REVOLUTIONIZING A WORLD
FROM SMALL STATES TO UNIVERSALISM (VOL 1)

VANSHITA PUROHIT

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Vanshita Purohit
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Understanding Revolutionizing World

1.1 Why this book?

Few works have looked at the effects of the long-term continuity of large-scale states and empires on a region's social fabric and what, if any, fundamental changes occurred to major social institutions in the context of these political forms. In the ancient Near East, there is a pattern in the Bronze (3000–1200 BCE) and Early Iron (ca. 1200 to the ninth/eighth centuries BCE) Ages whereby city-states and small states were the political norm, punctuated by periods of larger territorial states and empires. Populations and regions were generally politically fragmented, even when cultural interactions became common. At times, empires such as those of the Akkadians or Hittites arose, but once these states collapsed the pattern generally reverted to small territorial states. The nature of political organization changed with the Neo-Assyrian Empire, particularly in the late stages of the empire in the late eighth and seventh centuries BCE. From this period, and into time spans beyond the rise of Islam in the seventh century CE and lasting until the end of the Ottoman period in 1922 CE, large territorial empires became common, or even the political norm, throughout the Near East (Finkel 2006; Cline and Graham 2011; Peacock and Yildiz 2013). The size of empires based in the Near East peaked in the eighth century CE, with the Islamic Caliphate stretching from Spain to Central Asia. This long era of empires, when these entities were common, can be termed an 'Age of Empires', or AoE.

In the eighth and seventh centuries BCE, the Near East underwent changes that affected social institutions such as settlements, the economy, artistic expression, social interactions, political structures, religion and languages. From the seventh century BCE to the seventh century CE, very large cities, far larger than any seen earlier, developed. The more condensed pattern of urban centres and settlements found

in the Bronze Age in parts of the Near East disappeared, and greater disparities between the largest cities and second-tier towns emerged in the wider region, as people gathered in more restricted regions (e.g., see Mazzoni 1991–2). Much larger cities in the AoE were generally established along coastal regions or major rivers, or in locations affiliated with the homeland regions of large ruling powers, while interior regions in the Near East became less settled or had smaller settlements. Cities such as Babylon (Gibson 1972; Pedersén 2011), Seleucia (Invernizzi 1976; Hannestad 2012), Antioch (Kondoleon 2000), Alexandria (Haas 2006) and the Ctesiphon urban area (Christensen 1993; Lee 2006) were among the largest in antiquity, and much larger than many earlier Bronze Age cities. Such a development, it could be argued, was a new form of urban revolution, in which primate cities (cities much larger than other cities in their region) reached unprecedented sizes, had trade interactions spreading to very distant areas, contained religious institutions that originated from different regions, and had socially and ethnically diverse populations. Other regions became more intensively settled as they became associated with increased trade and other interactions spanning much greater distances across the Old World. These changes were contemporary or nearly contemporary with such social transformations as the emergence of universal governments that controlled vast areas, the spread of coinage, more direct and intensive long-distance trade, shared iconographic and artistic elements, increased use of common languages, more diverse cultural groups living together, and eventually the rise of religions termed universal, whose doctrine is intended to be relevant for all people in larger empires and beyond.

1.2 Central argument: universalism and its social foundations

The region this book examines covers, from east to west, modern-day Libya and Egypt to Central Asia; from north to south it covers Anatolia to southern Arabia, incorporating modern-day Oman and Yemen. The period focused on, the AoE, extends from the late eighth century BCE to the seventh century CE during the rise of Islam and the collapse of the Sasanian Empire. However, earlier periods, termed pre-AoE, are discussed and are compared with this time span. While the wide spatial coverage means we cannot look at all these regions in detail, and some data covering the time span will be neglected, we recognize the importance of an extensive time and spatial outlook to an understanding of

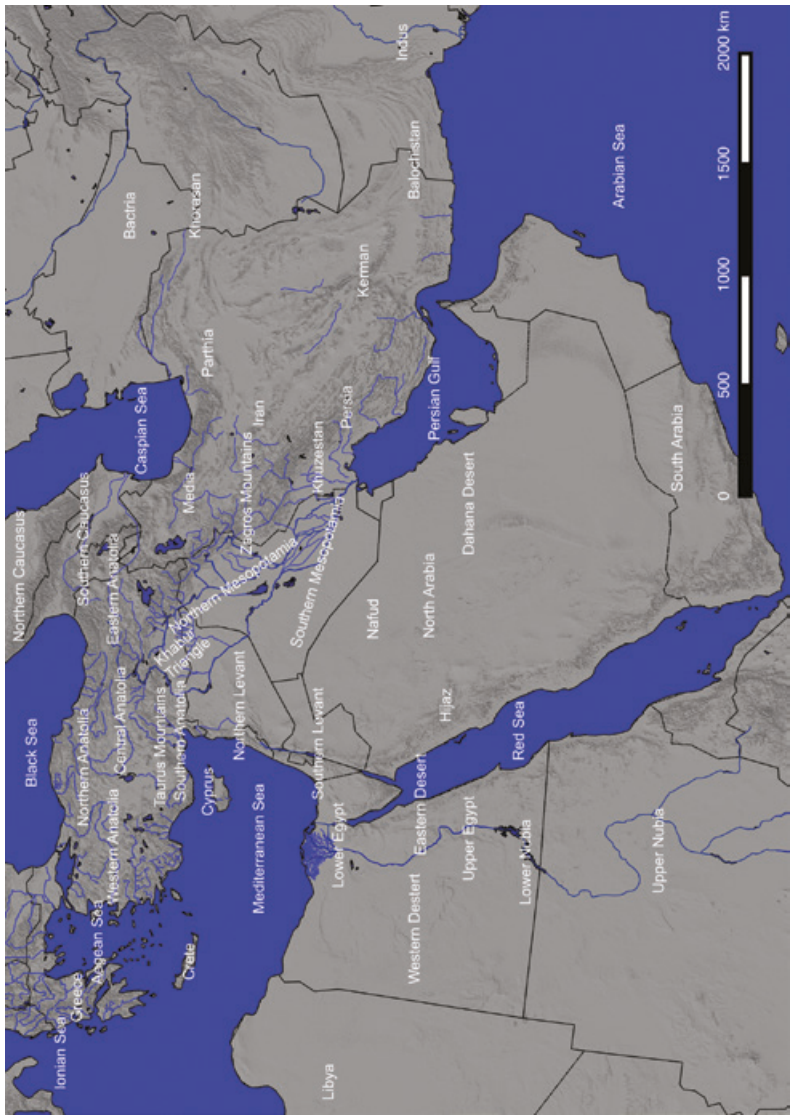

Figure 1.1 Region and sub-regions covered by this book

the long-term patterns and major social change that this book addresses. Figure 1.1 shows the region and the areas within it that will be discussed throughout this work. In general, we will refer to this large area as the 'Near East'; we recognize that it covers areas beyond the traditional boundaries of the ancient Near East, but the term is convenient for simplifying the wide spatial coverage. Some parts of the book will cover areas even wider than this primary area of focus, spanning the breadth of the Old World from Europe to East Asia. This scope is intended to demonstrate the change to social institutions relevant to the ancient Near East covered in this volume.

1.2.1 Definition of empire

Before we present our central focus, we provide a basic definition of what we mean by empire. A number of definitions can be used, which include politically, economically and even informally based actors in these political entities. For our work, we mean any interaction between two or more political entities whereby one entity exerts political control, including of internal and external policies, over at least one other state or territory outside the area it had controlled in an earlier period. In short, one government has sovereignty over another government or region, largely following a definition given by Doyle (1986: 12). Cline and Graham (2011: 4), in their assessment of empires across a long period, apply a similar definition. For this volume, empires have areas in which they exert political control, and are referenced by the territorial extent in which they exert such control over a given time. Thus, as Sinopoli (1994: 160) states, they are expansive and incorporative of given regions.

1.2.2 Research argument

We argue that the persistence over many centuries of large states and empires, from the eighth/seventh centuries BCE, led to the emergence of new socio-political structures and institutions in the Near East. The primary processes that enabled this emergence were large-scale and long-distance movements, or population migrations. By movement we mean both forced and voluntary migration, including deportation and movement because of new opportunities created by large states and empires that led to the concentration of people, usually from different cultures, and ultimately of wealth and power, in large cities or high-population regions. In contrast, the scale of movement in the Bronze and Early Iron Ages was more limited. Movement, as defined here, is how populations from distant

locations could spread or disperse in a landscape, and interact between settlements and regions. While we cannot easily determine absolute population concentration in regions, differences between regions allow a determination of how populations shifted over time. Ultimately, the study of movement investigates how people from distant regions lived in new areas and with different population groups. Such movement was certainly present long before the rise of major empires; however, the scale, spread and speed of the movement of populations during periods of large territorial states were at a qualitatively different level. Movement also became characterized by the integration of varied cultural traits rather than by one or only a few strands of cultural expression. While cultural diversity becomes evident, and was maintained, in the AoE, the amalgamation over time of varied cultural traits helped lead to the emergence of new, common and even universal cultural expressions that were shared by many different groups. This is evident from the shared ideas and material cultural characteristics found in various regions.

For our purposes, a long-term, persistent or evident pattern that enabled population movement or dispersal is of interest. Some movement events, such as invasions, may be temporary or easily reversed, leaving few material traces for analysis. Movement such as this could have occurred at different paces, as a single occurrence or throughout specific periods; however, the pattern or its result had to persist for long enough for it to be measurable. For instance, settlement structures that persisted over long periods can indicate how populations were configured in a region. A key measure is to determine if there was a process by which large numbers of people could cross long distances more easily than in earlier periods. Such movements should leave traces, including different settlement patterns and settlement sizes, and new material culture. A particular period may have less movement, but the long-term trend of population movement is important to our argument. Interactions among different populations, including those of different social groups living together and beginning to blend ideas and practices, facilitate an emergence of commonalities, shared ideas and new institutions among these disparate groups.

Movement potentially enables and perpetuates large-scale sociopolitical integration and cohesion, which will be discussed in later chapters. The population movement afforded by the large states and empires facilitated the development of new economic opportunities, social interactions, government structures, shared language on a large scale, and even new religious ideas. Furthermore, these new institutions themselves probably attracted more or greater movement, as new opportunities arose. In effect, positive feedback developed that allowed a system to

attract greater population concentration into limited regions and cities. Work by Cavalli-Sforza (2001) discusses movement, or population diffusion, in such periods as the Neolithic in Europe as a demic process by which people carried farming cultural practices with them to different parts of Europe rather than teaching agricultural practices to neighbouring populations. Similarly, although cultural influence can occur through teaching and the diffusion of ideas, the movement of people in the AoE, we argue, played a critical role in the reshaping of key social institutions and facilitated the establishment of a pattern of long-lived, large empires in the Near East.

Once disproportionate population concentrations in large centres or regions developed, along with a more rural countryside in areas that once had large populations, the emerging social and political patterns were not easily reversed, as established patterns became self-reinforcing and control of major cities facilitated the creation of large territorial empires. This emergent system created incentives for its persistence, even after the fall of specific dynasties or states, and the renewal of large states and empires became easier, which, along with the retention of various and distinct cultural groups, made the Near East socially more cohesive. In other words, even as ethnic groups retained their unique identities, they formed new social bonds with other groups. This does not mean that the developed institutional structures were static. On the contrary, they were changing and adaptive, as the process was transformed when new cultures brought new ideas and influences. At times the blending and acceptance of multiple cultural ideas was evident, while at others a single, universal political, philosophical or religious idea emerged. Both developments indicate a shared identity or commonality that facilitated the integration and interaction of diverse population groups that lived within large states. Even as social institutions changed, political adaptation still facilitated and attempted to perpetuate large states.

Figure 1.2 demonstrates the conceptual model used and argued for in this volume. Movement of population is shown as the fundamental process that leads to new institutional developments. However, those institutions, once developed, may also facilitate greater movement over time, through, for example, trade contacts, including the establishment of colonies, government policies or even a common language that allows easier social integration. Demonstrating the presence of population movement, and that developed institutions are related to movement, is the key focus of this volume. Many of the ensuing changes may not have been planned; they were probably the results of an increased presence of mixed populations living together and interacting.

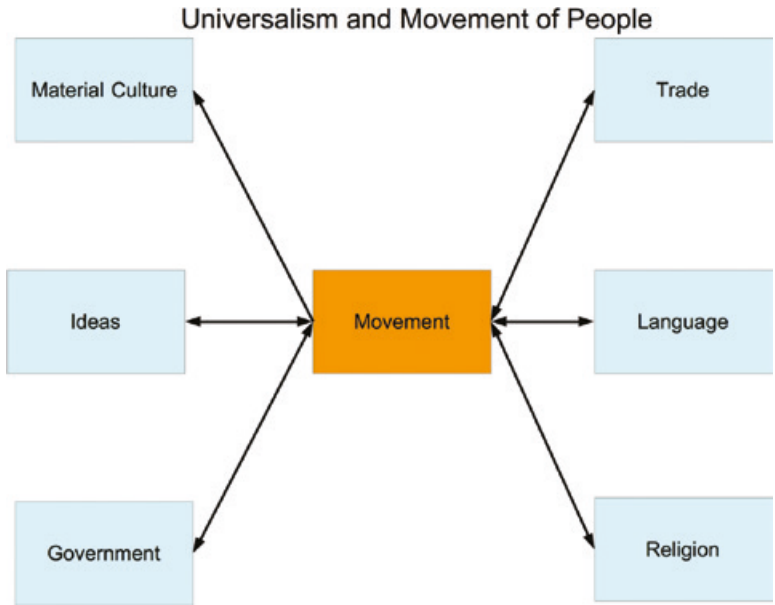

Figure 1.2 Movement of people to new settings influences and restructures institutions such as those indicated. These changes facilitate greater movement

We will present data and analyses that support our stated position. Additionally, we believe there is a larger theoretical framework in which we can formulate our argument. This framework is *universalism*, a term that has been used to describe political and religious structures in which disparate population groups are considered to be under a unitary authority (see, e.g., J. Assmann 2010; Cline and Graham 2011; Bang and Kołodziejczyk 2012). The prior existence of this term suggests that our work is not novel: others have argued that empires transformed social institutions, and presented information on how they did that, but our work is new in that it looks at long periods in a single region and the ways in which institutions were transformed by empires and movement. Rather than comparing empires from different regions, we take a long-term perspective on a specific and wide area, demonstrating how long-term patterns of change allowed the development of new social structures that permitted the persistence of large states and empires. We also modify the definition of universalism to encompass other social factors affecting individuals and households in these large territorial states. We see universalism as a socially holistic and pervasive social transformation that deeply affected society at its fundamental levels, encompassing

more than just political or religious attitudes. In effect, political and religious change may reflect broader social commonalities in trade, art, language patterns, knowledge, and other forms of social interaction. We also look at how these changes helped larger political entities to become the political norm. Our description and definition of universalism is:

> The process whereby social transformation enables socio-cultural commonality and sharing across many different populations over vast distances (hundreds or thousands of kilometres). While individual social groups often retain their own identities and distinctiveness, they also form common social bonds with other populations that are manifested in economic, artistic, linguistic, political, religious and other social forms, through, for example, syncretism or universal philosophies. These commonalities are evident from material culture and historical records.

We argue that universalism is an appropriate term for such periods of large empires because it was the circumstances and continuity of a system in which people were able to move to major centres and population regions or be dispersed into the countryside that made universalism a pervasive social phenomenon that affected many aspects of life in the Near East during the AoE. Universalism is still dependent on common cultural interactions and on populations having the ability to move or be moved to established centres. Within the framework of universalism, movement and interactions are on a scale at which new social developments emerged and became established. This book does not focus on the exact time at which specific ideas or institutions arose; rather the focus is on their establishment and continuity over the AoE.

Overall, we see universalism as a theory that explains many of the social transformations that happened to societies in the Near East from the Neo-Assyrian period onward. It frames our understanding of important transformations that occurred in the AoE, from which syncretistic developments or universal concepts emerged. It is a social phenomenon that affected individuals as well as larger state structures and institutions. The importance of universalism as a theoretical idea is evident, as it provides a useful way to explain how the new institutions and social norms that developed in the first millennia BCE and CE differed from those of the earlier Bronze and Early Iron Age cultures. While universalism helped to perpetuate empires and social institutions, the persistence of large states and empires also facilitated the long-lived effects of universalism on society. Long-lived patterns of empire and universalism

that enhanced each other became established as a feedback system in the AoE. This is relevant because we see universalism as a key social transformation that eventually had a profound influence on many modern societies and institutions, including those in the West and other regions. As an example, the spread and use of common languages is a process that universalism helps to explain, while the benefits of their use, to both states and individuals, reinforce their utility to subsequent states and individuals, even in modern societies. These common languages, including Aramaic and Greek, have subsequently influenced numerous other, modern languages and helped to spread shared ideas.

1.3 Universalism and ancient globalization

The concept most closely related to universalism is globalization; however, we believe there are key differences between these concepts. Recent works have looked at the idea that certain periods present greater social interaction, and even integration, between distant societies. Often this is in the form of trade, although cultural and social influences occur as part of these interactions. Migration also forms part of this interaction: the flow of people brings ideas and concepts into close contact. Works that have investigated concepts of globalization, in the frame of so-called 'Big History' or *longue durée* perspectives, include LaBianca and Scham (2006), A. Assmann and Conrad (2010), Stearns (2010), Grinin (2011) and Cunliffe (2015). These works have looked at how increased contacts, cultural syncretism and continuity of empires contribute to globalized, long-distance interactions. In our opinion, however, a distinction should be made between globalization and universalism. If we use the term globalization (see, e.g., Boudreaux 2008 for definitions), we see that factors of economics, migration, disease transmission, culture and trade are common drivers of, or the products or factors affecting, globalization. Furthermore, modern communication technologies and mass media play a major role in how populations begin to share cultural concepts today. Movement of people, in its use with globalization, is not a required state.

What is distinct about movement, compared with other factors that lead to social interaction, is that when a common social phenomenon develops it has to accommodate or address the diversity found in society. Globalized societies can be influenced by very distant ideas and concepts, but closed to major migration or integration of foreigners (e.g., see Ritzer 2010: 208 on Japan). Societies can be globalized

without being universal. Changes within such societies do not have to address the presence of new population groups. On the other hand, migrating populations from different ethnic groups will bring their own social norms and practices, and these populations will have more daily and common interactions with other population groups. As social groups are incorporated into another society, they may continue the social practices brought with them or develop new social practices adapted to an intermixed population. We argue that both are in evidence in the AoE. Furthermore, there is nothing in the ancient past that easily replicates today's mass media, which suggests that closer personal interaction was vital for many of the evident types of social change. What is necessary is the development of new cultural traits and institutions that accommodate a variety of people living together as migration increases, particularly as people share similar ideas or even religions. This was the case as states became ever more expansive, which facilitated the movement of people to new places from distant regions. The continuity of large states and empires not only allowed easier movement, it also provided time for new cultural phenomena to become ingrained and dominate people's lives.

Movement was not only affected by economic incentives, although the latter were one of the reasons people moved. At times, movement had political or religious causes. In fact, one of the initial triggers of universalism in the AoE may have been forced migrations that helped to blend populations in the Near East. The central importance of movement, whereby people migrate from distant places and begin to live with ethnically diverse populations, for any reason, makes universalism different. The term globalization is simply not sufficient to demonstrate that the process of movement is the key driver. Universalism, we feel, explains a more pervasive process that affected many aspects of social change relevant to the ways in which cultural processes became shared over time.

Although various works have looked at the ancient roots or the concepts of globalization, few have looked at the fundamental effects of increased social contacts and transformed institutions based on population movement. This type of analysis requires that we start at the level of settlements: settlement structures, or hierarchies, are among the best evidence of the large population shifts or distributions that occurred in particular periods and which indicate that something more than natural population growth had occurred. Cities should also show different characteristics: evidence of multiple ethnic groups and material culture shows that movement over a large distance was a key driver of

the changes that occurred. Globalization could be seen as overlapping with universalism, or related to universalism, as long-distance contacts did increase in the AoE, but we believe the concept does not address the key dynamics that allowed the Near East to change from its pre-AoE characteristics. Nor does it fully explain why the pattern of large states persisted in the Near East.

1.4 Structure of presentation

To capture the essence of the argument and the theory, we examine a period long enough to show that a new socio-political pattern had emerged and was perpetuated in the Near East. We present an overview of earlier patterns for societies, including settlement structures, economy, material cultures, state organization, language patterns and religions in the Bronze and Early Iron Ages. The work investigates how the process of universalism began in the Neo-Assyrian state and then continued through the rise of the Babylonian, Achaemenid, Hellenistic, Seleucid, Parthian, Roman, Byzantine and Sasanian states, a time span covering ca. 800 BCE to 651 CE. While we believe universalism continued after the rise of Islam, the period addressed is sufficiently long to show that the trends of universalism had become well established as a socio-political norm, so that it could be perpetuated even in later states. The length of this period affords us the opportunity to demonstrate that important patterns of social development occurred during the AoE and that these developments affected individuals and households, and created institutions that show that universalism had indeed become pervasive at many levels of society, forever transforming the Middle East, and the Western and other societies that inherited some of these traits. We will look at the same social measures for the Bronze and Early Iron Ages and in the AoE period, showing how social patterns we attribute to universalism changed the Near East. Both the historical and the archaeological records from the timescale investigated provide us with sufficient data to demonstrate a long-term process that shaped universalism, even though short-term periods within that span might show short-lived or more minor social trends. The aim, therefore, is to show what overall and general patterns of socio-political development occurred.

