

Neapolis, the "new city" changed its name to *Neoklaudiopolis* in the reign of Claudius or Nero; then, in the third century, reverted to using its indigenous name, *Andrapa*.[21] It was the seat of a bishop (attested as late as the later eighth century, when the bishop of Andrapa attended the second church council of Nikaia) and appears to have been continually occupied despite several changes of name. Its present name, Vezirköprü, recalls the memory of the powerful Köprülü family who through several generations held the office of grand vizier. Like Niksar, Vezirköprü remains a prosperous and populous town; unlike Niksar, it has produced a considerable epigraphic dossier and[22] an up-to-date *Corpus* of the city's inscriptions is awaiting publication.[23]

Pompeiopolis' successor city, Taşköprü, is as large as Niksar or Vezirköprü, but fortunately from the point of view of the archaeologist, the city site has been transferred across the river from the northern to the southern bank of the Amnias, leaving the site of the Roman city accessible to excavators. The outlines of the city's plan and major monuments have been revealed by geomagnetic survey[24] and confirmed by excavation

Fig. 5: The river crossing north of Çevresu, at the confluence of the Iris and Lykos rivers.

(fig. 8). In terms of archaeological evidence, [25] Pompeiopolis oustrips all other Pompeian cities, while its epigraphic dossier rivals that of Neoklaudiopolis for size.[26]

The subsequent history of the five cities offers an interesting case study of cities with a comparable starting-point that develop along different lines. It is difficult, however, to find any sort of system to their subsequent development. Three are today county towns with populations of 20,000 to 35,000 inhabitants; two are small villages. A defensive position does not affect their chance of survival either: Neokaisareia was as defensible as Nikopolis; the site of Neoklaudiopolis was as open as that of Magnopolis.

When we look at the road and its cities in comparison with the *via Aemilia* and the *via Domitia*, however, two important differences emerge. First, the *Domitia* and the *Aemilia* pass directly through the cities on their route, typically forming the high street. By contrast, while all Pompey's five cities are *near* the road, no city is actually *on* it. Strategic considerations may have played a role here: just as Pompey wished to deny Rome's enemies the use of the Mithradatic fortresses, he could not allow them to block the lifeline of Pontus by seizing a single city. That security appears to have come at a price, since the two cities farthest from the road – Nikopolis and Magnopolis – are also the two that did not survive in the long term.

The other contrast is the spacing of towns. Along the *Aemilia*, cities are on average spaced at intervals of 16 km from each other;[27] on the *Domitia*, about 30. Along Pompey's road, by contrast, the average distance is 130 km, rising to 160 km between Pompeiopolis and Neoklaudiopolis and 200 km between Nikopolis and Neokaisareia.

Fig. 6: The lower aqueduct of Neoklaudiopolis.

Studies of urban networks in the western Roman Empire suggest that cities more than 60 or 70 km from each other effectively have no contact zone.[28] The day-to-day interaction of a city with its territory hardly extends more than a full day's journey from the centre. Only under exceptional conditions do cities maintain contact over distances of 150 or 200 km. That a similar situation applied in Pontus is confirmed by the spatial distribution of milestones. Since these were set up when a road was repaired or renovated, the density of milestones offers a good indication of the interest taken by the authorities in a given section of road. The most numerous milestones are those of Neoklaudiopolis. On the road from Neoklaudiopolis towards Pompeiopolis, no less than fourteen stones have been found over the first twelve Roman miles of road. But this is followed by an intervening section of 77 km without a single milestone before the first milestone erected by Pompeiopolis appears near Boyabat. In the opposite direction, numerous milestones are found, counting up to 23 Roman miles (35 km) – but no further. Over the next 65 km, not a single milestone has been found.[29]

What held the inland corridor of northern Anatolia together was the steady coming and going of messengers and troops, couriers and bureaucrats along Pompey's road.