Chapter 2 provides an overview of the historical data, which form a set of information used to demonstrate key societal transformations between the Bronze and Early Iron Ages and the later periods up

to the fall of the Sasanian Empire. We present a general historical summary of events in the region across the periods covered. The trends discussed include the size of territories in different periods and evidence of increased political integration across the time span that show a transforming Near East.

In Chapter 3, we outline the methodology we used for demonstrating population movement. The intent of this chapter is to show how the methods used demonstrate that settlement patterns and material culture changed in the AoE, and that movement is a likely reason for such change. Other data obtained and used in chapters will be discussed.

In Chapter 4 we assess settlement patterns, using the methodology described in Chapter 3. We demonstrate how urban patterns shifted, using qualitative, quantitative and modelling and simulation approaches that show which conditions and scenarios facilitate population movement and the concentration of people in larger cities or specific regions. We will show that the large cities became nodes that drew people to them, particularly as movement over long distances became easier during periods of large states and empires.

In Chapter 5 we will look at the nature of urbanism in the AoE, and discuss how it differed from the urbanism of earlier periods. Urban population centres in the AoE began to have diverse approaches to art, integrating influences from many regions; populations began to be more multi-ethnic, a greater diversity of gods became evident, and a variety of shared ideas and expressions began to characterize life in cities. The chapter will also look at how villas or estates replaced areas where larger settlements or cities were once found, demonstrating how the countryside, too, changed during the AoE.

Chapter 6 demonstrates the shift in trade patterns that meant that more direct, large-scale and long-distance trade became the norm by the end of the Iron Age and during the pre-Islamic periods. The diffusion of coinage and incense, for example, helped to connect distant places both within the Near Eastern empires and beyond, as far as China and Europe in Late Antiquity. A more unified economic system connected distant regions, which took advantage of a new-found socio-political integration as movement facilitated interaction. As the historical records demonstrate, this provided opportunities not just for states but also for individuals and private enterprise.

In Chapter 7, we focus on types of material culture that became similar or common across vast distances during the AoE. New hybrid styles emerged under the AoE, as a result of shared ideas, in designs blending

stimuli from the Mediterranean, the Near East, Central Asia and India. During the AoE, such material culture hybridization permeated all strata of society, unlike in the pre-AoE when the 'intercultural style' was mainly an elite phenomenon. The AoE hybrid material culture reflects a multi-ethnic population that lived in cities and towns; at the same time, the spread of the same stylistic features over a vast area is a proxy for greater movements of people across and between empires than that which had occurred in the Bronze and Iron Ages.

Chapter 8 will show that the AoE provides strong evidence that governments attempted to unite new and disparate populations. Large states and empires created opportunities or circumstances in which people migrated, and began to present themselves as unifiers of different population groups. This is in contrast to earlier Bronze and Early Iron Age states and cultures, which were predominantly focused on displaying and promoting their cultural differences, or cultural aspects distinct from surrounding groups. Using various sources, we will analyse how such actions and policies in the AoE enabled both propaganda and actions that facilitated a new form of unity across cultures that persisted.

The role of language, and shifts from diverse language groups to a pattern of common languages over large areas in the AoE, are discussed in Chapter 9. In the Bronze Age we see the spread of written language, but many linguistic differences and barriers remained. While Akkadian was the first common language in diplomacy and correspondence, Aramaic and Greek became the first languages that many levels of society across vast regions and populations were able to speak, read and write. We examine how the use of a common language affected social interaction and integration in societies.

In Chapter 10, religions as proxies for larger shared ideas that became common or more accepted are discussed. We examine how shared ideas in some of the polytheistic faiths foreshadowed the development of the monotheistic and universal faiths, whose ideas claim validity for all. Universal religions are also discussed. This is in contrast to the Bronze and Early Iron Age religions, mythologies and gods, which were predominantly associated with specific cities or small states.

Chapter 11 integrates the preceding chapters to demonstrate how universalism can be seen as an overarching, holistic, theoretical perspective that helps to explain many of the evident changes discussed in the earlier chapters. We demonstrate the factors that enabled universalism to be a force for social change, which enabled its own continuity as a long-lived pattern for large states and empires that ultimately facilitated deep social change.

While we do not focus our analysis on the periods after the rise of Islam, Chapter 12 demonstrates why universalism is an important concept for understanding today's events, institutions and ideas. The chapter extends the idea of universalism to later periods, covering the wider Middle East and briefly examining how it rarely returned to earlier social patterns of more fragmented political entities and populations. On the other hand, could modern events in the Middle East, including the rise of groups such as so-called Islamic State, demonstrate a reversal of universalism, so that fragmentation has begun to emerge in the twentieth and twenty-first centuries? This helps to extend the value of universalism as a theoretical framework that explains how the cycle of modern events is unfolding, and why they differ from those in the past. More recent and long-term patterns of political fragmentation in the Middle East could lead to future developments in which new socio-political institutions arise.

From the Early Bronze Age to the Early Iron Age

Many scholars have extensively covered the political history of the Near East and surrounding areas between the third millennium BCE and the first millennium CE. Here we provide a general historical overview, giving the background of the periods covered and displaying key, long-term historical trends related to size of states, speed of conquests and other key events or factors that socially and politically shaped the region during the pre-AoE and the AoE. Different chronologies have been applied to much of the Bronze Age, in particular from the third to the second millennium BCE. We use the Middle Chronology for events, and timelines for states, dating Babylon's fall to a Hittite invasion fixed to 1595 BCE.

2.1 From the Early Bronze Age to the Early Iron Age

2.1.1 Early Bronze Age (3000–2000 BCE)

For the first half of the third millennium BCE in Mesopotamia, our knowledge of key historical periods is limited to brief episodes. Writing, for the most part, was limited to Southern Mesopotamia, Elam, a few places in Northern Mesopotamia, including Tell Beydar and Mari, Ebla and Egypt. Very few other sites have yielded any texts from this period in Northern Mesopotamia, and many of these are fragmentary, or insufficient to piece together a wider picture. Figure 2.1 shows the region and the key sites found in the third millennium BCE.

It has been argued that the historical and settlement data for Southern Mesopotamia in the first half of the third millennium BCE show a politically fragmented region (R. McC. Adams 1981; Van De Mieroop 2016). The rise of city-states began in the Early Dynastic period (ca. 2900–2350 BCE), although much of our data either relies on later copies or is derived from the end of the Early Dynastic period. From this fragmentary picture, border conflicts were evident (for example between Umma and Lagash), signifying a pattern of conflict between nearby cities.

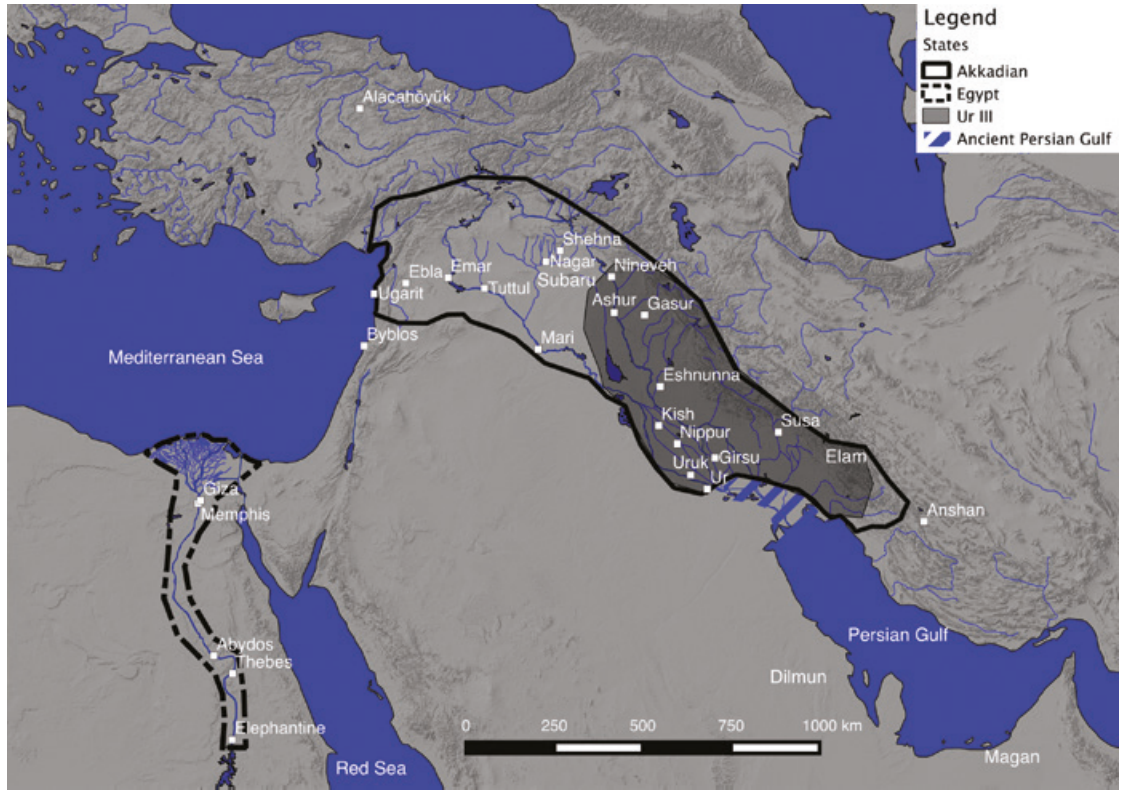

Figure 2.1 Map of the region, cities and states from the Early Bronze Age. Names of regions or states (e.g., Subaru, Elam) are in larger type. The boundaries indicate the approximate maximum extents of the larger states and empires during the third millennium BCE

Geopolitically, the historical data from Northern Mesopotamia have been interpreted to show competition between small states and economies (Akkermans and Schwartz 2003). The kingdom of Nagar is one such example of a pre-Akkadian third-millennium-BCE state (Archi 1998).

In Elam, a geographic designation constructed by Southern Mesopotamian scribes, and nearby locations that covered the regions or cities of Susa, Awan, Shimashki and Anshan, we do have texts that cover this period. However, the very earliest phases, from ca. 3200 to 2700 BCE, are enigmatic, as Proto-Elamite has not been deciphered. Most of the historical documents in the first half of the third millennium are from the point of view of Southern Mesopotamia, and have an unclear and biased perspective for much of this time span. Elam in the third millennium did not appear to be a unified political entity. During the Akkadian Empire (ca. 2334–2154 BCE) and later, there were more references to Elam and to conflict between Elamite cities and Southern Mesopotamia. These conflicts with Mesopotamia may have enabled the rise of an Awan-based dynasty during the Akkadian period and eventually one based in Shimashki, perhaps near or just north of Elam, in the Ur III period (Vallat 1980; Carter and Stolper 1984; Potts 1999).

During the period of the Akkadian Empire, a large state emerged in Southern Mesopotamia; it was the first documented political state to dominate wide areas of the Near East. More primary texts are found, and a clear imperial presence of the Akkadian state could be seen in distant regions, including at settlements such as Tell Brak (ancient Nagar; Oates, Oates and McDonald 2001) and Tell Leilan (ancient Shehna; de Lillis Forrest, Milano and Mori 2007). The presence of an Akkadian imperial administration in northern regions suggests a territorial state that was centrally administered. However, there is no clear indication that any major population shifts had occurred whereby large population groups had intermixed, such as movement of Akkadians to Northern Mesopotamia. Eventually, the Akkadian state collapsed in its core regions, which historically has been attributed to a Gutian invasion (Liverani 2014).

After this, a period of political instability or fragmentation occurred, which emerged as a common pattern in the Bronze and Early Iron Ages. Another Southern Mesopotamian state that unified much of Southern Mesopotamia appeared in the form of the Ur III state (ca. 2112–2004 BCE). Its territorial extent was not as vast as the Akkadians', as it had different degrees of control in parts of Northern Mesopotamia and Iran. Vast numbers of economic and administrative documents written during this state's short, nearly 100-year, reign, have greatly informed historians about how its government operated. The state administered a provincial

system of different levels of tax commitment to the central government at Ur. These so-called *bala* and *gun mada* systems were tax/tribute-distribution systems that helped to finance the Ur III state and its various obligations to cities, individuals and temples (Steinkeller 1986; Sharlach 2004). By 2004 BCE, the Ur III state had collapsed because of an Elamite invasion, and Ur itself was sacked (Liverani 2014).

Throughout this time, the other historical state was Egypt, lasting most of the third millennium BCE. In fact, for a relatively large state of this period, it showed remarkable stability, lasting from ca. 3100 to 2181 BCE, with the First Intermediate Period (ca. 2181–2055 BCE) putting an end to the unified state. Egypt was united under Narmer, or soon after his reign, by ca. 3100 BCE during the First Dynasty, a formative period throughout Egypt that lasted until 2650 BCE (Wengrow 2006; Wenke 2009). This time was marked by civil war and periods of upheaval, but Egypt largely remained one unified state. From that period on, Egypt developed extensive trade in western Asia, and to the south in East Africa, which greatly enriched its elites. A period of environmental and political instability, which increased the power held by nomarchs, or local governors, probably put an end to the Old Kingdom phase (ca. 2650–2181 BCE) and the first great period of Egyptian unity (J. Thompson 2009). Although Egypt was generally more politically stable, it was not immune to political fragmentation similar to that in the wider Near East.

2.1.2 Middle Bronze Age (2000–1600 BCE)

While the Early Bronze Age period was characterized by limited historical data, in the Middle Bronze Age writing had spread to more areas throughout the Near East. With the dawning of this period, a repeating cycle of aggregating larger states and collapse of political entities, often leading to small city-states, emerged once again. Figure 2.2 summarizes some of the key settlements and states from this period.

In Southern Mesopotamia, this time span is often collectively called the Old Babylonian period. It began with political competition, primarily among the cities of Isin, Larsa and, to a lesser extent, Uruk. The region was dominated by Amorite elites who had migrated from within the Near East and ruled many of the cities (Charpin, Edzard and Stol 2004). The city of Eshnunna, in the Diyala region, was powerful for a brief period and was able to exert control in Northern and Southern Mesopotamia. In Southern Mesopotamia, the earlier half of the time frame is known as the Isin-Larsa period (ca. 2004–1764 BCE), which ended with the conquest by Hammurabi of Babylon (Frayne 1990). Hammurabi incorporated Southern Mesopotamia and northern areas up to Mari into a single

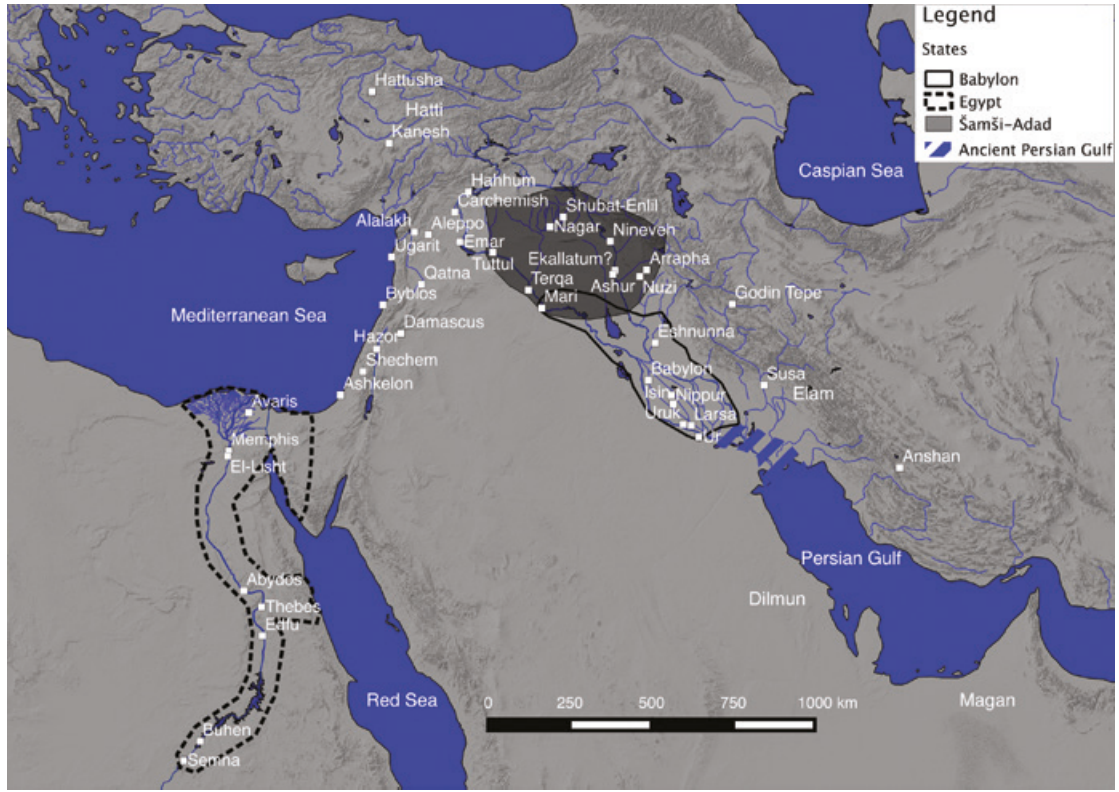

Figure 2.2 Map of the region, states and cities during the Middle Bronze Age. The boundaries indicate the approximate maximum extents of the major states and empires during the period

political entity; however, this proved to be short-lived, and by the reign of his son, Samsu-iluna, the empire had begun to break up. Nevertheless, Babylon lasted as an important political power until the sack of the city in 1595 BCE (Frayne 1990; Van De Mieroop 2016). While the Babylonian Empire was short-lived, the rise of Babylon proved to be a long-term trend, as this city dominated Southern Mesopotamian politics in the following centuries and into the next millennium.

To the north, Assyria is known to us through historical documents which indicate the importance of the city of Ashur (*Aššur* or Assur**)**. The kings of Assyria belonged to an Akkadian-speaking population that resisted the Amorite incursions that occurred in the late third and early second millennia BCE. Mari was another important small state centred on the Euphrates, and one of the old cities from the third millennium BCE to have continued to exert political influence (Veenhof and Eidem 2008). For much of this period, the Old Assyrian trading colonies (*kārum)* connected towns and cities in Central Anatolia, including the major trading centre of Kanesh (*Kaneš*), with Ashur. Assyrian merchants conducted a seemingly mutually beneficial trade with local Anatolian populations; this trade network extended across the Eastern Mediterranean and elsewhere (Barjamovic 2011). There is now evidence that Assyrian merchants sometimes lived and had families in Anatolian cities, which indicates movement between Anatolia and Assyria.

By 1808 BCE, the Amorite king Shamshi-Adad had conquered Ashur and incorporated this city within his kingdom. He also incorporated the small Amorite and Hurrian kingdoms of the Khabur region and Mari into his kingdom (Charpin and Ziegler 2003; Eidem 2012). Rival kingdoms in this period also appeared to the west, such as Aleppo (Yamhad; Klengel 1997). To the east, the Hurrians played an important role, having established a small kingdom around Arrapha, which was also incorporated within Shamshi-Adad's kingdom and is located under modern-day Kirkuk (Grayson 1987: 64). These areas controlled important routes to Iran and the central Zagros, Nuzi being one of the chief towns in this small kingdom.

The period witnessed thriving trade activity between Central Anatolia and Northern Mesopotamia, this trade network connecting Southern Mesopotamia, Central Asia, the Levant, the Eastern Mediterranean and the Indus (Larsen 1987; Rahmstorf 2006). Anatolia was not alone in benefiting from foreign trade; other cities in the Levantine region, such as Hazor (Ilan 1998), also benefited. While this trade transported Central Asian products, specifically tin and semi-precious stones, to other regions, trade was not direct for much of this distance; there were numerous intermediaries. During the period, Indo-European-speaking groups, including the Hittite (or Nesite), Luwian and Palaic populations became established

in Anatolia, these groups being either newly arrived or, possibly, present in the region by the third millennium BCE. The Hittites conducted numerous campaigns against small kingdoms in Anatolia and Syria, where they reached Babylon in 1595 BCE under Mursili I (Bryce 1999: 103), although this was not so much a conquest as a raid, as they quickly withdrew.

Elamites, meanwhile, had been deported from Southern Mesopotamia with the rise of Isin by the beginning of the twentieth century BCE. However, after this period, Elam began once again to rival the Southern Mesopotamian cities, under the Epartid Dynasty (ca. 1950–1600 BCE) or Sukkalmahs, for power not just in Southern Mesopotamia but also in the Persian Gulf. Areas along modern Bahrain (Dilmun) and Oman (Magan), which had been of particular interest to Mesopotamia and Elam probably from the fourth millennium BCE, were important for copper resources, stones and access to trade to the east. Additionally, Elam controlled access to Central Asia and Afghanistan, which had much-sought-after tin and lapis lazuli resources that were vital to trade (Potts 1999; De Graef 2012).

Similarly to much of the third millennium BCE, Egypt after the First Intermediate Period was once again a strong centralized state during the late Eleventh Dynasty (ca. 2061–1991 BCE). While some of the dates of events are in dispute, what is clear is that Egypt expanded to the south under the Twelfth-Dynasty pharaohs (ca. 1991–1803 BCE), and reached its apex of power, with areas between the First and Second Cataracts under its control. Egypt controlled important transit points to the Sinai, possibly regions in the Levant, and quarries in the East Desert (Willems 2010; Wilkinson 2011; Van De Mieroop 2011). By the Thirteenth (ca. 1803–1649 BCE) and Fourteenth (ca. 1725–1650 BCE) Dynasties, Egypt was much weaker and had fragmented. This fragmentation continued with the arrival of the so-called Hyksos, or foreign populations, which probably consisted of Semites from the Levant. This period of political fragmentation is generally known as the Second Intermediate Period (ca. 1782–1550 BCE or 1650–1550 BCE; Ryholt 1997; Booth 2005).

The historical data, in a similar manner to that which is apparent for the Early Bronze Age, indicate a mostly politically fragmented Near East, which saw the establishment of political dynasties that formed, for a time, larger states (e.g., Hammurabi, Shamshi-Adad). However, all these dynasties quickly faded or were reduced in power. Power appeared to depend on the strong leadership of individual rulers. Furthermore, the territorial extents of the larger states that formed were not replicated by the dynasties or powers that replaced them. In other words, political boundaries did not endure. Political fragmentation and small states were the norm during the Middle Bronze Age (Charpin and Ziegler 2003; Veenhof and Eidem 2008; Barjamovic 2011).

2.1.3 Late Bronze Age and Early Iron Age (1600–1050 BCE)

In the Late Bronze Age (Figure 2.3), larger states developed and became more stable, to some extent, across the Near East. These included large territorial states such as New Kingdom Egypt, Kassite Babylonia, Mitanni, Elam, the Hittites and later Assyria. Perhaps as a result of greater stability, trade and diplomatic interactions flourished. The Levantine region was an area of active political, and probably economic, competition between the Mitanni, the Hittites, Egypt and Assyria from the fourteenth to the eleventh centuries BCE (Van De Mieroop 2016).

After the fall of Babylon in 1595 BCE, the First Sealand Dynasty ruled at least parts of Mesopotamia, particularly in the southernmost regions. By about 1500 BCE, the Kassites had become more dominant and were able once again to unite Southern Mesopotamia, for a period of more than 300 years. Their power extended into the Persian Gulf, and parts of Bahrain were incorporated into the state (Magee 2014: 178). In the thirteenth century BCE, conflict with Assyria became more pronounced; there were border treaties between Assyria and the Kassites (see, e.g., Fuchs 2011: 253), but these did not prove to be long-lasting. Increasingly, Assyria became stronger than its southern neighbour (Sicker 2000: 44).

The state of Mitanni lasted roughly from the sixteenth to the fourteenth century BCE in parts of Northern Mesopotamia and southern Anatolia. While there are relatively few records from within the state, it appears that the state consisted of ruling Hurrian elites who controlled a multi-ethnic empire (Liverani 2014: 291). Regions and cities within the state had regional autonomy. One famous example is King Idrimi (fifteenth century BCE) of Alalakh, who established his state and wrote a famous inscription on a statue, now in the British Museum, that describes how he ultimately ascended the throne, giving allegiance to Mitanni (Greenstein and Marcus 1976; Collins 2008: 33). While the city, at the time, belonged in the sphere of Mitanni's power, Idrimi serves as an example of a local king relying on, or having to become a vassal of, a larger state's king, Parshatatar of Mitanni in this case. Such kings established a local power base, in which a fair degree of autonomy was achieved. This system of maintaining a larger state through local autonomy appears to have worked for Mitanni for a period; however, by the fourteenth century BCE, Assyria had fully broken away, under the reign of Ashur-uballit I (1365–1330 BCE), and was able to fully subdue Mitanni by the first half of the thirteenth century BCE, during the reign of Shalmaneser I (ca. 1274–1243 BCE).

As Assyria became more aggressive as it expanded westward, the Hittites increasingly saw it as their main threat (Bryce 1999). Assyria largely

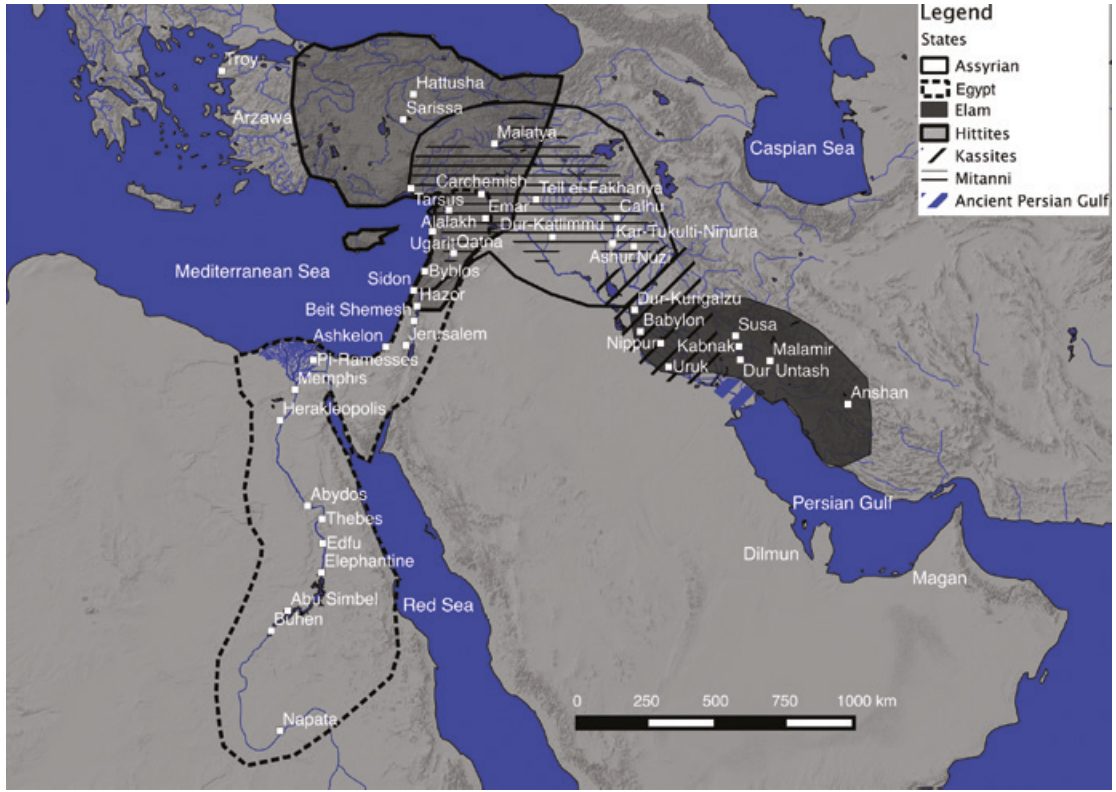

Figure 2.3 Key cities, regions and states of the Late Bronze Age and the eleventh century BCE. The approximate maximum extents of some of the larger states and empires are displayed

stayed to the east of the Euphrates as it broke away from Mitanni rule; however, in the thirteenth century BCE, during the reigns of Shalmaneser I and Tukulti-Ninurta I (ca. 1243–1207 BCE), Assyria advanced into Anatolia and the Levant. After the fall of the Hittites, particularly during the reign of Tiglath-Pileser I (1114–1076 BCE), the Middle Assyrian Empire reached its peak: it reached the shores of the Mediterranean and deep into Anatolia, and both Cilicia and Cappadocia were subdued. For a while, the Assyrians benefited from the Sea People incursions and events during the end of the Late Bronze Age, but by the mid-eleventh century Assyria had diminished in power, although it never completely fell (Grayson 1976, 2000; Liverani 2014). Assyria's conflict with Babylon also began to shape those two regions' histories. During the reign of Tukulti-Ninurta I, the Assyrians briefly conquered Babylonia. Another important trend was the beginning of deportations of foreign populations to the Assyrian realm, particularly during the reign of Shalmaneser I (Stieglitz 1993: 269).

The Hittites, at the beginning of this period, from the sixteenth to the early fifteenth century BCE, were a weak power, particularly as Mitanni and Anatolian powers such as the Kaska limited them. With the rise of Tudhaliya I in about 1430 BCE, the Hittites expanded not only throughout much of Central Anatolia, incorporating regions found there, but also into Syria and the Levant, gaining access to the wealthy trade cities along and near the Mediterranean coast (Gurney 1990). While there were short periods of weakness after the rise of Tidhaliya I, from the reign of Suppiluliuma I in the fourteenth century BCE the Hittites began to access and control key trading cities in Syria and the Levant (Bryce 1999). The treaty signed by Ramses II and Muwatalli II after the battle of Kadesh probably consolidated the border between the Hittites and the Egyptians in the thirteenth century BCE.

By the Late Bronze Age or Middle Elamite Period (ca. 1500–1100 BCE), Elam had become unified and was one of the strongest powers in the region. Key trade still flowed in the Persian Gulf, and the Elamites and Kassites maintained peace with each other for a time, although conflict occurred periodically. Political marriages are documented that helped link the two states (Potts 2006: 119). In the twelfth century BCE, pronounced political problems between the states led to the demise of Kassite Babylonia (Arnold 2004: 75). The Elamite state was able to undertake major building projects, demonstrating its power, including the construction of new cities by, for example, Untash-Naprisha, probably in the fourteenth century BCE (Dur-Untash; Potts 1999: 230). At the end of the twelfth century BCE, Elam disappears from historical records for roughly 300 years (Van De Mieroop 2016: 189).

After emerging from the Second Intermediate Period, Egypt began to assert itself militarily in the Levant during the Eighteenth Dynasty (ca. 1550–1292 BCE); in the reign of Thutmose III (1479–1425 BCE), the Egyptians campaigned as far as northern Syria (Hoffmeier 2004: 125). This had the dual benefit of protecting Egypt from future invasions from the Levant and allowing it to control trade along the coast and Levantine land corridors. Egypt controlled the Nile as far as the Fourth Cataract in Nubia (Bard 2007: 64). This control in much of Nubia gave Egypt an enormous amount of gold and other kinds of wealth, which it used to leverage its economic and diplomatic position in the Near East, as probably demonstrated by the Amarna foreign diplomatic letters. The military and diplomatic policies of Egypt appear less direct in the later part of the Late Bronze Age in the Levant, with increased dependence on vassals and local rulers (Strange 2000: 74). Similarly to Idrimi, during the Amarna period (ca. 1353–1336 BCE) local kings who owed their allegiance to Egypt displayed a fair degree of autonomy, and even launched wars against each other.

In many respects, while the great powers competed for dominance, particularly of the lucrative trade routes that connected maritime trade along the Levantine coast and the Persian Gulf, cities along these routes thrived (Wachsmann 2009). What ultimately ended this system of trade, which was protected by the larger states, was the period attributed to the Sea Peoples. Although it is still unclear what happened or who these people were, as most of our sources derive from Egyptian texts, there appear to have been several groups or populations that invaded, or conducted incursions throughout, the coastal regions of the Eastern Mediterranean that included the Levant and Anatolia (Killebrew and Lehmann 2013). The Hittite kingdom and many cities in the Levant were destroyed or much reduced in power around 1200 BCE and later, although it is likely that invasions were not the only reason for the weakening of state power. The incursions or disruptions may have lasted for about two hundred years before and after 1200 BCE, which suggests there were several waves of invasions or political upheaval (Drews 1995). Climate change has been posited as a main contributor to the demise of the Late Bronze Age political and economic systems (Devillers, Brown and Morhange 2015). More critically for this work, it is evident that the Late Bronze Age system began to develop larger states that lasted longer than those of previous periods. However, the system was not enduring, as the disruptions associated with the Sea Peoples attest. Once again, social and political fragmentation followed after a period of larger states. States of comparable size and extent to those in the Late Bronze Age did not re-emerge until the ninth century BCE.

2.1.4 The Early Iron Age (1050–800 BCE)

Historical data become more common in the tenth and ninth centuries BCE; once again the data show that the Near East had reverted to a pattern of small states and political fragmentation after a period in which there were several large states (Figure 2.4). New cultural groups migrated to or emerged from within the region, and began to shape some of the early small states.

Babylonia continued to exist as a political entity after the collapse of the Kassites, but new cultural groups vied for dominance in this power vacuum. The Second Sealand Dynasty ruled parts of the southern part of Babylonia, while the Second Isin Dynasty controlled Babylon and the northern part. The region appeared to be politically weak, while the new cultural group of Chaldeans began to play an important role in governing. Aramean groups also began to settle in parts of the region, particularly along the Tigris (Van De Mieroop 2016: 211–12).

To the east, in Elam, very little is known about the early centuries after 1200 BCE. Few inscriptions survive from this period, the first significant sources appearing in the eighth century BCE as Babylonia and Assyria increasingly came into conflict. Migrations by Persians, Medes and Mannaeans probably occurred at the beginning of the first millennium BCE or earlier (Van De Mieroop 2016: 215; Waters 2014: 21), although these are generally obscure to us since most sources about these cultures come from the Assyrian records. The Persians initially seemed to have lived in the highland regions near Anshan but near the Elamite population. The Medes lived alongside or near the Mannaeans in northern and northwest Iran.

By the start of the first millennium BCE, Assyria's territorial holdings had been pushed back to a small strip of land along the River Tigris. In the late tenth century BCE, Adad-nirari II (911–891 BCE) began to reclaim some of the lost territory of Assyria, particularly in the Khabur region of Northern Mesopotamia, the region being formally annexed by 867 BCE (Radner 2011). This marked the beginning of the Neo-Assyrian period (ca. 900–612 BCE), during which Assyria emerged as an increasingly powerful territorial empire that eventually controlled much of the ancient Near East (Cline and Graham 2011: 38). The reign of Assurnasirpal II (883–859 BCE) led to more expansion for Assyria. From his accession, Assurnasirpal II pursued a policy of establishing Assyrian political dominance and consolidating the conquests initiated by his grandfather Adad-nirari II. We now know of no fewer than 14 military campaigns during his 24 years on the throne, many of which were fought in the early part of his reign (Grayson 1982: 253). These campaigns focused on expansions to the west and east. As discussed

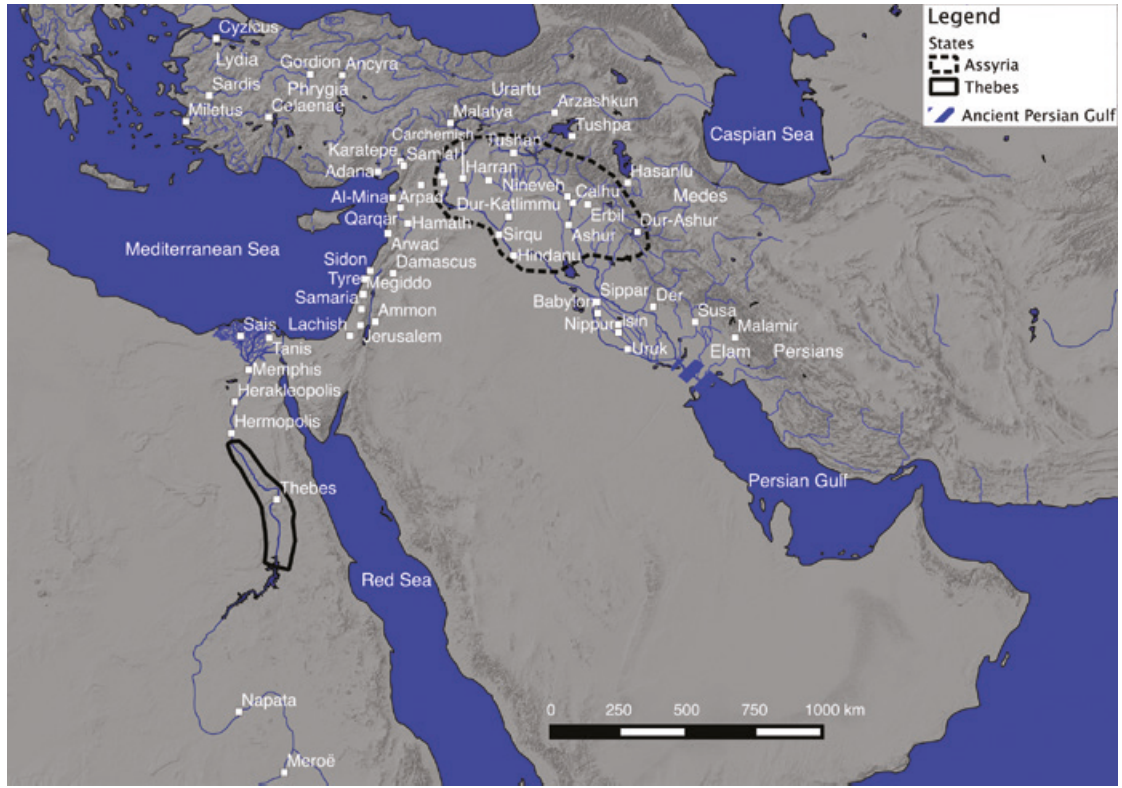

Figure 2.4 Cities and small states of the Early Iron Age ca. 860 BCE with some of the population groups and regions indicated

later in this chapter, the total area over which these campaigns took place is small compared with later campaigns in the AoE. In part, this probably reflected the political fragmentation in the region, as the many political entities required separate, spatially restricted campaigns.

The state of Urartu existed in eastern Anatolia and in the regions of Lake Van. The area directly north of Assyria was already called Uruatri, an archaic form of Urartu, by the Late Bronze Age, but the region became more politically unified in the ninth century BCE. Shalmaneser III (859–824 BCE) of Assyria is known to have campaigned in this region against the Urartian kings Arame and Sheduri. It is very likely that, in the period between the Late Bronze Age and the Early Iron Age, the Urartian state was beginning to unify local small states or entities into a larger political entity (Liverani 2014: 521). With a mountainous landscape, irrigated valleys and difficult-to-access settlements, the state of Urartu became a powerful political actor in the region, and continued to be so until the late seventh or early sixth century BCE.

The early history of Phrygia, an Indo-European-speaking kingdom in Central Anatolia with its capital at Gordion, is not clear to historians and it is quite possible that it was inhabited or even established by one or more groups referred to in the Egyptian records as the Sea Peoples. Classical sources suggest populations from Europe lived in Central Anatolia, perhaps indicating the very same people who were, at least in part, responsible for the destruction of the Hittites; some of the archaeological data may indicate this (Voigt and Henrickson 2000: 354; Robbins 2001: 173). In any case, Phrygia is mostly known from much later historical records, mainly from the Assyrian sources and Herodotus. Midas, the mythical figure in Herodotus, was probably a king called Mita in Assyrian records who ruled perhaps from the late eighth to the early seventh century BCE (Rose 2012: 217). In the west of Anatolia was Lydia, which developed out of the old region of Arzawa and around the Hermus valley. The extensive later remains of Sardis, the political capital of Lydia, prevent a full understanding of how this state and city developed in the Early Iron Age (Stafford-Deitsch 2010: 66).

The Syrian and Levantine states and political entities in the Early Iron Age show an even more politically fractured picture than regions to the east. The region was composed of Aramean, Neo-Hittite (Indo-European-speaking) and West Semitic-speaking groups, particularly those related to earlier Canaanite groups and Phoenicians. Several of these small states were relatively strong, including the Neo-Hittite state of Charchemish, which attempted to display the former power of the Hittites through its art and inscriptions. In fact, Hittite princes

lived in the city during the Late Bronze Age, which suggests that the city's political links to the past may have made it more influential in the Iron Age. Other important states were Tabal, Melid (Malataya) and Quwê (Bryce 2012). The Aramean and West Semitic-speaking states were similar in that they were small and competed for local power in the Early Iron Age among themselves and with surrounding cultural groups. City-states or small states such as Bît-Agushi, Bît-Bahaiani and Bît-Adini were among the states in the region (Sader 2014).

In the Southern Levant, West Semitic-speaking cultures and polities such as Ammon, Moab, Edom, Judah, Israel and Phoenicia were found. The origin of the polities of Philistia have been debated among archaeologists, particularly as to whether the culture could be traced to some of the movements, around the twelfth century BCE, of the Sea Peoples, who possibly settled in the region, which would indicate that the culture may have derived from the Aegean or Eastern Mediterranean region (Yasur-Landau 2010). While it is not clear exactly when and how all these Southern Levantine polities formed, by the ninth century BCE they were the primary powers that ruled the region (Porter 2012: 42). Most of these cultures and states can be characterized as having derived, or probably having derived, from earlier cultures in the Late Bronze Age.

In Egypt, the state still appeared strong until the mid-twelfth century BCE during the reign of Ramses III (1186–1155 BCE), from which period inscriptions depict the defeat of Sea Peoples and Libyan incursions (Morenz and Popko 2010). However, after Ramses II's death there was a gradual decline in power in Egypt, which led it to be effectively split into two regions, centred on Tanis in the north and Thebes in the south. Eventually, Egypt became even more politically fragmented, as Libyan populations became influential in Lower Egypt. This division of power and fragmentation came to characterize Egypt until the eighth century BCE (O'Connor 2001: 233; Naunton 2010).

What is clear is that the Near East in the first few hundred years after the Late Bronze Age and Early Iron Age was composed of many small states, on a scale similar to the Middle Bronze Age and earlier periods. The cycle of political fragmentation or small states and the emergence and decline of larger territorial empires continued until the eighth century BCE.