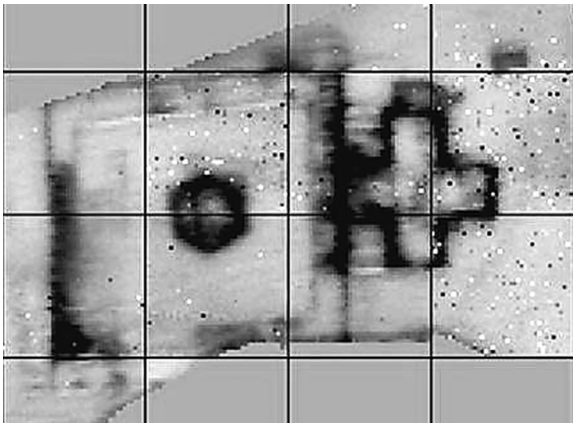

Fig. 7: Ground plan of a late Roman *martyrion* on the outskirts of Neoklaudiopolis as revealed by georesistivity survey in 2010.

After the dissolution of Pompey's province by Mark Antony, all that east-west traffic dwindled away.

The first casualty was the road itself, parts of which fell into disuse. Pompey's road followed the shortest possible route between Magnopolis and Neoklaudiopolis, but since the two cities were now located in different client kingdoms, there was little demand for the direct route. The Neoklaudiopolitans had other priorities: the port of Amisus (Samsun), the former royal city of Amaseia and the hot baths at Havza. The Pompeian road is traceable in the landscape even today, but it has no milestones of the imperial period. Instead, the city devoted its resources to upgrading the Havza road.[30]

Lying on a road that was falling into disuse and backed up against the mountains, Magnopolis suffered as well. It comes as no surprise that it disappears from the city-list in the first or second century AD.[31] Its place was taken by Ibora, lying in the centre of the plain. The last milestone to be erected on the Neokaisareia-Magnopolis road dates from AD 198,[32] but from the Tetrarchy onwards, milestones are found along the road leading towards Ibora and Amaseia.[33]

In terms of site, Nikopolis, perched on a hillside, shared some of the disadvantages of Magnopolis. Nonetheless, the city flourished into late antiquity and was the seat of a bishop and home to a monastery when it was struck by an earthquake in AD 499. Despite the best efforts of the emperor Justinian, who financed part of its reconstruction,[34] Nikopolis was eventually demoted from city status and its place taken by Koloneia.

Neokaisareia and Neoklaudiopolis, too, prospered into late antiquity and the Byzantine period. In the case of Neokaisareia, we must rely mainly on literary sources, notably the writings of the Cappadocian fathers. A close reading of their works reveals that Neokaisareia and Neoklaudiopolis belonged to different functional zones, what contemporary geographers would call "soft spaces".[35] Neokaisareia was oriented towards the Anatolian plateau and the south; Neoklaudiopolis and Amaseia were

Fig. 8: The plan of ancient Pompeiopolis as revealed by magnetometry survey in 2008.

oriented towards Samsun and the coast. There is precious little evidence for interaction between the two communities. Similarly, Pompeiopolis was oriented towards the west, Nikopolis towards the Euphrates valley and the east.

For Neoklaudiopolis, however, we have some archaeological evidence of continued growth and prosperity.[36] At some time in the imperial period, the city acquired a second aqueduct (fig. 6). Since this entered the town at a lower level than the earlier aqueduct, it must have been intended to supplement, not replace, its predecessor – which in turn implies that the demand for water had increased due to population growth. The aqueduct can be traced through the landscape for about six miles but has not been excavated nor surveyed by archaeologists. Its constructional similarity to the lower level aqueduct at Caesarea Maritima suggests a date in the later empire, perhaps the fourth century AD.

Spoil studies have demonstrated that the ancient city was located south of the river. On a plateau to the north of the river, however, we found a large density of ceramic fragments within a concentrated area known as the Papaz Tarlası or "priest's field", as well as a broken column and a stone threshold. A geoelectric survey in 2010 revealed the plan of a cruciform building complex with a large, quadrangular courtyard on its western side and what appeared to be the foundations of a fountain at its centre (fig.7).

This was followed up three years later (2013) with an intensive surface survey to establish the date and function of the structure. Though domestic pottery was found, cooking pots were absent, suggesting that the pots were used for bringing food to the site, not preparing it. The dating window is comparatively narrow. Both traits suggest a pilgrimage site, probably a *martyrion* constructed over the grave of a martyr.[37] Such "semi-official" shrines were a familiar feature of late antique Christianity, and an equally familiar problem was that they tended to fall into disrepair within a generation or two after their original foundation. In any case, the scale of the building testifies to continued prosperity at Neoklaudiopolis even during this turbulent time in the history of the eastern Roman Empire.