2.2 The Neo-Assyrian Empire (c. 800–612 BCE)

Although the Neo-Assyrian state began to reassert itself in the late tenth century BCE, it faced renewed weakness in the late ninth century, which

continued through the mid-eighth century BCE, particularly after the death of Adad-nirari III in 783. Urartu, in particular, took advantage of this and began to expand in the late ninth century BCE, while local governors within the Neo-Assyrian Empire displayed greater independence from the central government (Grayson 1982; Liverani 2014). The situation changed with the ascension of Tiglath-Pileser III (744–727 BCE), who reformed the Assyrian army and reinvigorated campaigns that saw the empire rapidly expand from this period until the end of Ashurbanipal's reign in 627 BCE (Dubovský 2004/2005; Fales 2005). Following the short reign of Shalmaneser V (726–722 BCE), which saw most of Israel incorporated into the Neo-Assyrian Empire, Sargon II (721–705 BCE) continued to expand the empire and began to construct a new capital city called Dur-Sharrukin (Radner 2003/2004; Fuchs 2009). Sargon's reign ended earlier than it might otherwise have done because of his death in battle while he was in the region of Tabal in Anatolia. During the eighth century BCE, and the reign of Sargon II, which lasted into the 630s, the Cimmerians invaded the Near East from the Caucasus, which led to the downfall of the Phrygian state and the probable sacking of numerous Urartian and other settlements (Kristensen 1988).

During the eighth and seventh centuries BCE, the rate of deportation of subject populations increased, and many families and individuals were deported for economic purposes by the Assyrians (Oded 1979; Gallagher 1994). Long-distance population movement occurred at a greater rate in historical records, although these were mainly forced migrations. The Neo-Assyrian state directly incorporated Southern Mesopotamia, western Iran and southern and Central Anatolia, including areas held by Urartu, the Neo-Hittite states, the Aramaean states and most of the Southern Levant, while some kingdoms (e.g., Judah) may have become vassals. Although the image of Assyria is generally as an oppressive state, the empire actually incorporated subject population groups into key state enterprises such as the military, by utilizing mercenaries (Dalley 1985). The use of mercenaries shows that population groups were probably spreading within the Assyrian state. At the beginning of the seventh century BCE, in the reign of Sennacherib (705–681 BCE), the Assyrians extended their state from the borders of Egypt to western Iran and from Central Anatolia to northern Arabia. Massive building projects, probably fuelled by the excess labour now coming into the empire because of deportations or economic interest, increased during the reign of Sennacherib; the present outline of the capital, Nineveh, visible on satellite imagery, is attributed to this king (Altaweel 2008: Plate 16). With Nineveh expanding to roughly 800 hectares, it was supplied with water

by irrigation projects similar to those at Kalhu (Nimrud) in the ninth century BCE, but on a larger scale (Bagg 2000; Altaweel 2008). Royal roads connected various parts of the empire, including distant provinces and key provincial cities (Altaweel 2003).

In the reign of Esarhaddon (681–669 BCE), Assyria successfully expanded into Egypt, the first time that a Mesopotamia-based state had done so. Just before this time, in the late eighth century BCE, Egypt's Twenty-Fifth Dynasty, formed of Kushite rulers from Napata, had unified Egypt and expanded into Southwest Asia (Kitchen 2009). In fact, Egypt reached its greatest territorial extent since the New Kingdom Period. Despite this strength, Esarhaddon not only succeeded in campaigning into Egypt, but also strengthened the realm along its frontiers and expanded it into other areas, including north-central Iran, near modern-day Tehran, and further into Anatolia (Leichty 2011). In the reign of Ashurbanipal (668–627 BCE), the empire reached its apogee in territorial extent with the conquest of Elam and Upper Egypt (Figure 2.5). It also fought a costly war in 652–646 BCE against Babylon and other rebellious vassals (Grayson 1980). It is probable that the civil wars and unrest that occurred after the death of Ashurbanipal weakened the Neo-Assyrian state. The Babylonians, this time with allies such as the Medes, pushed the Assyrians out of Southern Mesopotamia, while the Medes invaded from Iran. They destroyed the capitals of Ashur (614 BCE), Nineveh (612 BCE) and Kalhu (612 BCE). The Assyrians attempted to hold on to power for some time after the sacking of their core cities, particularly in Harran, but they ultimately failed, and by 605 BCE the Assyrian state had disappeared from historical texts (Zawadzki 1988; Radner 2015).

One of the key groups in the decline of the Assyrians was the Medes, who had probably formed a state by the late seventh century BCE. The Median state may be an example of secondary state formation (the formation of a state as a result of the influence of another through war or interaction): incursions by the Assyrians or other groups in the seventh century gave impetus for the unification of Median tribes and groups into larger political entities (Brown 1986), possibly helping to sow the seeds of Assyria's destruction. Although there are few records to confirm this, in the later half of the seventh century BCE (Radner 2003) repeated wars waged by the Assyrians probably weakened the empire, making it ripe to fall. Despite the fact that the Neo-Assyrian Empire can be considered the largest of the states so far discussed, its hold on much of its territory was tenuous or short-term. Regions and countries such as Egypt, Elam and even Babylonia, were often rebellious. Nevertheless, rather than a

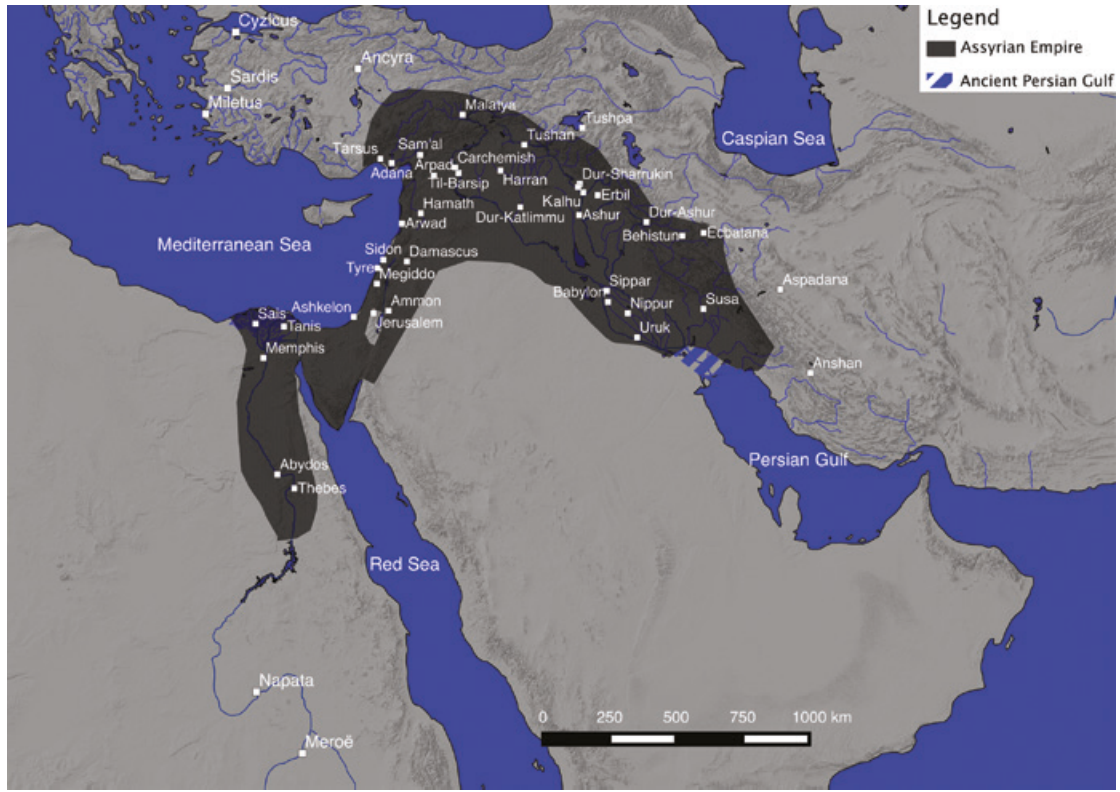

Figure 2.5 Approximate borders of the Neo-Assyrian Empire at its height in the seventh century BCE

reversion to city-states or small states after the fall of the Neo-Assyrian Empire, still larger states soon began to form. A new political pattern had emerged.

2.3 Neo-Babylonians, Medes and others (626–550 BCE)

After the fall of the Neo-Assyrian Empire, the map of the Near East shows the Neo-Babylonian Empire (626–539 BCE) occupying most of the areas once held by the Neo-Assyrians. Initially, some of the old city-states, particularly along the Levant, declared independence or tried to become independent, but most were quickly conquered or submitted to Babylonian rule (Fitzpatrick-McKinley 2015: 42). Western Anatolia was dominated by Cilicia, Caria, Lycia and Lydia, while the Median state that had grown in the seventh century began to span the eastern half of Anatolia, occupying much of Iran and regions to the east as well (Bryce 2009). Egypt, under the Twenty-Sixth Dynasty or Saite pharaohs, was once again unified and able to mount expansionist campaigns in the Near East (Lloyd 2001; Figure 2.6).

Conflicts in the late seventh and early sixth centuries BCE centred on Egyptian and Babylonian contests for supremacy in the Levant. While the Egyptians did not succeed in establishing a base in the Levant (which they had done in the Late Bronze Age), the Babylonians' attempts to incorporate Egypt into their empire were equally unsuccessful (Schipper 2011: 285). The city of Babylon, during this period and in the reign of Nebuchadnezzar II (604–562 BCE), became the largest city in the world and several large-scale building projects were undertaken, such as the reconstruction of Marduk's temple and the Ishtar Gate (Seymour 2014). To the east, the Medes, by the period of Cyaxares (Uvaxshtra in Akkadian sources; 625–585 BCE), had consolidated their control of Iran, including the Elamite and Persian populations, although the Elamites would continue to influence Iranian culture long after they lost their political power (Potts 1999: 4).

Lydia was able to unify much of western Anatolia; the kingdom reached its greatest extent in the reign of Croesus (ca. 560–547 BCE). Coinage may already have begun to spread in Anatolia by the seventh to sixth centuries BCE (Horesh and Kim 2011: 287). By 585 BCE, the border between Lydia and Media to the east was fixed, perhaps along the River Halys, as stated by Herodotus (Wood 1972: 27). By the mid-sixth century BCE, the Near East was dominated by four, mostly large, states. This was similar to the situation in the Late Bronze Age but the states were now larger and the collapse of one state did not lead to a new pattern of city-states or small states.

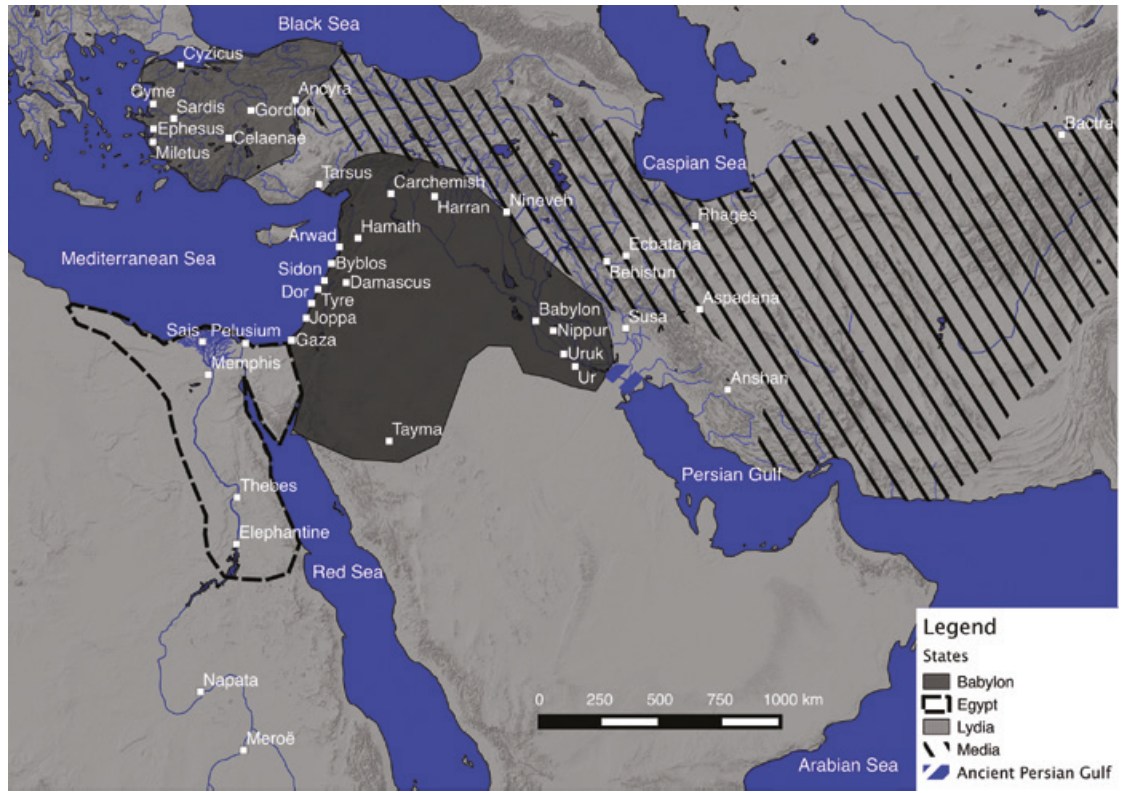

Figure 2.6 The Near East ca. 570 BCE

2.4 The Achaemenid Empire (559–330 BCE)

While the accuracy of the historical sources is not entirely certain, Cyrus II (559–530 BCE) established what would become the Achaemenid Empire, which was able to unite the large Median Empire with that of the now independent Persian state by 549 BCE. Cyrus proceeded to conquer the Lydian state (ca. 540s BCE) and then the Babylonian Empire (539 BCE; Waters 2014: 41). In his conquest of Babylon, Cyrus portrayed himself as a legitimized Babylonian king, relieving the population from the oppressive Babylonian Nabonidus (556–539 BCE), rather than as a foreign conqueror, through the text on the so-called Cyrus Cylinder, in which Marduk, the god of Babylon, justifies his actions. At some point, either before or after the conquest of Babylon, Cyrus began to incorporate eastern Iran and Central Asia into his realm. After the conquest of Babylon, it is likely that the intent was to continue into Egypt, unifying the Near East for the first time, but this had to wait, as Cyrus died in 530 BCE during a campaign against the Massagetae in Central Asia (Briant 2002: 49). Although all the battles and conquests of Cyrus are not fully known, what we do know is that he created the largest empire and conquered the most territory of any ruler up to that point, doing so at a relatively fast rate. The Achaemenids unified a large, diverse population across their vast realm. Cyrus adopted the title 'King of Kings', an old Mesopotamian title that was also used by later imperial peoples, such as the Sasanians who emulated the Achaemenids (Dandamaev 1989: 55). The title 'King of Kings' reflects the Persian idea of a high king having dominion over subsidiary or vassal kings of regions within the empire. Rather than being portrayed as oppressed by the great king, the vassal kings and populations were used to reflect glory onto the realm by showing its diversity. Perhaps for the first time, a political philosophy began to appear that took pride in the ethnically and socially diverse nature of the empire.

Even though the empire that Cyrus left was already enormous, expansion continued in the reign of Cambyses II (530–522 BCE) with the conquest of Egypt. The expansion incorporated Libya, but attempts to conquer Carthage and Kush failed. After the death of Cambyses, and Darius I's (522–486 BCE) eventual accession to the throne, the first task of the empire was to put down revolts in several provinces, including Babylonia, Elam and Media. Successful campaigns were also launched in Central Asia and along the Indus. Additionally, for the first time, a Near Eastern empire had expanded into Europe, conquering large parts of Thrace and southeast Europe. After subduing the Ionian cities in 493 BCE, Darius was able to focus on Greece. But this initial attempt failed after the Battle of Marathon in 490 BCE (Briant 2002).

Although Darius I is known for failing to defeat Athens and conquer Greece, he is also known to have undertaken major administrative and economic reforms, while practising a religious tolerance that helped to internationalize the empire even more. In Egypt, he was depicted as Pharaoh, as Cambyses was, showing attempts to justify his rule to a local region's governing culture (Briant 2002). He further developed the satrapies, following Cyrus' example. With the exception of Persis, satrapies were now responsible for providing taxes to the central government. Regular checks were made on satraps to avoid any one of them gaining too much power. Important advances occurred in the economic sphere. Darius introduced the *daric* as a single currency for the empire. The royal highway system, similar to and building on the Neo-Assyrian royal roads, was implemented, although this clearly provided an economic benefit by facilitating long-distance movement and making it more direct. An important canal linking the Nile with the Red Sea was built, further aiding trade. *Qanats*, or underground channels, were built to stimulate agriculture (Poolos 2008). Additionally, large-scale private enterprise, in the form of investment firms or banks, had developed in multiple cities. The one that is best known to us is that of the Murashu family in Babylonia during the fifth century BCE, although earlier Babylonian families had developed similar firms (Stolper 1985; Kuhrt 2007: 12).

It is likely that, by the time of Darius I, parts of the Eastern Mediterranean coastal regions had begun to develop greater population concentrations, trade having been a likely motivation (Mazzoni 1991–2). In contrast, we know far less about the interior regions of the Near East during this and subsequent periods, which reflects a settlement decline or at least an abandonment of major cities in eastern Syria, Northern Mesopotamia and other areas. Finally, Darius was the first of the Achaemenid rulers to create a tomb at Naqsh-i Rustam; this site would become important not just for the Achaemenids but also for later Sasanian rulers who emulated them (Davies 1932).

At the time of the death of Darius I, the expansion phase of the Achaemenid Empire had reached its peak (Figure 2.7). The next king, Xerxes I (486–465 BCE), is known for his attempt to conquer Greece, which ultimately failed at the decisive Battles of Salamis and Mycale, although he briefly took Athens. After his failure to conquer Greece, Xerxes appeared to be content with completing major construction projects at Susa and Persepolis, which symbolized and incorporated the diverse cultural influences in architecture and populations of the Achaemenid Empire (Briant 2002).

In the reign of Artaxerxes I (465–424 BCE), there were rebellions in the vast Achaemenid Empire, particularly in Egypt, where the Athenians

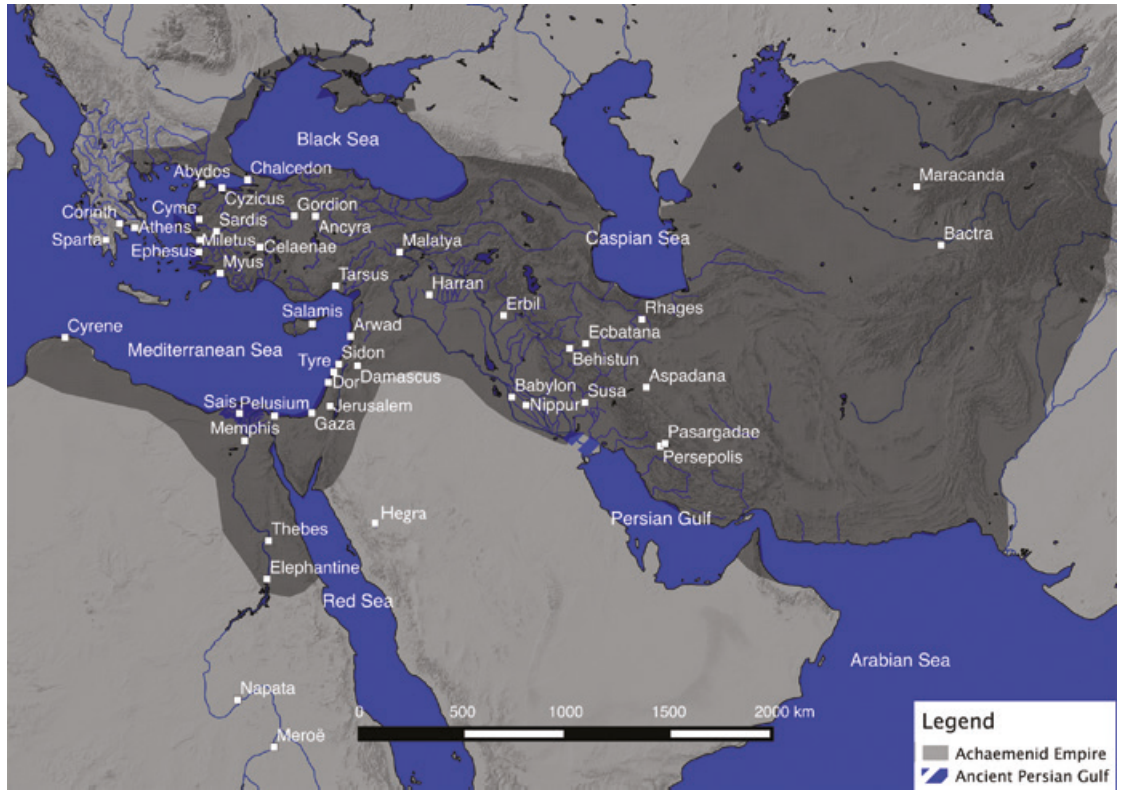

Figure 2.7 The Achaemenid Empire at its territorial peak at the time of Darius I

were active in supporting the rebellion. However, these rebellions did not prove to be effective. In general, the last few decades of the fifth century BCE were less stable for the Achaemenid kings, as shorter-reigning kings ruled and more threatening revolts emerged. The two most famous rebellions are that which led to the loss of Egypt in 404 BCE, and the revolt of Cyrus the Younger (401 BCE), the brother of Artaxerxes II (404–358 BCE). The general perception has been that Achaemenid power began to decline in the late fifth and early fourth centuries BCE. In Egypt, the Achaemenids had been seen as oppressive, but this could be later propaganda. Nevertheless, the Achaemenid Empire was still a strong power and was able to put down rebellions and launch major campaigns (Kuhrt 2007: 347; Waters 2014). Artaxerxes III (358–338 BCE) was, in fact, able to reconquer Egypt, although he initially failed in this quest.

The next two kings of the Achaemenid state were Artaxerxes IV (Arses; ca. 338–336 BCE) and Darius III (336–330 BCE), the exact reign and dates for the former king being less certain. The Achaemenid throne may have been contested at this time; Artaxerxes IV's hold on power was probably tenuous, and he was killed after a brief reign, possibly by his vizier Bagoas. Certainly the key event at this time was the invasion of the Achaemenid Empire by Alexander of Macedonia (336–323 BCE). By 336, during the reign of Alexander's father Philip II (359–336 BCE), a bridgehead had been established in Anatolia by the Macedonians in preparation for a major invasion. In 334 BCE, Alexander began his campaign and to expand on his father's gains, having first put down revolts. Historically, the advance of Alexander is seen as swift. Surprisingly, relatively few major battles, perhaps only five, and several sieges were fought to conquer the Achaemenid Empire (Briant 2002; Heckel and Yardley 2004; Kuhrt 2007: 419–21). This is in stark contrast to earlier conquests by the Assyrians in the ninth century BCE, when 14 campaigns are recorded in the reign of Assurnasirpal II over a much smaller territorial area covering parts of Syria, Anatolia and Mesopotamia (Grayson 1982: 253).

2.5 The Seleucid Empire and its contemporaries (312–64 BCE)

Alexander's achievement in unifying the Near East, Egypt and Greece under the same empire opened a new phase in the history of this region, characterized by the spread of Greek material culture, language and populations across the Near East, Central Asia and India. New cities, founded in a Greek grid pattern like that of Alexandria, began to appear.

This phenomenon is usually called Hellenization, a variegated social process that displayed persistence of local cultures, and resulted eventually in hybridization between Greek and other cultures (P. Green 2007). This, as will be demonstrated, was a period of increased syncretism between Greek and Near Eastern cultures, demonstrated not just in art, but also in religion, urbanism and other social manifestations. Alexander's premature death in Babylon, in 323 BCE, plunged his newly created empire into a series of wars fought among Alexander's commanders as they contended for supremacy (Waterfield 2011). Despite these wars, few states succeeded the downfall of Alexander's realm. Among the feuding commanders was Seleucus I (called 'Nicator'), a Macedonian officer who had accompanied Alexander during his military campaigns, and who eventually prevailed. In 312 BCE, Seleucus gathered his troops in Harran and marched towards Babylon, entering the city in triumph in 311 BCE, where he was welcomed by the local population (Grayson 2000; Grainger 2014: 41–54). At the end of the same year, Seleucus conquered Ecbatana, capital of Media, and Susa, capital of Susiana, thus becoming the ruler of Mesopotamia and west Iran (Grayson 2000; Diodorus 1954: book 19.92.5). While another of Alexander's generals, Antigonus the One-Eyed, occupied Syria and Anatolia, Seleucus, in 308 BCE, set about extending his empire into east Iran and Central Asia. Seleucus subdued Sogdiana and Bactria, crossed the River Indus, and in 305 BCE sealed a peace treaty with King Chandragupta of the Indian royal dynasty Maurayas (Appianus 1999: book 11.55; Grainger 2014: 54–69). After his eastern campaigns, Seleucus headed westwards to fight Antigonus, who was in Phrygia (Central Anatolia). In 301 BCE, with Ptolemy I Soter (another of Alexander's generals, who founded the Ptolemaic Dynasty in Egypt) as an ally, Seleucus defeated Antigonus (at the Battle of Ipsus), gaining control over a territory stretching from Phrygia and Syria to the Indus (Diodorus 1954: book 20.107–13; Grainger 2014: 77). Lebanon and Palestine were then added to Seleucus' possessions but soon after they were ceded to Ptolemy of Egypt.

When in 281 BCE Seleucus defeated Lysimachus, who ruled Lydia, Seleucus became the sovereign of virtually all the Near East; his empire included Anatolia, Syria, Armenia, Mesopotamia, Iran, Bactria, Sogdiana and the territories up to the Indus (Appianus 1999: book 11.55; Figure 2.8). As a supreme lord of the Near East with Greek origins, Seleucus could realize Alexander's dream of unifying the Greek and Near Eastern cultures. One of Seleucus' achievements was the foundation throughout his empire of many cities, which became the major vehicle for the penetration of Greek cultural elements and population into the Near East (Grainger 1990). In 305 BCE, soon after his eastern campaigns, Seleucus founded a new capital city

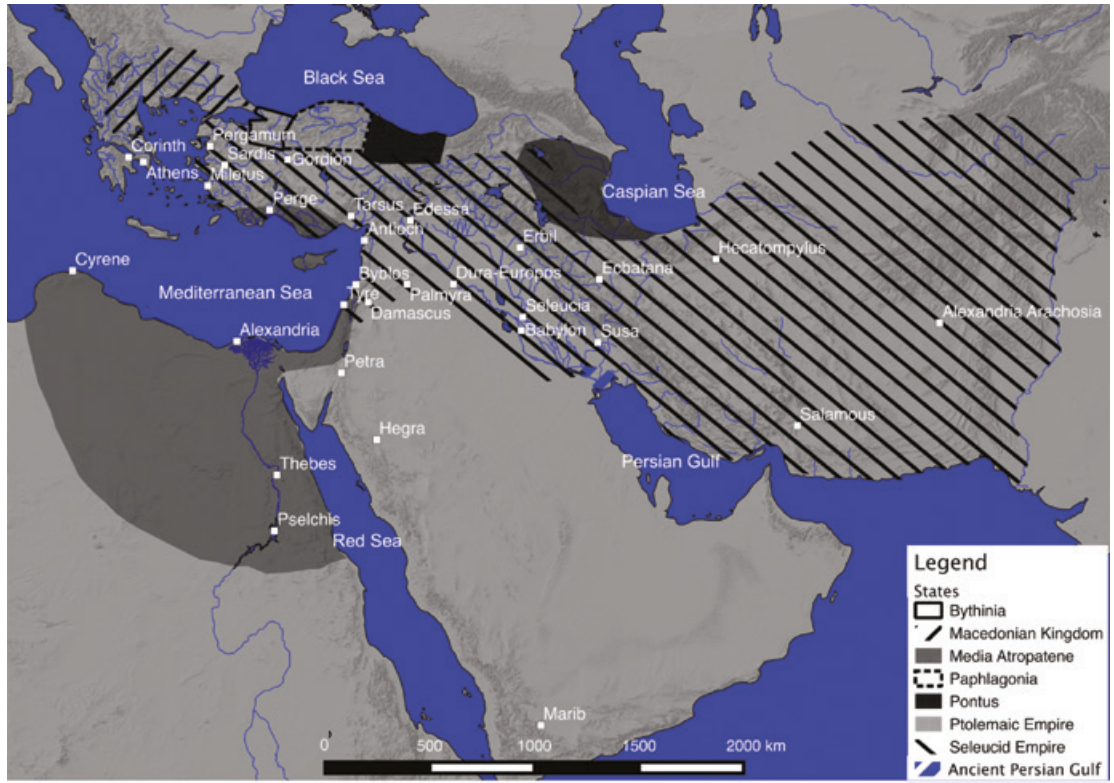

Figure 2.8 States and their approximate territorial extent during the Seleucid Empire

in Mesopotamia, called Seleucia on the Tigris, whose ruins today lie not far from modern Baghdad (Invernizzi 1976). Being located at the crossroads of trade routes connecting Iran with Anatolia and the Mediterranean, Seleucia on the Tigris was intended to be a Greek city, but its population was a mixture of varied ethnic groups – Syrians, Babylonians, Greeks and Jews. Large cities throughout the Near East now commonly had very diverse ethnic groups. Seleucia became one of the major cities of the Near East and one of the largest metropolises; historical records suggest it reached about 600,000 inhabitants in the first century CE (Pliny 2006: book 6.122). Around 300 BCE, Seleucus founded another Seleucia, called Seleucia in Pieria, located near the River Orontes in northern Syria; soon after, he founded Antioch (modern Antakya), also located by the Orontes. Antioch was to become another major city of the empire, populated by a diverse population that included Syrian, Aramaean, Greek and Jewish settlers from another city, Antigoneia, north of Antioch (Diodorus 1954: book 20.47.5–6). Several other cities were founded around the same time: Dura Europos on the Euphrates in eastern Syria, Apamea on the Orontes, and Laodicea (modern Latakya) on the Syrian coast; these too became important trade hubs (Grainger 1990). We therefore see an increased trend of the creation of important trade locations centred on towns along major rivers and coastal Mediterranean regions (see Chapter 6).

Seleucus' attempt at conquering Thrace and Macedonia ended with his death in 281 BCE, and the burden of preserving the vast empire he had created fell on Antiochus I, his half-Iranian son (Bryce 2014: 170–1). After many campaigns against his adversaries, Antiochus eventually defeated the Galatians in Anatolia (275 BCE) and signed a treaty with Ptolemy of Egypt in 270 BCE, reaffirming his control over the territories conquered by his father, whereas Ptolemy maintained his authority over Egypt, Lebanon and Palestine (Bryce 2014: 172). New cities were founded, such as Ai Khanum on the River Oxus (within modern Afghanistan) which had a mixture of local and Greek cultures (Martinez-Sève 2014). Sardis, in Lydia, became the third capital of the empire, along with Seleucia on the Tigris and Antioch. Antiochus promoted building activities in Borsippa and Babylonia (Oelsner 2002: 187), showing a tolerant attitude towards the long-lasting traditions of these cities.

After Antiochus' death in 261 BCE, the Seleucid Dynasty was hit by internal divisions, and at the same time it had to face the expansionist goals of Ptolemy of Egypt, whose aim was to conquer Syria, and of Eumenes I king of Pergamum, who was carving out his own kingdom in western Anatolia and proclaiming independence from the Seleucids (Bryce 2014: 173–8). Despite the dynastic squabbles, the Seleucids

maintained most of their territory for about 40 years, but lost the eastern provinces of Parthia and Bactria as well as the area north of Taurus, which was ceded to Attalus king of Pergamum in 228 BCE (Polybius 2010: book 4.48).

The greatness of the Seleucid Empire was restored, although briefly, by Antiochus III (222–187 BCE), who subdued Bactria (Battle of Arius in 208 BCE; Polybius 2011: book 10.49) and Parthia, and then crossed the Indus, like his predecessor Seleucus I, forging an alliance with the Indian king Sophagasenus in 205 BCE (Polybius 2011: book 11.34; Grainger 2014: 186–200). The former limits of the Seleucid Empire were now completely restored, although after Antiochus left eastern Iran, local kingdoms (Parthia and Bactria in particular) quickly reaffirmed their independence from the Seleucids (Sherwin-White and Kuhrt 1993: 200).

In 200 BCE, Antiochus III won the Battle of Panium, located in the Golan Heights, against Ptolemy's troops, thus obtaining the latter's territories outside Egypt, that is, Lebanon and Palestine, as far as Gaza (Polybius 2012: book 16.18). Antiochus III was now the master of all the Near East, outside of Egypt, which earned him the title of 'the Great'. However, his expansionist goals were to clash with the new power that had arisen in the Mediterranean: Rome. Much like his predecessor Seleucus I, Antiochus III launched an attack against mainland Greece, whose cities were under Rome's protection, thus declaring war on the latter. Eventually, Antiochus' troops were defeated by the Romans at the Battle of Magnesia (southwest Anatolia) in 189 BCE; the Seleucid king was forced to give up his possessions in Anatolia and pay an indemnity (Gruen 1984: 640–3).

The Battle of Magnesia represented a watershed in the history of the Seleucid Empire, as it marked the increasing involvement of Rome in the political affairs of the Seleucids, with the aim of limiting their expansionist goals. After Antiochus III's death in 187 BCE, civil wars divided the Seleucid Dynasty (Gruen 1984: 667); as a result the territories in Iran and Mesopotamia went to the Parthians (between 148 and 138 BCE), while Ptolemy VI of Egypt established control over Syria and Palestine, though only for a short period (Bryce 2014: 209–10). Antiochus VII (139–129 BCE) was the last king to attempt to restore the Seleucid Empire's grandeur, but after his death – and until 64 BCE – the Seleucids' territory was reduced to northern Syria, around the city of Antioch, while the eastern territories were in the hands of the Parthians, and Palestine was under the Judean kings of the Hasmonean Dynasty (Figure 2.9; Bryce 2014: 214–17, 222). In the meantime, the Ptolemaic kingdom progressively lost its territories in the Levant as well as Cyrenaica. The years 64 and 63 BCE finally saw Syria and Palestine becoming Roman provinces, and the

kingdom of the Nabateans, an Arab population devoted to trade, extended from southern Jordan (Petra) to Damascus across the Transjordan, becoming a vassal kingdom of the Romans (Millar 1994: 27–43).

The other major Hellenistic state in the Mediterranean was the Ptolemaic kingdom, founded by Ptolemy I Soter in 305 BCE, which lasted until the Roman annexation of Egypt in 30 BCE, after Cleopatra VII's death (Lloyd 2000). The Ptolemaic kingdom extended across Egypt and Cyrenaica (northeast Libya) as well as Cyprus; it also included the coasts of southwest Anatolia and the Southern Levant (Cisjordan) as far as Tyre, although these territories were constantly threatened by the Seleucids, with whom they clashed in several battles, as previously mentioned. The Ptolemaic kingdom was relatively stable, and its dynasty was the longest Egypt had ever had. Similarly to the Seleucids in the Near East, the Ptolemaic kings promoted the diffusion of Greek culture in Egypt, favouring its blending with the local long-lasting culture so as to encourage the emergence of a hybrid Greco-Egyptian style, visible in their royal iconography (see Chapter 7). The Ptolemies also favoured a new syncretic religion centred on the figure of the god Serapis, who blended Egyptian and Greek deities (see Chapter 10). The main city, Alexandria, became one of the most important trade hubs of the Mediterranean, and perhaps the most influent cultural centre of its time (see Chapter 5). Here, Ptolemy I founded the famous library of Alexandria, along with the *Musaeum*, a literary and scientific research centre where some of the most important scientific achievements of the ancient world were attained, for example in astronomy (Manning 2013).

2.6 The Parthians and the Romans

During the third century BCE, two eastern provinces of the Seleucid Empire, namely Parthia and Bactria, became independent following the rebellions of their respective satraps, Andragoras and Diodotus. These events are usually thought to have happened during the first years of Seleucus II Callinicus' reign (246–225 BCE), although some scholars prefer a more remote date (Wolski 1993: 47–50). While Bactria became an independent kingdom under the rule of Diodotus and his dynasty, Parthia was occupied in 238 BCE, soon after Andragoras' rebellion, by a semi-nomadic population from Central Asia known as the Parni (Strabo 2001: book 9.7.1). After entering Parthia, the Parni took the language spoken in that area as well as the name of Parthians (Debevoise 1938: 1–2). Their leader was Arsaces, who rose by 247 BCE, the year the Parthian period began (V. S. Curtis 2007). Under the king Phraate I (176–171

BCE), the Parthians expanded as far as the region south of the Caspian Sea inhabited by the Mardian tribes, who were subsequently deported and forcibly settled in Charax near the Caspian gates (Debevoise 1938: 19). In doing so, the Parthians followed the practices of the Assyrians and Achaemenids by displacing conquered populations (Wolski 1993: 74).

Phraate I's successor, Mithradates I (171–138 BCE), was to become the great conqueror who made the Parthians the masters of Iran and Mesopotamia. The details of the Parthian expansion in Iran are not well known; however, some dates can be deduced. First, the Parthian king conquered the regions west of the River Hari which were under the Bactrian Empire (Strabo 2000: book 11.11.20). In 148 BCE, the Parthians took Media by conquering its capital, Ecbatana, where the local satrap had rebelled against Seleucid rule (Wolski 1993: 79). In 141 BCE, Mithradates conquered Babylon and Seleucia, where he was crowned with the now ancient title of King of Kings, following the Achaemenid tradition (Wolski 1993: 81). On the left bank of the river he founded another capital, Ctesiphon, near Seleucia (Invernizzi 1976). Mithradates' last campaigns were against the Seleucid king Demetrius II, who intended to claim back the lost territories but was defeated by the Parthian king in Hyrcania, and against Susa and Elymais, whom Mithradates subdued in 138 BCE (Wolski 1993: 81–3). These events are recorded in a relief at Hung-I Nauruzi. In the same year, Mithradates died, leaving an empire that extended across Parthia, Hyrcania, Media, Babylonia, Assyria, Elymais and, perhaps, Persis, which were unified within a ten year period (Debevoise 1938: 27). Once again, a large empire developed quite quickly after the weakening of another.

After Mithradates' death, his successors Phraate II (138–129 BCE) and Artabanus I (129–124 BCE) struggled to maintain the empire (Wolski 1993: 83–8). In the meantime, the Bactrian kingdom, extending over roughly the area of present-day north Afghanistan, weakened because of several nomadic invasions (Strabo 2000: book 11.8.1). The Bactrian kings had diplomatic and trade relations with China, and promoted the spread of Greek culture in Central Asia and its blending with local traditions through the foundation of cities (e.g., Ai-Khanum and Bactra), coinage and figurative art (Bernard 1994). The imprint of Greek art in this area remained even after the collapse of the Bactrian kingdom in 125 BCE. The territory was then settled by the population of the Yuezhi, who adopted the Greek alphabet and Greek-style iconography in their coinage; in about 30 BCE, the Yuezhi founded the Kushan Empire, extending across Bactria, the Hindu-Kush and northwest India (Puri 1994).

The political situation of the Parthian Empire changed when the new king Mithradates II, son of Artabanus I, rose to the throne (124–87 BCE)

and became one of the greatest sovereigns of the Arsacid Dynasty. In 122 BCE, Mithradates II subdued Babylonia, which had rebelled against Parthian rule; he conquered the fortress of Dura Europos on the Euphrates in 113 BCE, soon after he took control of the regions of Adiabene and Osrohene in Northern Mesopotamia and transformed them into vassal kingdoms (Wolski 1993: 89; Figure 2.9). Mithradates II restored the Parthian Empire to its glory, stretching now across Iran and Mesopotamia.

Under this empire, the fusion between Iranian (Achaemenid) and Greek traditions became more visible. Following the Achaemenid custom, Parthian kings favoured the use of Aramaic as a lingua franca, while also favouring the Iranian language Phalavi and maintaining the use of the cuneiform script along with Elamite (Wolski 1993: 98–9). However, because part of the population they controlled was of Greek origin, the Parthian kings from Mithradates I onwards adopted the title of Philoellenos ('friends of the Greeks') on their coins (V. S. Curtis 2007), evidently as a propagandistic act for their diverse population.

As we have seen under the Seleucid Empire, elements of Greek culture (figurative art in particular) spread across Mesopotamia and Iran. This phenomenon continued under the Parthians despite their non-Greek origins; the new capital city of the Parthians, Parthian Nisa, probably founded by Mithradates II (today in Turkmenistan), showed a mixture of Iranian and Greek influences in its material culture (Invernizzi 2004, 2007; see also Chapter 7). At the same time, there was an emergence of new material cultural styles in architecture and crafts. New figurative styles were evident in cities such as Dura Europos, Hatra, Assur and Uruk, defining what is known as the Parthian style (Colledge 1977). The establishment of the Parthian Empire not only favoured the spread of these new cultural stimuli but also facilitated trade contacts with distant cultures.