Researchers have spent considerable amounts of time and paper on the problem of Pompey's failed project for northern Anatolia and on the related, but unanswerable question: what might have happened if Antony had not dissolved the Roman province? Some have held that the urbanisation project was premature and doomed to failure in any case.[38] That four out of the five cities survived, and that three of them today are county seats, seems to disprove that claim. Urbanisation was indeed possible in northern Anatolia. But the expectation that cities spaced out over such a long distance could nonetheless form a coherent unit – politically, mentally, culturally, socially – was not to be fulfilled. Each in their way, the cities throve and carved out a functional space for themselves or in conjunction with neighbouring cities, but after Antony's division of *Pontus*, they never again formed a whole.

Notes

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[2] Mayor 2011.

[3] Our main sources for the Mithradatic wars is Appian. See also McGing 1986; Ballesteros Pastor 1996; Arslan 2007; Mayor 2009; Madsen 2010. Despite its age, Reinach 1890 still remains valuable.

[4] Appian, Mithradatic wars 101–102; Cassius Dio 36.49 f.; 37.11–13.

[5] Cassius Dio 37.14.

[6] Strabo 12.28.

[7] Højte 2006; Johnson 2015; Madsen 2019.

[8] Pliny, NH 7.26 (96).

[9] Bekker-Nielsen 2016, 32–37.

[10] Strabo 12.30.

[11] On Magnopolis, see now Sørensen 2016, 153–162, replacing earlier research.

[12] Strabo 12.38.

[13] Sørensen 2016, 119–122.
[14] Suetonius, Divus Julius 37.
[15] Sørensen 2016, 122–125; Bekker-Nielsen 2017, 34–36.
[16] For the individual cities, see the relevant entries in Olshausen – Biller 1984.
[17] Appian, Civil War 5.75; Sørensen 2016, 123 f.
[18] Cassius Dio 49.25; Sørensen 2016, 125–132, who points to the parallels between Antony's treatment of client rulers in northern Anatolia and in the Levant.
[19] Bekker-Nielsen 2017, 38.
[20] Sørensen 2016, 153–162.
[21] For the scholarly controversies surrounding the location of Andrapa, see Bekker-Nielsen 2013, 9–14.
[22] Bekker-Nielsen – Høgel 2013; Bekker-Nielsen et al. 2015.
[23] Olshausen – Sauer forthcoming.
[24] Fassbinder 2011.
[25] Summerer 2011; 2013; Winther-Jacobsen 2015; Summerer – Johnson (ed.) 2020.
[26] Marek 1993; 2015.
[27] Bekker-Nielsen 1989, 25 table 5.3.
[28] Bekker-Nielsen 1989, 31–32.
[29] Bekker-Nielsen 2020. An up-to-date corpus of Pontic milestones is found in French 2013.
[30] Bekker-Nielsen & Czichon 2015, 301–303.
[31] From the early second century onwards, the other four cities were minting local coins; that Magnopolis never did suggests that by this time, it was already in decline and perhaps without polis status: Dalaison 2014, Sauer 2014.
[32] Bekker-Nielsen 2017, 37 n. 105.
[33] Bekker-Nielsen 2017, 44–45.
[34] Procopius, Buildings 3.4.11 f.
[35] Bekker-Nielsen 2017, 48–50.
[36] For an overview of the archaeology of Neoklaudiopolis, Bekker-Nielsen et al. 2015.
[37] Winther-Jacobsen – Bekker-Nielsen 2016.
[38] Bekker-Nielsen 2017, 34 f.