Mithradates II is known to have established political and diplomatic relations with a Chinese emperor, to whom the Parthian king sent an ambassador (Wolski 1993: 94–5). This act paved the way for the establishment of long-distance trade contacts with China and laid the basis for the Silk Road, along which silk and other goods were traded from China to the Mediterranean, crossing Parthian lands. A maritime route was also opened through the Indian Ocean (Debevoise 1938: 43–4), perhaps facilitated by the extension of Parthian control over the western shores of the Persian Gulf, though this extension is suggested only by some archaeological remains (see Grajetzki 2011: 85–91). Another of Mithradates II's important achievements was the conquest around 100 BCE of Armenia, in eastern Anatolia, where the Parthians installed the Armenian prince Tigranes as a vassal king (Wolski 1993: 91). This move,

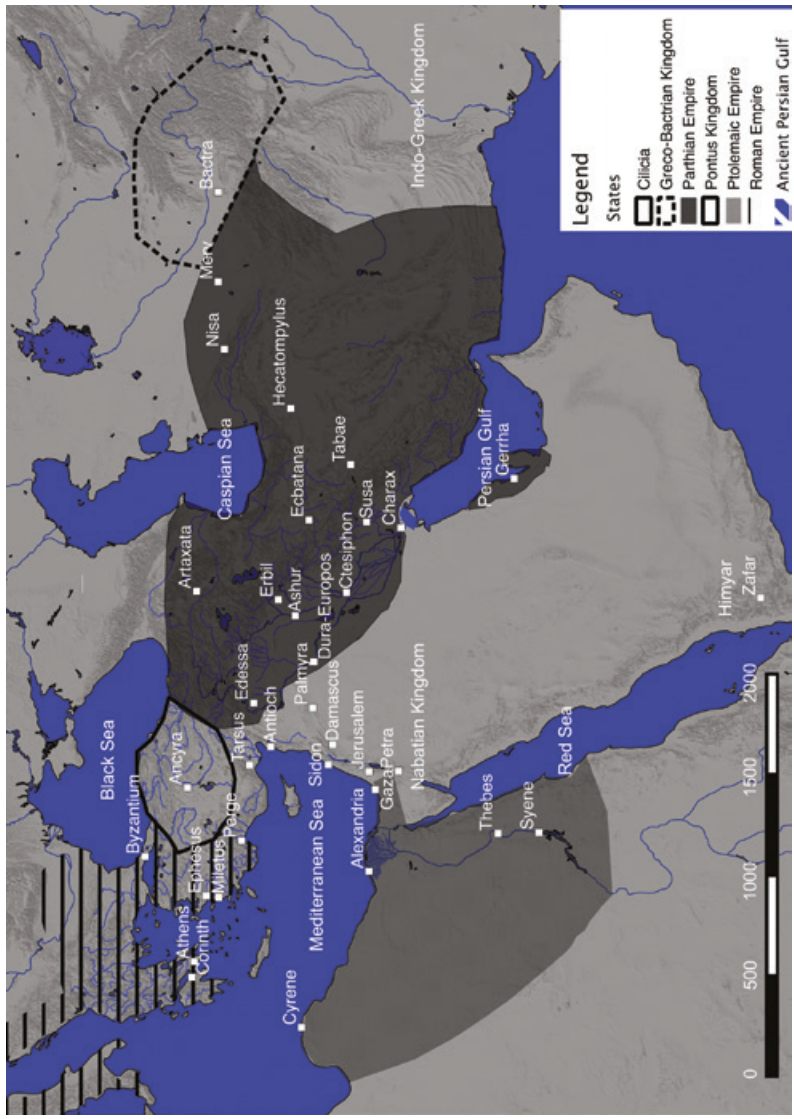

Figure 2.9 The Parthian Empire and major states ca. 100 BCE

however, aroused Rome's concerns about the expansion of the Parthians, especially because the Romans had become an active political force in Anatolia and increasingly had interests in the Near East. In the aftermath of Mithradates' death, the Parthians maintained their territories, though they clashed on several occasions with the Romans over the control of Armenia (Wolski 1993: 122–8). As mentioned before, in 64 BCE Syria and Palestine became Roman provinces; hence the Euphrates became the natural border between the Roman and Parthian Empires.

During the first century CE, the Romans consolidated their control over Egypt and the entire Levant, from Anatolia down to the territories of the Nabateans, in south Jordan (Millar 1994); they favoured the construction of roads to make communications easier, and they promoted grandiose architectural programmes in many cities, where theatres, baths and other Roman-style monuments were erected (Sartre 2007). Egypt and the Levant under Rome underwent a period of economic growth witnessed by the intensification of international trade networks connecting the Mediterranean with India (see Chapter 6). The security granted by the Roman Empire certainly stimulated the economic growth of the Levant and Egypt at this time, despite frequent military confrontations with the Parthians (Debevoise 1938).

The Parthians maintained their control over Mesopotamia and Iran, Armenia being contested with the Romans (Debevoise 1938: 121–212). East of the Parthian Empire, the Kushan Empire arose in 30 CE and lasted until about the fourth century. This empire was characterized by the blend of Greek style and Indian and Buddhist traditions, visible in the art of Gandhara (see Chapter 7). The Kushans were actively involved in international trade, maintaining contacts with the Parthians and the Romans to the west as well as with the Chinese Han dynasty to the east (Puri 1994). During these years, trade relations between the Parthians and China were also maintained; Chinese written sources dated to 97 CE mention the Parthian king Pacorus sending lions and ostriches from Charax (in the Persian Gulf) to China (Debevoise 1938: 216–17).

This political balance between the Romans and the Parthians remained quite stable until the Roman emperors of the second century CE started an aggressive policy against the Parthians. The Roman emperor Trajan sailed towards Antioch, where he arrived in 114 (Debevoise 1938: 219). From there, he moved towards Armenia, which he transformed into a province (Debevoise 1938: 223). In 115, Trajan moved south towards Adiabene and Osrohene in Upper Mesopotamia, which passed to the Romans (Debevoise 1938: 226).

In 116 Trajan conquered Dura Europos and moved against Ctesiphon. Between Dura Europos and Ctesiphon the Roman emperor

encountered no major cities offering resistance. Ctesiphon, the capital city of the Parthians, fell into the hands of the Romans. After the conquest of Ctesiphon, Trajan sailed south and occupied the cities of Southern Mesopotamia, Akra, Oratha and Apamea, thus receiving tribute from the king of Characene, formerly a vassal of the Parthians (Debevoise 1938). On his way back, in winter 116, Trajan entered Babylon (Wolski 1993: 180).

Trajan's efforts brought Mesopotamia within the borders of the Roman Empire, but after his death in 117 the new emperor Hadrian withdrew Roman troops from Mesopotamia; thus, the Euphrates was restored as the border between the Romans and Parthians, and Armenia was once again under Parthian control (Wolski 1993: 182–3). In 197, Septimius Severus crossed the Euphrates and conquered Nisibis, and with it Adiabene. He went on to conquer Seleucia, Ctesiphon and Babylon in 198. On their way back, the Roman troops laid siege to Hatra, but without success (Debevoise 1938).

After Septimius' campaigns, the collapse of the Parthian Empire was inevitable. In 208, Vologases VI became the new Parthian king, but his brother Artabanus V (216–224) rebelled against him and conquered Iran and Media while Northern Mesopotamia was still under Roman control (Wolski 1993: 191–2). In 217, Artabanus V fought the Romans at Nisibis, but he was eventually defeated in 224 by Ardashir I, who belonged to the Sasanian Dynasty originating in Persis, southwest Iran. With the death of Artabanus V, the Parthian Empire came to an end, and a new dynasty arose.

2.7 The Sasanian Empire and its contemporaries

The origins of Ardashir I (224–242) and his family are not clear, because the sources offer different and contradicting versions.[1] According to most scholars, Ardashir I was the son of the Anahit priest Papak, who had dethroned the local ruler in Persia in 205–6 and begun to strike coins portraying himself as king. At the death of Papak and his elder son Shabur, power passed to Ardashir I (Daryaee 2010: 243–4), who defeated the Parthian king Artabanus V in 224 on the plain of Hormozgan, taking control of Mesopotamia (as far as the Tigris), the Iranian plateau, and the eastern side of the Persian Gulf (Herodian 1970: book 6.2.2). In the same year, he was crowned at Ctesiphon, which became the capital of the empire, as a King of Kings, thus resuming the Achaemenid kings' title (Daryaee 2010: 252). Soon after these events, Ardashir confronted the Romans, who controlled the Levant and North Mesopotamia (Herodian 1970: book 6.5);

on the death of the emperor Alexander Severus in 235, Ardashir succeeded in annexing all of Mesopotamia by seizing Dura Europos, Carrahae, Nisibis and Hatra (Kettenhofen 1982). In the east, Ardashir I expanded his empire by conquering Khorasan, Margiana and Chorasmia (Frye 1993).

Ardashir glorified his achievements by means of several rock reliefs, one of which, at Naqsh-i Rustam, shows the Sasanian king on his horse, which is stepping over the body of Artabanus V; the god Ahura Mazda gives Ardashir the symbols of power (Herrmann and Curtis 2002). This relief, and the inscription that accompanies it, are of particular importance: they show that Ardashir considered himself a 'Mazda worshipper' and 'descendent from the gods' (Wiesehöfer 1986), which denotes the devotion of the Sasanians to Zoroastrianism, Ahura Mazda being the main deity of this religion. Moreover, the core territory over which Ardashir governs is called in the inscription *Iranshahr*, that is, the 'realm of the Iranians', and the people are named *Eran*, that is, Iranian, following a tradition attested in the Avesta, the sacred book of Zoroastrianism (Wiesehöfer 1996: 165–71; Daryaee 2013: 5). Another important aspect of Ardashir's ideology is his reference to the Achaemenid legacy. Not only did he resume the Achaemenid title of King of Kings, but also by choosing Naqsh-i Rustam for his reliefs he clearly connected himself to the Achaemenid past, as this site had been chosen by the Achaemenid kings for their monumental tombs. Finally, Ardashir's name itself reminds us of the name of the Achaemenid king Artaxerxes, the form 'Ardashir' being a later version of it (Daryaee 2013: 2).

It seems, therefore, that at first the Sasanians tried to wipe out the Parthian past by connecting themselves to the Achaemenid rulers; however, many aspects of material culture continued from the Parthian period well into the Sasanian era, demonstrating a strong element of continuity (J. Curtis 2000). At the administrative level, Ardashir and the later rulers assigned to the easternmost regions (e.g., Margiana) the status of semi-independent kingdoms governed by kings loyal to the Sasanian emperor (Wiesehöfer 1996: 183–91), similarly to the way in which the Parthian Empire governed.

Ardashir I's son, Shapur I (242–270), who became coregent in 240, enlarged the empire even further at the expense of the Romans. He commissioned at Naqsh-i Rustam a trilingual inscription, in Middle Persian, Parthian and Greek (Shapur I's Ka'ba-ye Zartosht inscription, abbreviated as SKZ[2]), in which he listed the regions under his control and recorded his victories over three Roman emperors: Gordian III, Philip the Arab and Valerian (Herrmann and Curtis 2002). Shapur defeated, and perhaps killed, the emperor Gordian at Misikhe in 244 (SKZ, 6). He also founded two cities: Bishapur, in Persia, where mosaics blend Iranian and

Roman styles (Keall 1989), and Nishapur, in Khorasan (northeast Iran; Honigmann and Bosworth 2012), located in a strategic position that controlled trade routes connecting Mesopotamia and China.

Although the economy of the Sasanian Empire was predominantly based on agriculture, long-distance trade played a major role. The strategic position of the Sasanian Empire made it a crossroads for trade routes connecting China and India to the Mediterranean. Among the products imported from China along the now well-developed Silk Road were raw silk yarns, luxury ceramics and glassware, with spices and aromatics coming from South Arabia (Chegini and Nikitin 1996: 43). The intensification of trade contacts with China is also witnessed by the discovery of Sasanian coins at Chinese sites (Bivar 1970; Skaff 1998; see Chapter 6).

Shapur adopted a tolerant religious attitude, perhaps following the example of the Achaemenid kings. Although Zoroastrianism remained the official religion, Shapur indicates in his inscriptions the occurrence of rituals and animal sacrifices that had been banned by Zoroastrianism, and he appears to have had a welcoming attitude towards Mani, the founder of another universal religion called Manichaeism (Daryaee 2013: 9; Wiesehöfer 1996: 199–208; Boyce 1979: 111–12).

Following the death of Shapur I in 270, the rivalry between the Romans and the Sasanians was destined to become more intense, especially over the control of Armenia. In the meantime, Zenobia, queen of Palmyra, taking advantage of a period of weakness in the Roman Empire, took from the latter a large portion of territory stretching from southern Anatolia to North Arabia and Egypt, from 270 to 273. In the latter year, however, the Roman emperor Aurelian reconquered all the territories and destroyed Palmyra (Millar 1994: 159–74). With the Roman East finally restored, and by the treaty of 299 (the treaty of Nisibis), signed by the Sasanian emperor Narseh, the Tigris became the border between the two empires (Millar 1994: 209).

The 299 arrangements remained in place until the military campaigns of Shapur II (309–379). After re-establishing Sasanian control over eastern Arabia and deporting some Arab tribes from within the empire, Shapur II attempted in vain to attack Roman garrisons such as Nisibis. He then turned his attention to the east, where he reaffirmed control over the eastern regions, which were being threatened by the invasions of the Hunni and the Kushans (Chegini and Nikitin 1996: 38–9; Daryaee 2013: 17). According to Ammianus Marcellinus (1940: book 23.6.14), the Sasanian Empire now extended over Mesopotamia (as far as the Tigris), Iran, Margiana, Bactriana, Arachosia (south Afghanistan) and Gedrosia (today's Beluchistan).

Shapur II's reign was the longest in Sasanian history, and the king devoted much effort not only to military campaigns but also to reinforcing the empire's structure. In religious affairs, Shapur II persecuted the Christians, whom he considered to be potential allies of the Romans, as Rome had become predominantly Christian after Constantine's reforms at the beginning of the fourth century. He also tried to bring order to the Zoroastrian religious order by favouring the organization of a council of Zoroastrian theologians. Shapur II also founded several cities in Iran and established propagandistic art through different media, including silver bowls, stuccos and rock reliefs, in which he coded a figurative Sasanian court language (J. Curtis 2000; Daryaee 2013: 20). The rock reliefs of Shapur II and his successors show the kings motionless, standing frontally (thus continuing the Parthian style) next to the divine figure (Mithra), who became the most prominent god, and not displayed as equal to the king as he was in Ardashir's reliefs, perhaps indicating the growing power of the religious elite over the emperor (Daryaee 2013: 20).

Perhaps to balance the power of the Zoroastrian priests, Yazdgerd I (399–420) adopted a tolerant policy towards religious minorities, making Christianity a recognized religion within the empire and promoting (in 410) the first council of the Nestorian Church (Wiesehöfer 1996: 204). Yazdgerd's reign is said to have been a peaceful one, as the emperor never waged war against the Romans and established good relations with the Roman emperor Arcadius (Procopius 2006: book I.ii.1–10).

The emperors who followed had to face several incursions by nomadic groups, among which were the Hephthalites, who encroached on the empire from the east and from the Caucasus. The Sasanian emperors therefore engaged in several battles against these populations, on some occasions with the help of the Romans (Daryaee 2013: 24–5; Chegini and Nikitin 1996: 39).

During the fifth century CE the Western Roman Empire weakened until it collapsed in 476 CE, whereas the Eastern Roman Empire, called the Byzantine Empire, continued for about a thousand years, until it collapsed under the attacks of the Ottoman Turks in 1453. Although Greek was the official language, and Orthodox Christianity the official religion, the Byzantine Empire retained most of its Roman traditions and administrative structures (including a revised version of Roman law; Ostrogorsky 1956). It reached its apex under the emperor Justinian I (527–565), when the Byzantine Empire extended across North Mesopotamia, the Levant, North Africa as far as southern Spain, Greece, the Balkans and Italy. Justinian I strongly promoted Orthodox Christianity against paganism and Christian heresies; he favoured

religious art and architecture (the church of Hagia Sophia in modern Istanbul being one example); he also protected international trade relations and encouraged maritime routes towards India and China to bypass the Sasanian Empire (J. A. Evans 2005).

Around the same time, the Sasanian Empire was ruled by Khosrow I (531–579), who was seen as wise and just, a type of philosopher-king. He reformed the empire, its administrative and military structure, promoted trade with both the Byzantine Empire and China, welcomed Western philosophers who abandoned Athens after the philosophical school was closed by Justinian I, and favoured the arrival in his empire of intellectual works from India (Daryaee 2013: 29–30; Wiesehöfer 1996: 216–21). Khosrow succeeded in repulsing attacks by nomads against the eastern border of his empire, signing a treaty with the Byzantine emperor Justinian I in 532 (the 'Eternal Peace'), whereby the Sasanians obtained Armenia and Georgia and the Byzantines definitively left their garrisons in Mesopotamia (Farrokh 2007: 230; Figure 2.10). Soon after this treaty, however, Khosrow resumed an aggressive policy against the Byzantine Empire by attacking the Caucasus and Syria. He was also successful in invading Yemen (Daryaee 2013: 31; Figure 2.10). Khosrow I's conquests were consolidated by his successor Khosrow II (590–628), who reinforced his control of the Persian Gulf and conquered Anatolia, Syria, Palestine and Egypt as far as Libya in 619 (Daryaee 2013: 33). He was eventually deposed by the nobility in 629, and the territories of Anatolia, Syria–Palestine and Egypt returned to the Byzantines in 630.

After Khosrow II's reign, the Sasanian Empire was devastated by dynastic squabbles and eventually succumbed to the Arabs, who had united under the religion of Islam. In 636, the Arabs took the capital Ctesiphon and in 642 they took Khuzistan and Media, with Persia falling in 650 (Daryaee 2013: 37); these victories ensured their grip on the core territories of the Sasanian Empire and opened a new phase in the history of the Near East.

2.8 Towards cohesion

In this overview, larger political entities developed after the eighth century BCE and these states often succeeded one another in a near-continuous fashion through the seventh century CE. At times, as new powers arose, campaigns had to be fought to unite various groups; however, large states formed quite quickly after the fall of an empire. Comparison of some of the larger states from the periods discussed clearly shows the trend for large states to become the norm in the AoE (Figure 2.11). The size of the

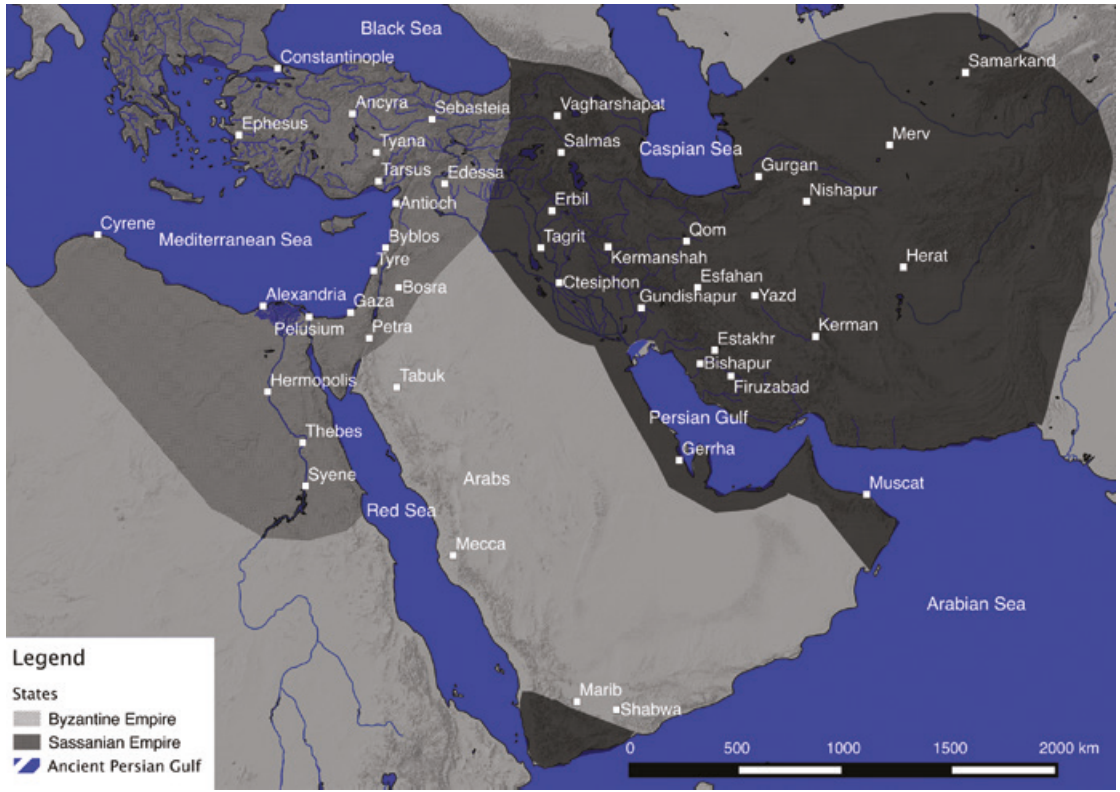

Figure 2.10 Approximate territories controlled by empires ca. 590 CE

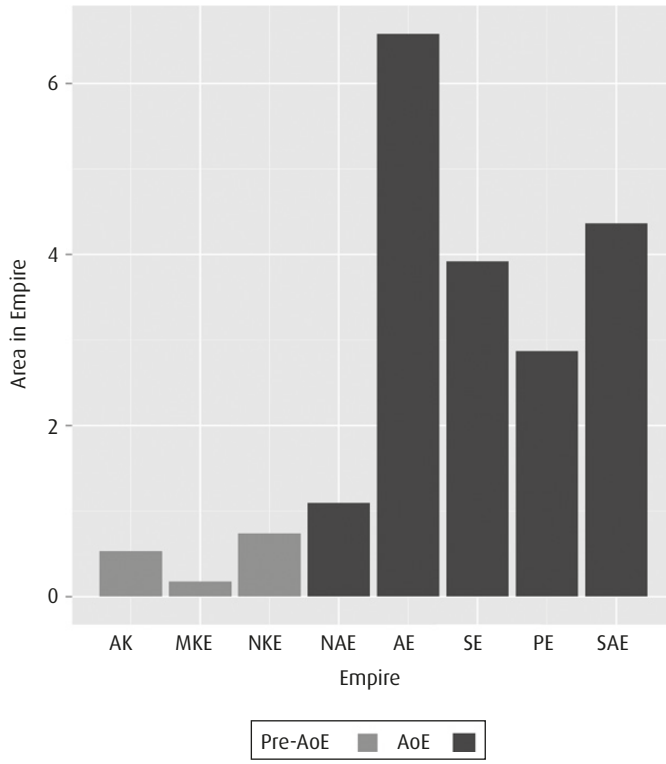

Figure 2.11 Approximate total area (in millions of square kilometres) of empires' maximum extent in different pre-AoE and AoE periods. The *x*-axis indicates territory for the Akkadian (AK), Middle Kingdom Egypt (MKE), New Kingdom Egypt (NKE), Neo-Assyrian (NAE), Achaemenid (AE), Seleucid (SE), Parthian (PE) and Sasanian (SAE) Empires

largest third- to second-millennium BCE states indicates that they did not average more than 0.4–0.5 million square kilometres, while the largest AoE states in each period discussed averaged closer to 3.7 million square kilometres. Even if we remove the Achaemenid Empire from the AoE calculation, the average was still about 2.6 million square kilometres, or more than five times the size of the pre-AoE average for the largest states. Furthermore, many of the third- and second-millennium BCE empires in the pre-AoE did not last long, although the Late Bronze Age states were generally longer-lasting. When the large Bronze Age states collapsed, a reversion to city-states or small states is generally evident. Empires were not only smaller in the pre-AoE, but also even these smaller entities fragmented after the collapse of a state or empire.