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Urbanism on the Iberian Peninsula during the High Empire

Pieter Houten

The title paints an image of ancient Roman cities, possibly similar to what we know. The amphitheatre of Tarragona, the theatre of Sagunto, the temple of Évora or the aqueduct of Segovia might have popped up in our minds when thinking about Roman urbanism on the Iberian Peninsula. These cities were studied among 430 others in the sub-project 'Civitates Hispaniae' focused on the Iberian Peninsula within the framework of the ERC-funded project 'An Empire of 2,000 cities'.[1] This paper is based on the research done within the sub-project Civitates Hispaniae, defended as a PhD-thesis December 2018.[2]

The principal aim of the thesis is to investigate the urban systems of the Iberian Peninsula. In addition to establishing the nature of the urban system, the thesis also aims to explain continuities and discontinuities between the pre-Roman and Roman settlement system. Furthermore, the geographical distribution of the cities has been studied, taking into consideration size, geographical and climatological factors and the networks created by roads and maritime connections. Obviously, this surpasses the possibilities of this paper. Therefore, the paper will only provide a broad overview of the urban settlement pattern and how this has been researched.

First the definition of what can be considered urban has to be established. A lengthy debate has been and is held on this subject. Even when only looking at the debate on the definition of the ancient city a multitude of books can be filled. Rather than boring the reader with yet another historiography we can sum up the debate held since Fustel de Coulanges.[3] Within the research the definition of a city has not followed the classical path, covering the existent debate and then come to a new definition. Rather than defining the city beforehand the decision has been made to use a threefold bottom-up approach.

Firstly, we look at the civic autonomy of cities.[4] Put differently, it has to be established whether a settlement was considered self-governing within the Roman Empire. The evidence for this self-governing nature has been found in epigraphy mentioning a juridical status, magistracies or voting tribes. In addition, the literary sources have been used to find evidence for possible privileges granted or evidence for acceptance of a territory by the Roman state. In the case of the Iberian Peninsula this approach is very fruitful due to the grant of *ius Latii* by Vespasian.[5]

Secondly, archaeological evidence was collected to define the functions of settlements that might have given them a central role within the settlement system. The first step taken here is to regard monumentality, following the standard approach in defining urban centres.[6] Within the research the focus has been on *fora*, spectacle buildings and to a lesser degree *thermae*. As the focus on monumentality only includes settlements of self-governing communities and does not take other possible functions in account the scope had to be broadened. In order to include possible central settlements the research also focussed on

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port, mining and garrison settlements, as well as *mansiones* and *mutationes* to establish whether these functions could have led to the development of urban centres.

Lastly, the size of settlements has been investigated.[7] The idea of the investigation of sizes was to establish whether we could use this as a definiens for the city on the Iberian Peninsula. However, quite quickly it became apparent that the cities of the Iberian Peninsula are small, especially in Baetica, where cities are found that barely reach 5 hectares. As such this third element, which is often used as a definiens[8], has been dropped. Nonetheless, the data has been collected and is used to understand the hierarchical and geographical dispersion of the cities. Due to the aim of this paper size and monumentality will not be treated, this can be found in the doctoral thesis.

The starting point for the collection of the self-governing communities of the Iberian Peninsula has been the *Historia Naturalis* by Pliny. Obviously, the Plinian lists have to be scrutinised before accepting these as cities. One great advantage of Pliny for the Iberian Peninsula is the fact he has been a governor of Hispania Citerior, and as such he knows this specific province quite well.[9] Pliny mentions the number of *populi*, *civitates* and/or *oppida* per province: Baetica 175 *oppida*, Citerior 293 *civitates* and 179 *oppida* – I will return to this later – and Lusitania 45 *populi.* Unfortunately Pliny decides not to bother his reader with all the barbaric names of the peoples of the Iberian Peninsula.[10] Moreover, for those places he does mention by name, he often does not refer to its juridical status or even if it was a self-governing community at all.

In addition to Pliny, other classical sources have been examined for references to cities. The Geography by Ptolemy seems the most promising source to get a better understanding of Pliny's list of cities. Both sources have often been used in tandem to get to a more precise list of possible cities on the Iberian Peninsula.[11] However, Ptolemy is even more problematic than Pliny. Not only because his promising coordinate system falters but especially because his list includes a multitude of hapaxes. In addition to these problems, his list clearly includes settlements that must be considered secondary agglomerations. However, combining Pliny, Ptolemy and other classical literary sources (among others: Mela, Strabo and Livy) will lead to a list of places that were deemed important enough to be mentioned.

To test the relevance of places mentioned in the classical sources, epigraphy and numismatics has been taken into account. Epigraphic evidence has been the most useful and trustworthy source for many of the self-governing statuses. First and foremost, they often refer to the granted privileges such as *colonia* or *municipium.* In some cases, we cannot establish the granted privilege but clear evidence for a self-governing community can be found, such as reference to a *res publica.* Other clear evidence is the *termini* of the communities, indicating that the Roman state accepted their claims on a territory and as a self-governing community. In addition to this clear proof, we find magistracies (e.g. *duovir*, *aedil*, *quaestor*) indicating that communities had a juridical status. Lastly, we can add the voting tribes as indicators of a possible privileged community. Numismatic evidence only added evidence to already established self-governing communities.

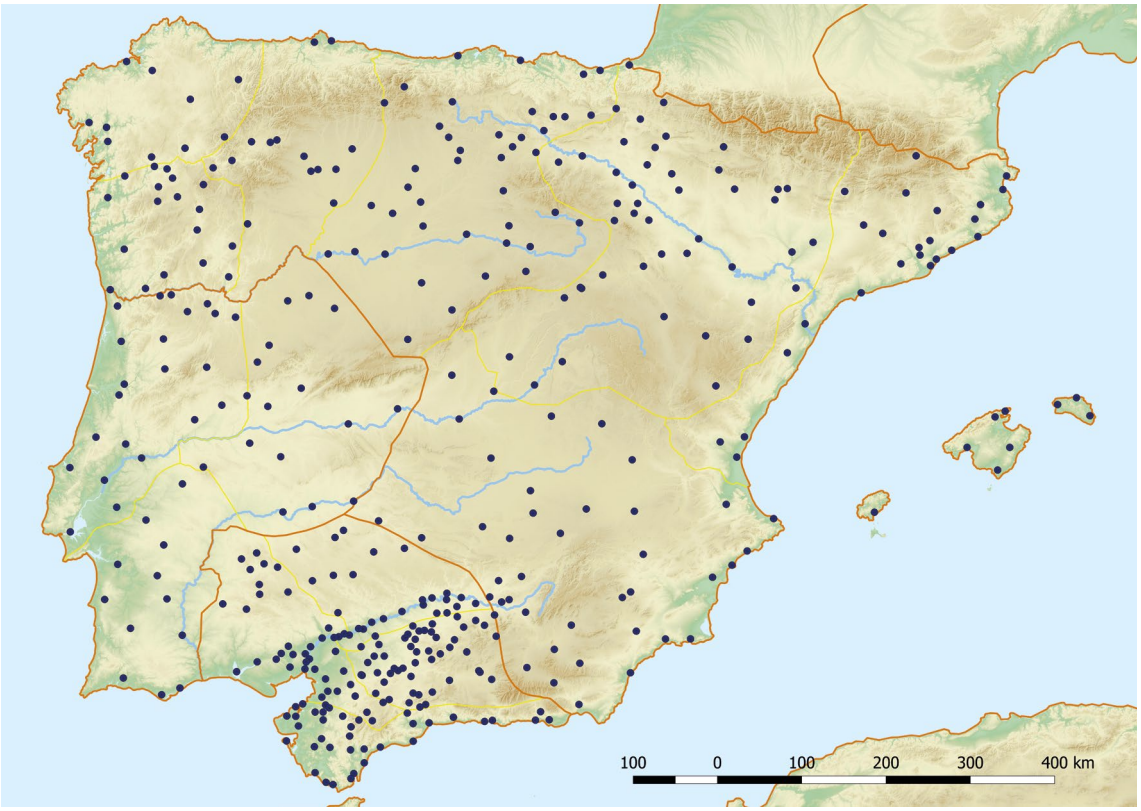

Fig. 1: Located self-governing communities of the Iberian Peninsula.

After the collection of all the data, a total list of 430 possible self-governing *civitates* has been established (fig. 1). Obviously, this is far from a final number, if we take the total number of *populi*, *civitates* and/or *oppida* mentioned by Pliny as the definite number, only 83% of all self-governing communities have been found within this study. Nonetheless, it has become clear that the grant of *ius Latii* by the Flavians has led to the inclusion of a plethora of communities. Not only did we find cities as one has in mind when thinking about Roman cities but also communities for which no clear centre can be established, which were definitely considered self-governing by the Roman state.