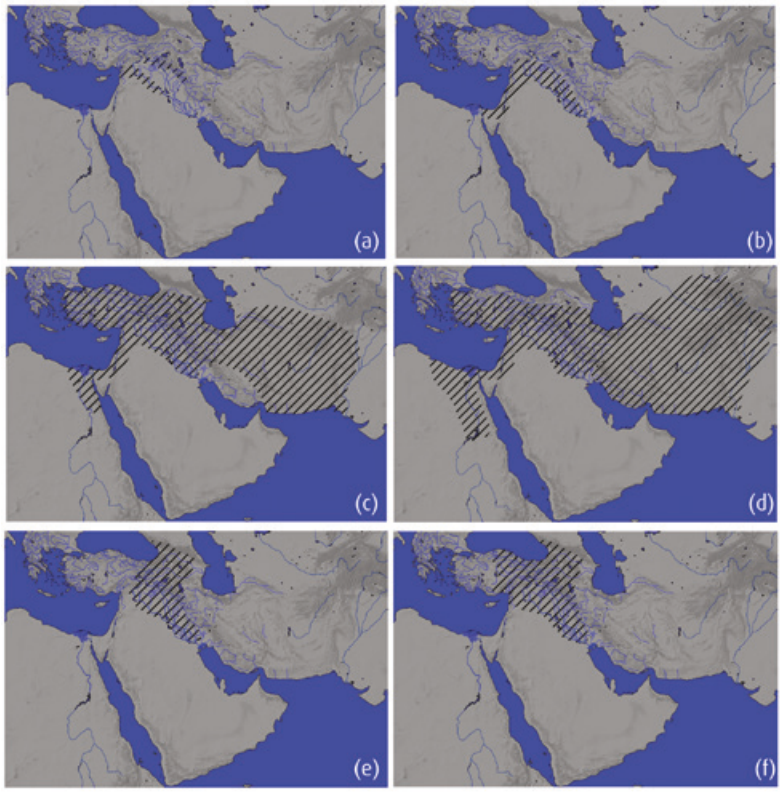

Figure 2.12 Territories conquered or fought over in different periods: (a) 883–859 BCE, (b) 626–601 BCE, (c) 553–522 BCE, (d) 334–323 BCE, (e) 114–117 CE and (f) 250–259 CE

Another potential proxy that expresses greater political cohesion during this time is the fact that larger areas were conquered or fought over for less time in the AoE than in the pre-AoE. We have, for example, considered the number of battles Assurnasirpal fought in comparison to Alexander, and the area of territory the latter conquered compared to that won by the former. Figures 2.12 and 2.13 display the total territory conquered and the territory conquered or fought over per campaign year for six different periods spanning the ninth century BCE to the third century CE. For the later battles, there were fewer power centres or regional interests to contest, which meant that each victory yielded more land and conquest was thus quicker. As wealth and power were concentrated in fewer places, greater political integration of territory across the Near East became a possibility.

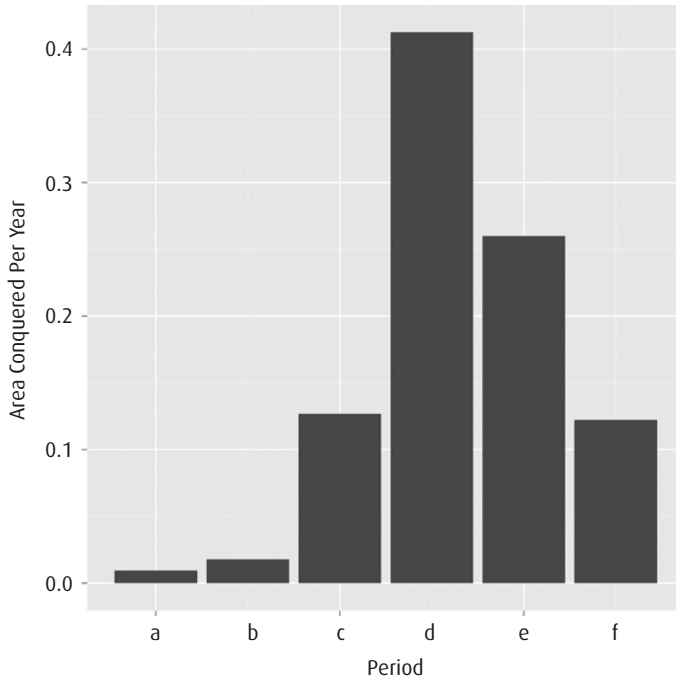

Figure 2.13 Territory (in millions of square kilometres) conquered or fought over per campaign year in (a) 883–865 BCE, (b) 626–601 BCE, (c) 553–522 BCE, (d) 334–323 BCE, (e) 114–117 CE and (f) 250–259 CE

The proxy data showing territory size and land conquered, we believe, reflect the fact that universalism had begun to transform the Near East. There were fewer major political and economic centres in the region that dominated territory as people moved to larger centres. It was also easier to create much larger empires, as resources could be saved for fewer key battles. New political capitals and trade hubs were becoming far larger than their pre-AoE predecessors, and their socio-economic interactions across very large regions were often more centralized. In the remaining chapters, key changes in the AoE are explored in more depth, using concepts presented in this chapter, as well as other information which demonstrates social, economic and political cohesion, including how the process of universalism took place.

Notes

1. Daryaee 2010 provides a discussion on Ardashir's origins.
2. For full text in English, see http://parthiansources.com/texts/skz/.

Methodology: Measuring Settlement Interaction

Here we present the key methods that will be used in subsequent chapters. The primary data of analyses are settlement, urban, material cultural and historical data. Some of these will be analysed in descriptive or qualitative ways that are discussed here and in subsequent chapters. Chapter 1 stated that population movement is a fundamental driver through which universalism is enabled. As populations began to move to more distant locations, often to very large cities and even specific regions, mixing with new social groups, the basis of universalism was both established and perpetuated. To demonstrate this, good proxies are ancient settlement patterns found in the Near East, which are best understood from archaeological surveys, from which site sizes and hierarchies can be estimated. These allow us to represent and understand overall settlement structures and how they change between periods. Material culture and historical data support the movement analysis and demonstrate that social institutions adapted to the newly evident social changes that helped to perpetuate a pattern of larger empires and states. The analyses require more explanation before they are applied, which we now focus on.

3.1 Archaeological surveys and measuring settlement structures

In Chapter 4, both qualitative, statistical methods and quantitative modelling will be applied to the measurement of probable patterns of population movement. These methods are applied to relative or estimated settlement sizes during specific archaeological periods. Before these methods are applied, however, it is acknowledged that there are obvious problems in interpreting settlement size in any given period. As an example, estimates of site size may not be accurate for the entire period.

Nevertheless, the spatial extent of sites in a given period may reflect the maximum size a settlement reached at a given time within that period, or at least indicate whether a site is larger than its neighbours. Therefore, despite its flaws, interpreted settlement size is one of the better measures for providing information on relative population concentrations, even if exact populations are difficult to determine. The relative size of a site is more significant than its exact size, where more minor or major differences between site sizes influence results. These patterns are critical for demonstrating how settlement structures shift from one period to the next.

3.1.1 Methodology: quantitative and qualitative interpretation

Archaeological data are often patchy and not easily interpreted. Ideally, an extensive area with detailed archaeological site-size estimates would provide us with the best data to give information about population concentration in the analysed region. Surveys are often conducted quickly, or are limited by the extent they can cover and the intensity they can achieve. This makes it difficult to use survey data from all regions. Summary statistics, including measures for rank-size hierarchies (Savage 1997), are used to see how settlement structures change over time (from the Early Bronze Age to the Iron Age, for example). We also use a Gini coefficient, which is a general measure of disparity or inequality (Dixon, Weiner, Mitchell-Olds and Woodley 1988). Rather than using it to measure income distribution, its traditional application, here we use it to assess differences in site sizes in different periods. Major changes from one period to another could indicate major shifts in differences between settlement sizes. The measure can show if there is a larger proportional population concentration in the largest site(s) than in other sites. Gini coefficients can therefore be used to measure relative population distribution, or inequality in distribution, in the measured settlements in a region. A larger Gini coefficient demonstrates a greater difference in site size between the largest settlement and other sites.

There are often biases in the recording of survey data: some periods are better represented simply because the material culture is better known or more visible during surveys. In such cases, differences between the ten largest sites in surveys are assessed using the Gini coefficient, as this removes from analysis smaller sites that are often missed in surveys because of a lack of visibility or of a lack of knowledge of the material culture. In other regions, it is evident that settlement structures change, but systematic surveys have not been conducted, which leaves only a

qualitative understanding of how large sites are in comparison to other settlements around them. Some areas have been assessed using statistical analyses of settlement structures. In fact, this has been done in publications that are directly used by this work (e.g., Falconer and Savage 2009). Finally, publication quality varies from region to region. For some regions it is easy to reconstruct the location and estimated size of sites, while in other regions these data, even when surveys have been conducted, are difficult to obtain or interpret. These difficulties necessitate an approach that combines quantitative and qualitative methods, in which the chosen method is based on the quality and nature of the data.

3.1.2 Methodology: measuring settlement interaction

Where there are expansive areas of archaeological survey data, a method that incorporates spatial interaction and movement could be used to show how settlement structures are formed in different periods. One can combine this method with those that incorporate more qualitative and quantitative statistical summaries to show that there are comparable patterns, even if the data are less clear in some locations.

As stated above, a key measurement outlined at the beginning of this volume is that of population movement and how empires shape such movement. By movement, we mean dispersion and concentration of people in relation to each other. How people interact and move in a landscape generally shapes where and how they can settle; movement then affects overall settlement structure, so that the sizes of sites are influenced by where people can move to (Altaweel, Palmisano and Hritz 2015). While overall population may indicate whether given periods had more or fewer people, the measure of movement allows us to tell which sites attracted more people than other settlements in a region. A method that has proved useful for measuring movement or dispersion of population between sites is spatial interaction entropy maximization (SIEM; Wilson 1970; Davies, Fry, Wilson, Palmisano, Altaweel and Radner 2014). Because this method is not much used in archaeology, we present further discussion and a background description to explain how it can be used, for example to show how movement shapes settlement structures.

3.1.2.1 Background: approaches to spatial interaction modelling

Applications of SIEM have traditionally focused on modern economic interactions (Wilson 1970; Harris and Wilson 1978), including those between retailers and communities. It has also been applied to settlement

structures in different archaeological settings (Wilson 2012; Bevan and Wilson 2013), including the ancient Near East during the Bronze and Iron Ages (Davies *et al*. 2014; Altaweel *et al*. 2015). At its most fundamental level, the approach is applied to help explain the structure of settlement sizes and their distribution in a spatial setting. This includes how location benefits and settlement attractiveness, regardless of the reasons why specific places might be attractive or beneficial, affect why specific settlements become larger or smaller.

The wide range of factors that make settlements attractive include economic, political, religious and environmental benefits. In addition to these features, the method is employed to look at how settlements are affected by transport and at how the presence or absence of constraints on movement affects where people choose to settle. As with settlement attractiveness, factors that affect transport or movement are varied: they may be cultural, political or even environmental. What the approach does is to use the spatial extent and distribution of sites and their sizes to estimate factors that may have allowed such settlement distributions to develop; difficulty or ease of movement is used to investigate interactions.

The benefit of the method is that one can determine whether areas of population growth or decline might be based on distance, the capacity to move in a given landscape, or social-ecological factors that make settlements attractive, which can be termed pull factors (Altaweel *et al*. 2015). The method is general and many factors could affect settlement attractiveness and transport, which allows us to apply this method without full knowledge of all the factors that may have affected settlement structures. The method is therefore useful for the focus outlined in Chapter 1, as the analysis can look at how population movement and interaction would allow given settlement sizes and distributions to develop.

The methodology applied is a spatial interaction model used in a simulation. This means time is part of the analysis, and the analysis looks at how settlement systems change over time until they reach relative equilibrium, or a state in which change is limited. This state allows one to measure how attractiveness and movement enable the settlement structure observed at that state. For this model, return of attractiveness, designated α, controls how much feedback site advantages affect settlement growth for a given region. The presence of relatively large sites indicates areas in which settlement has produced greater benefits. The incentive could increase over time as populations continue to move to specific settlements, creating more growth or positive feedback (R. McC. Adams 2001; Persson 2010). However, site advantages could be altered by events such as war, famine and economic change, or by other

social-environmental factors that limit population growth (Cowgill 1975). Additionally, one settlement's benefit is potentially another settlement's loss in a given region: cities or towns may benefit at the expense of other settlements, which leads to less desired places having less overall attractiveness for settlement and potentially diminishing in size over time (e.g., see Van De Mieroop 2004: 38).

Regardless of the overall pattern or trajectory that shaped settlements in a region, α allows one to quantify benefit feedback and determine how important such feedback is. Determining values of α and how they match known site-size hierarchies and structures is one way of establishing how settlement structures change from one period to the next and between regions.

The other key variable is β, which controls how easy it is to migrate to given sites. A clear benefit of increased mobility is that it enables ideas, economic benefits and general interactions to increase rapidly (Braudel 1995). Mobility can limit or increase settlement options for populations, enabling people to choose where to disperse and settle according to different factors (Fox 1971; Desrochers 2001). While people may want to migrate to or live in a particular place, they may not be able to make this choice. Despite the advantages present in a particular settlement, economic, physical, political, religious or other reasons may constrain a person's choice to live there. Cities may reach the maximum population they can support in terms of food or infrastructure. Therefore, while settlements may have attractive factors that pull people to them, there may also be push factors that limit or hinder population movements from one settlement to another.

Overall, the effects of α and β on sites lead to macro-level patterns that represent the regional settlement hierarchies and structure in any period, whereby simple choices to move are facilitated or constrained by circumstances. Intriguingly, a major factor that facilitates or constrains movement is political integration or fragmentation (G. A. Johnson 1980; R. McC. Adams 2001; Altaweel *et al*. 2015). In some cases, political fragmentation may limit options for settlement, creating more numerous, relatively large settlements in small areas, while in other periods a politically integrated pattern may result in fewer larger cities or even in one primate city far larger than other settlements.

3.1.2.2 Spatial interaction entropy maximization details

The methodology could be applied to reflect the role of complexity theory on settlement structures, and agent-based or individual-based methods (Bonabeau 2002) could be used to allow bottom-up choices to shape

settlement hierarchies (Altaweel 2015). Here, however, SIEM is applied, because the intent is to quantify and assess differences in settlement structures between periods that may reflect site advantage feedback and movement differences.

Site advantage feedback and movement can be measured by choosing population for each settlement as their key output effect. While we cannot know what the actual population was for any site in these periods, from site size we can determine whether a site was likely to have had a greater or smaller population than surrounding settlements. As it is used here, population is a proxy that reflects site size, not the actual population of a site in any period. The number of hectares occupied by a site is estimated from survey results, and then the settlement population is scaled in proportion to the site size. As an example, one hectare could represent 1–100 people. The results can then be used to determine the ranges of the values of return of attractiveness (α) and movement (β), in order to create population and simulated settlement hierarchies which are comparable to the empirical record. While the factors discussed above form the core of the methodology, several variables are used to determine settlement structures and simulated populations; they are given here:

- α a return of attractiveness input variable that affects Z (advantages or attractiveness) and S (the amount of flow of people and/or goods)
- β an input factor affecting movement in the landscape or transportation; higher β implies greater movement hindrances, while lower values indicate lesser movement constraints
- X_i population, a value that evolves and is used as a relative measure at a given site i
- Z_j an input and changing factor that provides site advantage or the attractiveness of living at a settlement, and which includes exogenous and endogenous benefits such as socio-political benefits and advantages in trade
- S_{ij} a calculated value that represents flow of goods and people between two sites (i and j); this variable is used to determine how many people a settlement should have in the simulation
- d_{ij} calculated distance between any two sites (i and j), where distance is measured as a cost surface between sites (Fontenari, Franceschetti, Sorrentino *et al.* 2005).

To summarize the behaviours of the simulation model, α, or return of attractiveness, enables a settlement's advantages (Z) to increase or

decrease in relation to other sites through feedback. β controls the effect of distance (d); in some cases it is less significant in affecting how sites grow, while in other cases it becomes important in affecting how easily people are able to move. Higher values of α create site populations (X) that are larger or more varied for specific sites; lower values put less emphasis on site advantages, which leads to less differentiation in settlement population. Flow (S) acts as a proxy for the population value in a given place. It is necessary to obtain the site location, which is used to measure the cost surface distance between sites, before the simulation is used. Site size estimated from empirical data is compared with how well it fits with the final simulated population; in this case, population is measured proportionally to site size. With the exception of site location, input variables can be made to vary during simulations. Overall, site advantage feedback, ease of movement in a landscape and spatial location influence what settlement structures and interactions between sites are possible. These interactions are reflected in a quantitative form within the model, and these dynamics map to fundamental behaviours (e.g., political interaction) that shape settlement hierarchies in any period.

The steps of interaction in the simulation are presented here. First, flow (S_{ij}), used to measure flow of people between any two sites (i and j), is calculated:

$$S_{ij} = X_i \frac{Z_j^{\alpha} e^{-\beta d_{ij}}}{\sum_k Z_k^{\alpha} e^{-\beta d_{ik}}} \quad (1)$$

What this indicates is that S between sites i and j is affected by any benefits (Z), return of attractiveness (α) affecting such benefit's impact, and ability to move (β) within a given distance (or cost surface in this case; d) between i and j. Population (X) affects the level of flow between sites (that is, greater population leads to more flow). Total summed interactions for all sites (k) and dividing this provides a way to measure any two settlements' interactions. All these interaction flows are summed (D_j) for each site:

$$D_j = \sum_i S_{ij} \quad (2)$$

Then Z_j, or site advantages, at the next time step (i.e., $Z^{t+\delta t}$) is calculated:

$$Z_j^{t+\delta t} = Z_j^t + \varepsilon\left(D_j - kZ_j^t\right) \quad (3)$$

The speed at which changes happen to Z is affected by ε. Total advantages for sites are therefore adjusted by looking at the total interactions of a given settlement with all sites. In this case, k is simply used as a constant that can scale Z_j. With site advantages evolved based on total flow, that is, sites that gain more people become more attractive, the next step is to evolve site population to reflect the results of interactions:

$$X_i^{t+\delta t} = n\frac{Z_i^{t+\delta t}}{\sum_k Z_k^{t+\delta t}} \quad (4)$$

Site population in the next time step ($X^{t+\delta t}$) is calculated by taking the new site advantages value ($Z^{t+\delta t}$), relative to all sites (k), and then scaling each site's population according to the total population for sites (n), making advantages, and by extension flow, proportional to population. Once this step is completed, the simulation goes back to (1) and repeats until the end of the simulation, which is generally when results largely stabilize or reach equilibrium in affecting population. Overall, this method is the same as the one expounded in Altaweel *et al*. (2015) and Palmisano and Altaweel (2015), and has close similarities to that in Davies *et al*. (2014). Simulation runs for 100 time ticks are used, giving an idea of how settlement structures, or hierarchies, are affected by α and β values. The time length of simulations represents the length of the historical and archaeological periods presented in the results in Chapter 4.

Three types of scenario are studied. The first measures how settlement structures develop if there is an equal chance that all sites will become large. This scenario requires no initial input other than site location: results are measured against empirical site sizes from surveys to see what values of α and β create settlement structures. The second scenario gives certain settlements advantages using site sizes estimated from surveys. It measures how site advantages affect sites and overall settlement structure. The scenario is used to study the effect of interactions between sites, including which specific sites have greater interaction dominance through flow of people and goods. In this case, α and β values are less of a focus in the results provided, as sites do not have equal advantages, which makes it more complex to compare results from different periods. On the other hand, interactions between sites help to illustrate how effective sites are in drawing people to them, and, by extension, demonstrate movement. A third scenario applies a bootstrapping technique to study how robust or sensitive results are for the first two scenarios. As settlement surveys contain a degree of uncertainty because long archaeological periods mean that

many settlements may not have been contemporary, bootstrapping provides a means to test different combinations of sites by removing some sites and detecting whether results from previous scenarios remain consistent.