In 1873 Detlefsen already recognised that Pliny's account for Citerior had some discrepancies:[12]

> "[...] the province has 293 *civitates* besides those dependent on others; 179 *oppida*, of these, twelve are colonies, thirteen, towns with the rights of Roman citizens, eighteen with the old Latin rights, one confederate, and 135 tributary."[13]

Pliny mentions 293 *civitates* for the province and then continues that it had 179 *oppida*. Since he also mentions that some communities were dependent on others the standard interpretation is that Citerior had 179 cities to which 293 were made dependent.[14] Only

few scholars have realised that Pliny did not refer to 293 dependent *civitates* but to the total of *civitates* in the province being 293.[15] This can be proven rather simply, in his detailed account for each of the separate *conventus* the *civitates* add up to 293.[16]

However, this less standard interpretation of 293 *civitates* leads to another discrepancy. We find 293 *civitates* of which only 179 appear to have an *oppidum*. What follows is that the remaining 114 *civitates* had no *oppidum* or simply put a central place. These 114 *civitates* are referred to as *ländliche Gemeinden* or as rural *civitates*.[17] Not only did Detlefsen recognise the discrepancy in Pliny and the fault in the standard interpretation, he also found evidence for this non-urban *civitas* in Ptolemy. Detlefsen recognised that several of the Plinian *populi* mentioned for Citerior reoccurred in Ptolemy with *Fora* and *Aquae* as the 'polis' in Ptolemy. For example: Βιβαλῶν – Φόρος Βιβαλῶν; Λιμικῶν – Φόρος Λιμικῶν; Ναρβασῶν – Φόρος Ναρβασῶν; Τουροδῶν – Ὕδατα Φλαουία; Κουακερνῶν – Ὕδατα Κουακερνῶν.

Detlefsen argues that these places were indeed not cities, and thus not included in the list of *oppida* by Pliny, but were rural settlements that functioned as places to gather when needed. Logically these would be places with a regional function, such as natural springs or market places.[18] It is interesting that these non-nucleated *civitates* are mostly found in the northwestern regions of the Iberian Peninsula.[19] For this region Pereira Menaut has argued that the Roman state enfranchised tribes as *civitates*.[20] As these tribes consisted of a group of heterarchical *castros* these *civitates* had no clear urban centre.[21]

Spanish scholars such as Oller Guzmán and Pérez Losada have developed this idea of a *civitas* without an *oppidum* or *urbs* separately from Detlefsen.[22] Oller has dubbed this *civitas sine urbe*, a very clear name for the concept. However, the use of Latin might lead to the idea that this is a concept that can be found in classical literature. Therefore, I propose to use the term "dispersed *civitas*". I consider this a better term as it also allows for the inclusion of different forms of *civitates,* which do not conform to the classical *territorium et urbs* model.[23] Interestingly, the Spanish debate on this concept of dispersed *civitates* has been linked to the debate on the Anglo-Saxon debate on 'small towns'. However, this debate is not focused on the smaller cities, it focuses mostly on smaller secondary cities and their role within the larger urban settlement pattern. The use of 'small towns' is therefore somewhat confusing and one should link this with the Francophone debate on agglomérations secondaires.

The debate on secondary agglomerations and the possibility of cities, or towns, within this category has a long history.[24] Within this history, a variety of terms has been used and proposed. Among others, the use of Latin terminology, such as *vicus* and *conciliabulum*. Similar to the case described above, the use of Latin is problematic as it supposes a clear classical origin of the concept. However, in this case the use of the specific terminology here is even more problematic as it is classical terminology that is used in a (slightly) different way. Therefore, the use of secondary agglomerations seems to be the most logical choice. It clarifies the concept, agglomerations which are

secondary to the primary centre (and not small primary towns). Moreover, the use of secondary agglomerations allows for the Anglophone debate to be included into the Romance debate which uses: agglomérations secondaires,[25] aglomerados secundarios[26] and aglomeraciones secundarias.[27]

Despite the presence of terminology in Portuguese and Spanish for the secondary agglomerations the debate is, besides the publications mentioned here, inexistent. As a result, we have to turn to the Francophone and Anglophone debates in order to understand the nature of secondary agglomerations. Despite or because of the bottom-up approach of the different publications, within both debates there has not been any consensus on the nature of the secondary agglomeration. In 2006, Rust has compared the 127 sites of Britain considered a 'small town' by scholars and came to the conclusion that only on 14% of these sites is considered to be a 'small town' by all scholars.[28] The disparity of the Anglophone debate is contrasted to the Francophone debate where a consensus has been found in the categorisation presented by Mangin and Tassaux.[29]

Based on the consideration of the three debates, here including the small debate on the Iberian Peninsula as one, a categorisation has been proposed (table 1).[30]

Town-like settlements	**Specialised settlements**	**Agricultural settlements**
• Internal Street network • Urban Core defence • Distinctive zones • Range of building types; private and public • Range of workshop and craft industry • Large organised cemeteries • Various types of epigraphy • Elite housing • Forms of monumentality • Contributae, vici and castella	• Specialised functions such as: – Spas/religious centres – Specialist extractive/ manufacturing – Roadside settlements with imposed military/ official functions – Ports – Large road stations • Strong point defences • Industrial activities • Often with street networks • Increased agricultural emphasis • Absence of zonation • No administrative function	• Absence of defences • Absence of specialised function • Buildings lack sophistication • Public buildings only of the religious type or small bathhouses • Ribbon development only • Focus on agriculture with only limited non-agriculture elements • Small road stations

Table 1: Categorisation of secondary agglomerations.[31]

Rather than using vague terminology for the categorisation, the choice has been made to refer to town-like settlements. Although, town-like can be considered vague in itself, the choice for this terminology is to allow for some room in drawing the line between 'real' cities and 'small' towns. This town-like category includes recognisable organised settlements with central place functions beside the *civitas* 'capital'. The secondary settlements recognised by the Romans, such as contributed *civitates*, *vici* and *castellae*, are included within the category.

Specialised settlements are those settlements that became a central place within a *civitas* due to their function, such as natural springs, ports or roadside settlements (*mansiones* and *mutationes*). These settlements have no clear organisation, but have grown in an organic manner. As these settlements have a clear non-agricultural function for a larger region, they must be included into the urban settlement system as the lowest order settlements.

The agricultural settlements are small conglomerations of houses where one might find little differentiation of labour. These could have had very small-scale production for a larger region, but the settlement itself is mainly aimed at agricultural output. These settlements should not be included into a research into the urban settlement system, as these settlements have no role as central places.

The secondary agglomerations of the Iberian Peninsula have not yet gotten the attention they deserve. Individual settlements have been studied and a few scholars have attempted to start the research into these settlements.[32] However, so far no analysis of the secondary settlements in relation to their primary settlement has been done.

The urbanism on the Iberian Peninsula is not easily defined. Due to the grant of *ius Latii* the *civitates* of Hispania form a caleidoscope of settlements systems. In addition to what one expects to find, the instantly recognisable Roman city with its monumentality, the self-governing communities of the Iberian Peninsula include non-urban communities. This non-urban category, here dubbed the dispersed *civitas*, was based on smaller settlements. Often multiple settlements that worked in tandem to control (religiously, economic or administrative) the territory of the whole community. It is interesting that these smaller settlements would have to be considered secondary agglomerations if they were located in the territories of the well-known large cities as Rome, Carthago and Antioch mentioned above or Tarraco, Italica and Augusta Emerita.

In contrast to the well-studied secondary agglomerations of Britain and Gaul, those of the Iberian Peninsula have never drawn much attention. As a result, there is no categorisation available nor a good idea of which settlements should be included in a research focusing on this settlement category. However, due to the function of these agglomerations as central places within the standard, but especially within the dispersed *civitates*, this category is in need of more research. After the study of the *civitates Hispaniae* it is time to start an extensive study of the secondary agglomerations in order to grasp the complete structure of urbanism on the Iberian Peninsula.

Notes

[1] de Ligt et al. 2014.
[2] Houten 2018. See also: Houten forthcoming; Houten 2017.
[3] Fustel de Coulanges 1864; Weber 1922; Childe 1950; García y Bellido 1966; Finley 1977; Kolb 1984; Laurence et al. 2011.
[4] This is the starting point for most research into the urban system of the Roman Iberian Peninsula. Here only the most relevant publications: McElderry 1918; Vittinghoff 1952; Galsterer 1971; Abascal Palazón – Espinosa 1989; González Fernández 1999.
[5] Plin. NH 3, 30. See for the discussions on *ius Latii*: McElderry 1918; Braunert 1966; Montenegro 1975; d'Ors – d'Ors 1988; Morales Rodríguez 2000; Andreu Pintado 2004.
[6] Already in Pausanias the idea of monumentality as proof for a *polis* can be found in his account on Panopeus: 10.4.1 Monumentality as a defining element can be found in: Salmon 1969, 27; Alföldy 1987, 120; Laurence et al. 2011.
[7] General publications on sizes have been used to start the collection: Almagro-Gorbea 1987; Almagro-Gorbea – Dávila 1995; Carreras Monfort 1996; Keay 1998; Taracena 2007; Keay – Earl 2011; Carreras Monfort 2014.
[8] Wirth 1964, 5; Mersch 1997; Cuco i Giner 2008.
[9] Syme 1969, 215. 225.
[10] Plin. NH 3, 28.
[11] McElderry 1918, 77; Abascal Palazón – Espinosa 1989, 73; Andreu Pintado 2004, 117.
[12] Detlefsen 1873, 604.
[13] Plin. NH 3, 18.
[14] Marquardt 1851; Carreras Monfort 1996, 102; Mangas Manjarrés 1996, 51; Marzano 2011, 207; Le Roux 2014, 179.
[15] McElderry 1918, 77 and Detlefsen of course.
[16] Houten 2018, 78.
[17] Detlefsen 1873, 604; McElderry 1918, 73.
[18] Detlefsen 1873, 608. See for a more extensive treaty of this idea: Houten 2017; Houten 2018, 109ff.
[19] Houten forthcoming.
[20] Pereira Menaut 1990, 45.
[21] Pereira Menaut 1982, 255. The enfranchisement of the tribes and their castros can be found in the Edict of Bierzo and the Tabula Lougeiorum. See also: Ortiz de Urbina 1996.
[22] Pérez Losada 2002; Oller Guzmán 2011; Oller Guzmán 2014.
[23] For example the nomadic urbanism model see: Martínez Caballero 2010, 141; Poux 2014, 163.
[24] Amongst others: Oelmann 1922; Todd 1970; Mangin et al. 1986. For a complete treaty on this subject see: Houten 2018, 136 and Houten 2017, 691.
[25] Mangin et al. 1986; Maurin 1990; Mangin – Tassaux 1992.
[26] Alarcão et al. 1996; Pérez Losada 2002.
[27] Fernández Ochoa et al. 2003. The works by Oller Guzmán could be included as he aims at linking his work to the debate on small towns.

[28] Rust 2006, 12. See Houten 2018, 137 for the collection of the most common categorizations within the Anglophone debate.
[29] Mangin – Tassaux 1992.
[30] See Houten 2018, 142.
[31] See Houten 2018, 142.
[32] Alarcão et al. 1996; Pérez Losada 2002; Fernández Ochoa et al. 2003.

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Fig. 1: by the author.

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This volume discusses the geography of cities of the Eastern Mediterranean that existed under the Roman Empire. Roman urbanism has a long historiography, however, many previous studies saw the ancient town as an isolated historical phenomenon, or at best as an index of the spread of Hellenism or *Romanitas*. This volume attempts to take a step further and place the town in its socio-economic context, while also presenting the most up-to-date statistics for the urban phenomenon in the Roman East. Six contributions all deal with issues related to the spatial patterns observed in the distribution of cities in the eastern half of the Empire. One contribution, by way of comparison, deals with Roman urbanism of the Iberian Peninsula. Starting off with an overview of the Eastern Mediterranean as a whole, each contribution zooms in on a specific region in order to investigate the factors that shaped the pattern of urban settlement and the variation of city size on both (supra)regional and local scales. These factors are wide-ranging, from climatological variation, possibilities of connectivity through the road-network and sea-lanes, historical path-dependency, and agricultural potential to specific policies of Roman imperialism.

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