To demonstrate the model, some conceptual possibilities are discussed. For some cases, it is possible that β, a measure of more or fewer restrictions on transport or movement, is able to lead to comparable results at different range values. If movement is very easy then populations are able to move to settlements and create site-size hierarchies that are less varied or even in population. When movement is more constrained, it may become less direct as populations try to access sites. Intermediate sites may become more important when short-distance movements become the norm and the population begins to stabilize. This creates a site-size hierarchy that has more varied settlement sizes. Some restrictions in movement direct people to specific sites, creating local hubs. Even greater restrictions also result in more equal populations for sites, as the lack of migration means that people stay near to their places of origin, at least in cases where people have equally distributed starting points. Very different reasons could therefore result in comparable settlement structures. However, this is where α has a key role. As this value becomes greater, larger returns for site populations and advantages become possible, which allows one or a few settlements to become far larger than others through positive feedback growth that attracts people to a few centres. As α increases there are fewer possibilities where very low or high β values can lead to comparable results. This means that greater α ranges generally have greater difference between the largest and smallest sites, where larger α helps lead to larger site size, and the possible causes of these structures have a more restricted range. Values of β, assuming all sites have no initial endogenous or exogenous advantages other than their initial locations, in the middle range enable larger sites. Figure 3.1 illustrates this conceptually, along with other possibilities, including how variance in site populations is based on values of α and β when all sites have equal initial advantages.

The model presented allows one to measure and compare return of attractiveness and movement for urban structure growth. Attractiveness and movement result in urban spaces growing or losing population at variable rates. Growth and decline can have rapid effects based on feedback growth, in which change can be exponential. Slow change is possible as the limits of α's and β's effects have less impact and overall population limits begin to influence results. Figure 3.2 shows conceptual outputs that the model can produce, reflecting different types of population scenarios for cities that rapidly or slowly grow or lose population over variable time.

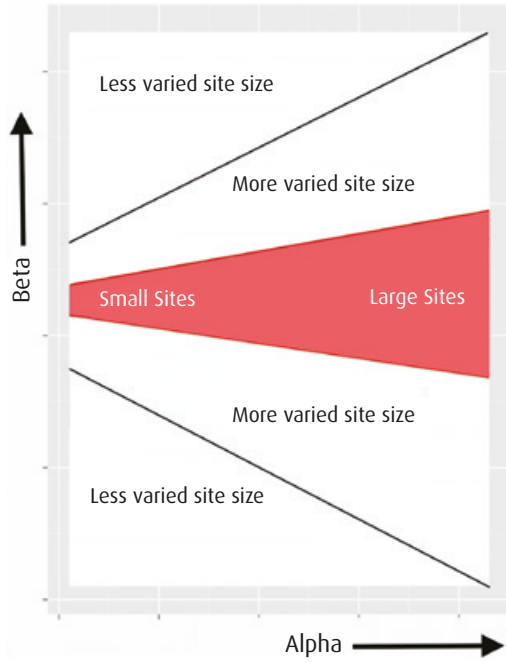

Figure 3.1 Conceptual ranges of α and β leading to site size similarity or difference and ranges in which sites generally become small or large when they have equal advantages

3.1.2.3 Further analysis of spatial interactions

Outputs from modelling show interactions or movement between settlements. Such interactions enable growth and decline cycles such as those in Figure 3.2. Interactions are links that show where people migrate from and to, forming a network structure. This allows a graph to be created that can be further processed by different approaches that analyse network interactions. One approach is Markov Clustering (MCL) (van Dongen 2000; Enright, van Dongen and Ouzounis 2002). The algorithm uses a Markov chain that makes links with more interactions more evident. A Nystuen–Dacey (N–D) graph (Nystuen and Dacey 1961) is another relevant approach, as this graph outputs links that have the greatest interactions to a given node from all possibilities, showing where the greatest movement occurs. The MCL and N–D methods allow one to see which settlements become dominant in interactions as hubs. The frequency and proportion of interactions are used to indicate differences in the movement of people between different periods and settlements. These methods are particularly used to study the second scenario in modelling, in

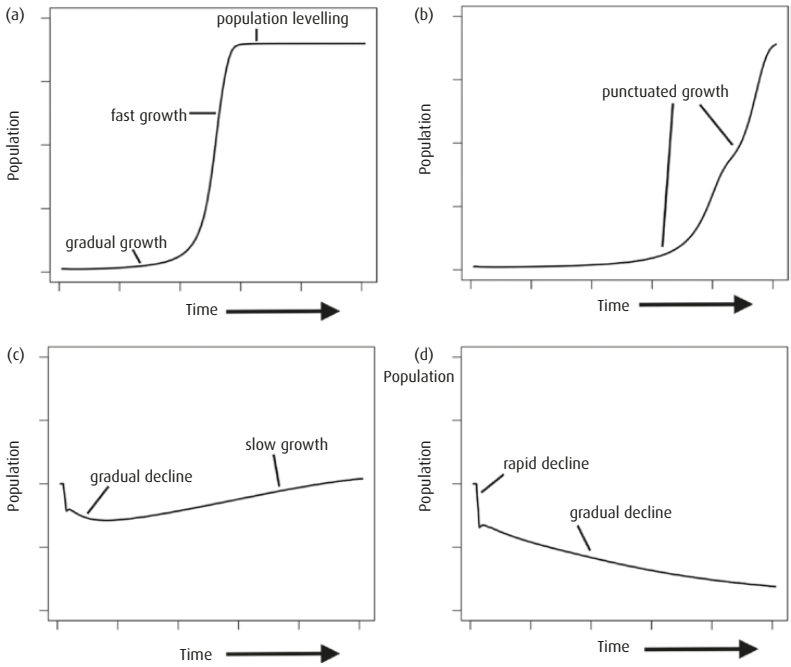

Figure 3.2 Conceptual examples of growth and decline curves for urban populations that could be produced by the SIEM model

which sites are given initial advantages, as that scenario provides results that allow the rank and size of settlements to be closely replicated and the population interactions that create these results to be observed. These types of outputs not only help to show the trend of interactions between sites but also are used to assess how socio-economic or political cohesiveness could be represented in given regions through settlements.

3.1.2.4 Physical differences in settlements

While the SIEM method is used to show changes to settlement structure that demonstrate movement, Chapter 5 demonstrates how large settlements physically changed in the AoE as population movement occurred. Physical changes take place in types of religious institutions, size of cities, wealth, art, knowledge repositories, population diversity, languages and other characteristics found in AoE cities in contrast to earlier periods. Small settlements in the AoE are also investigated for their physical and architectural characteristics to see if they represent possible evidence of movement. In effect, here we investigate how settlements change in their makeup as movement and interactions shape the AoE.

3.2 Material culture and measuring cultural change

Chapters 6 and 7 will deal with another proxy that can be used to detect and measure population movement, namely material culture, by focusing on how far and how quickly specific objects travelled. This treatment includes how far specific stylistic elements spread. Such displacement of objects and diffusion of stylistic elements often implies movement of people who travelled or were dispersed across the area for different reasons, for example as merchants, emissaries, artisans, deportees, refugees or soldiers, and took their ideas with them.

In order to assess the impact of empires on object trade and diffusion of stylistic elements, how far and how quickly objects and stylistic elements spread during the Bronze Age and the Early Iron Age will be compared and contrasted with how far and how quickly they spread during the AoE. Focusing on distance and the time taken to cross that distance is important, because this will show that in the AoE people could travel further, and often in a much shorter time, than in earlier periods, taking advantage of the political and economic cohesiveness brought about by empires and large states in the Near East. This reflects some of the interactions that will be demonstrated by modelling in Chapter 4.

Travel speed in antiquity was of course affected by many factors, such as topography and means of transport (donkey, camel, wagon, etc.; see Veenhof 1969: 1; Dorsey 1991; Moorey 1994: 12; C. Adams 2007). It should be noted that innovations in transport technology did not always lead to great increases in transport speed over long distances, as social or political limitations may have prevented more rapid movement across landscapes. Improvements such as camel domestication by the tenth century BCE (Sapir-Hen and Ben-Yosef 2013) and the discovery of the monsoon wind in the Hellenistic period (see Chapter 6) facilitated new trade routes with South Arabia and across the Indian Ocean. Apart from these two innovations, however, land and maritime transport in the AoE did not differ much from that in the pre-AoE.

Tracking down the origin of an object is not always an easy task in archaeology; however, considerations regarding raw materials and style can help. For example, in the pre-AoE, we will focus on objects made of chlorite, lapis lazuli and carnelian, because these raw materials were sourced in Iran, Afghanistan and India during this period (Barthélémy de Saizieu Casanova and Casanova 1993; Casanova 1995; Pinnock 1988). For the AoE, the focus will be on incense burner, coins and black pepper. Incense burners were used to burn frankincense (also called frankincense oil and olibanum) extracted from *Boswellia* trees, which can

only grow in South Arabia and eastern Africa (Evershed, van Bergen, Peakman, Leigh-Firbank, Horton, Edwards *et al*. 1997; Groom 1981, 2002); incense burners are therefore excellent indicators of how far frankincense was traded. Frankincense will be distinguished from other forms of incense. Black pepper is a good indicator of the extent of the trade network, as this commodity was sourced in antiquity only from India (Tomber 2008). The other object category focused on for the AoE is coins (e.g., Mildenberg 1993). First limited to restricted areas, coins spread across the Near East and beyond, especially after the Hellenistic period; many Near East cities struck their own coins, which allows us, in many cases, to identify their general provenance. In examining the long-distance trade networks before and during the AoE, we will pay particular attention to the movements of merchants and the presence of merchant colonies, so there is a focus on the movement of the people responsible for trade rather than on the indirect and 'down-the-line' movement of objects across distances.

As mentioned above, beyond traded objects, another way to use material culture to reveal population movement is by focusing on stylistic elements. Some features of objects, architecture and works of art (e.g., terracotta figurines), including clothing styles, architectural decoration and iconographic elements, can be ascribed to the particular areas in which these features first appeared. One of these areas is third-millennium BCE Mesopotamia (T. C. Wilkinson 2014); another area that originated a distinctive and characteristic style in the pre-AoE is Egypt (see, e.g., Roaf 1983; Mumford 2013). We will also focus on Greek stylistic elements that can be found across the Near East and Central Asia during the AoE, in both elite and non-elite art. Similarly to objects, analysing how far stylistic elements travelled, and, by looking at non-elite forms of art, how pervasive they were across all strata of society will demonstrate the extent of the long-distance movement of people, in particular artisans. Our analysis will compare the pre-AoE with the AoE and evaluate the results in the light of the political landscapes established by the universal and large empires. Our focus will be on evidence suggesting the actual movement of craftsmen behind the spread of specific stylistic elements.

3.3 Other measures

To demonstrate how other important social and cultural elements changed as populations began to move, Chapters 8 to 10 investigate government, language and religious changes respectively between the

pre-AoE and the AoE. Most of the data are historical, but archaeological data are also used. The methods will be qualitative, demonstrating distinct differences through comparisons between the two periods. Chapter 8 will show how governments accommodated increasingly diverse areas and their strategies for governing large regions, which facilitated greater movement and created more socially cohesive regions, or at least responded to such socially diverse areas. These actions and institutions also demonstrate how large states were perpetuated, so that after the collapse of one state another large state arose more easily. Policies, in essence, began to reflect cultural and ethnic diversity, while helping to forge long-term bonds between populations.

Chapter 9 investigates common languages, looking at how and where AoE common languages became more widely spoken and written, spanning wide areas across Europe, the Near East, northern Africa and Central Asia. This created many possibilities that allowed easier movement and allowed people from very different backgrounds to live together more easily. In other words, common languages facilitated movement across larger distances as well as the social integration of populations. The use of historical texts demonstrates this.

Chapter 10 applies a comparison of religions, looking at how common ideas arose in the AoE. While pre-AoE religions and religious ideas showed more regionally limited similarities, AoE religious ideas showed commonalities across a wide area even before the rise of universal faiths. The presence and mapping of specific mystery cults shows how the popularity of particular gods spread as empires dominated the political landscape in the Near East and the Mediterranean. The establishment of universal faiths also provided states with tools to help unify different populations, even as they led to new conflicts. Texts and archaeological data are used to show these patterns qualitatively.

Spatial Interaction and Structural Models in Pattern Analysis

To understand settlement structure and hierarchy, and by extension population movement, we assess settlement sizes and survey data from different parts of the Near East. By movement, we mean population spread or concentration in a landscape and likely interaction across settlements. The interest here is in determining disproportional population change and differences in settlements, where some sites become far larger than surrounding places. To show how settlement structures change between the pre-AoE and AoE periods, the methods discussed in Chapter 3 are used. These include qualitative, statistical and quantitative modelling, including the spatial interaction entropy maximization (SIEM) method described earlier and its associated analytical methods. Clearly settlement data are not perfect, as sites are often destroyed, buried or misinterpreted, or not investigated because of their invisibility in the archaeological record. Therefore, the intent in this chapter is to obtain information on regions in which relative population shifts are noticeable and settlement organization is more clearly evident. The following chapters will incorporate some of the results recorded here and use them to explain other phenomena related to universalism.

Figure 4.1 indicates various regions which were assessed using the methodologies indicated in Chapter 3. The analysis, that is, the choice of which sites to study, is affected by ease of access to data, including whether data are available in a particular spatial format (e.g., geographic information system (GIS) shapefiles), whether there are size estimates for sites and periods, and whether it is relatively easy to digitize and obtain precise locations for sites.

4.1 Case study: Southern Mesopotamia

A region with wide-ranging settlement data, where surveys have been extensive and site-size estimates are available, is Southern Mesopotamia (Figure 4.1: 1). This is in large part due to the pioneering archaeological survey work led by Bob Adams and his colleagues, who conducted several extensive surveys of areas nearly abutting each other. Roughly 34,950 km^2 have been covered by these surveys in a critical part of the Near East, where many large cities once existed through various periods. While these results were compiled decades ago, and undoubtedly the surveys would have benefited from more recent advances in satellite imagery and mapping, including survey methodology, the large number of sites over a broad area gives us an idea of shifting settlement patterns from the prehistoric to the Islamic periods (R. McC. Adams 1965, 1972, 1981; Adams and Nissen 1972; Gibson 1972; Wright 1981). For our purposes, site-size estimates were sometimes given as a range (e.g., 5–10 hectares); therefore we randomly select a size from the provided site-size ranges or use satellite imagery (Hritz 2005) to estimate the sizes of sites for which full occupation is indicated. More intense surface surveys at Southern Mesopotamian sites, specifically Uruk (Finkbeiner 1991), Kish (Gibson 1972), Mashkan-shapir (Stone and Zimansky 2004) and Lagash (Carter 1989–90), allow us to refine some of the site sizes used in the analysis.

During the Bronze Age (ca. 3000–1200 BCE), as indicated in Chapter 2, Southern Mesopotamia was often fragmented into city-states, although by the Kassite period (after 1600 BCE) the region begins to be more integrated into one larger state for longer periods. Settlement size from the Bronze Age can be reflected statistically, using rank-size curves that demonstrate any significant changes through the Bronze Age. Figure 4.2 a–c reflect rank size for some of the Bronze Age periods, while Figure 4.2d–f show rank size for the AoE (i.e., the Neo-Babylonian/Achaemenid, Seleucid/Parthian and Sasanian periods). In Figure 4.2a–c the greatest difference between the top- and second-ranked sites in the Bronze Age is about 275 hectares (during the Kassite period); the top-ranked site is about double the size of the second-ranked site, and that period has the highest Gini value for the pre-AoE. The Gini index indicates disparities in size between the ten largest sites; its values range between 0.38 and 0.46 in the Bronze Age. In effect, there is greater disparity in site sizes for the largest sites in the Kassite period than in the other pre-AoE periods. In the Neo-Babylonian and Achaemenid periods, the Gini coefficient is far larger than in earlier periods, indicating even greater disparity between the largest sites. This is primarily due to Babylon's great size (about 1000 hectares). In the Neo-Babylonian and Achaemenid

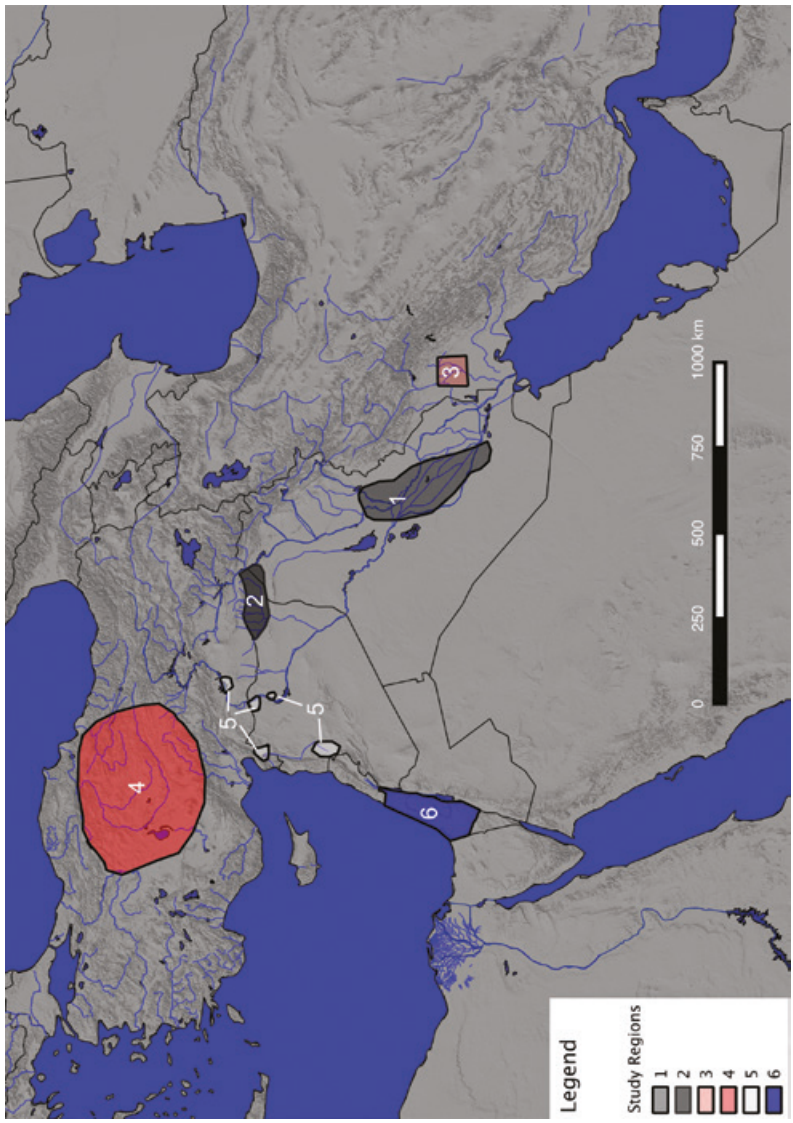

Figure 4.1 Regions assessed in this chapter

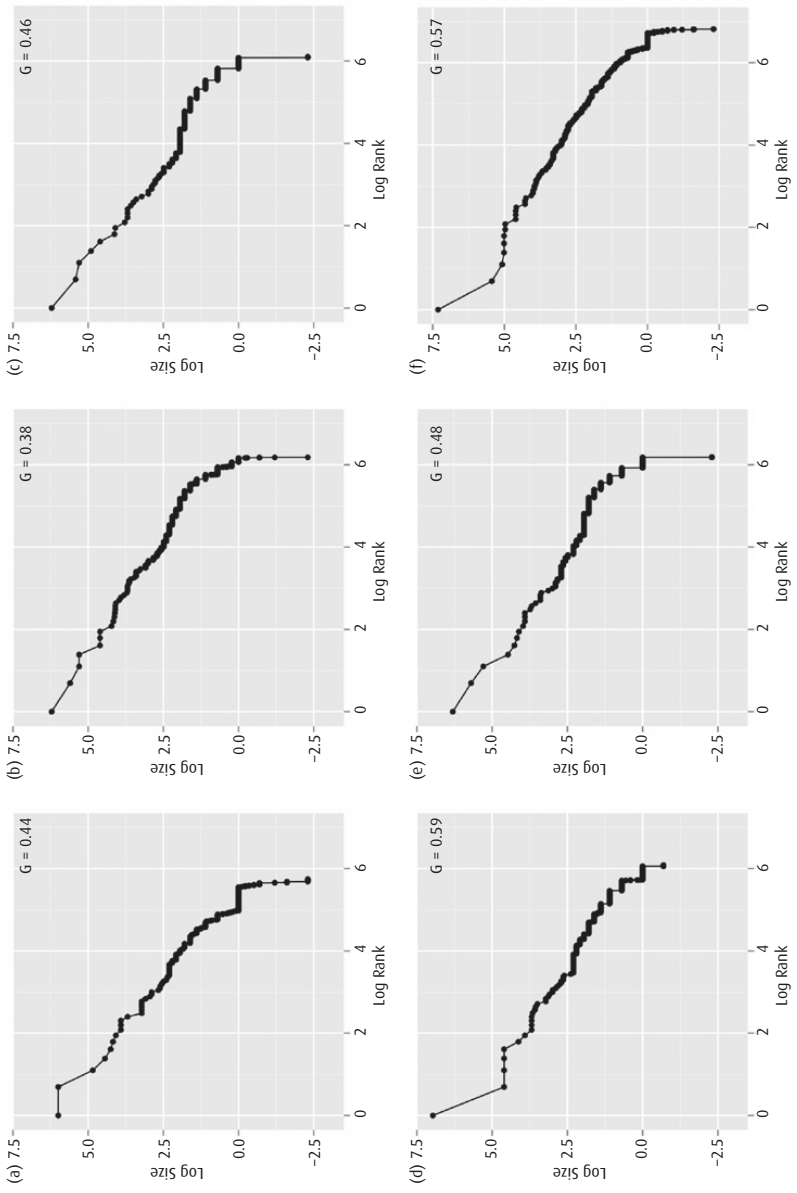

Figure 4.2 Natural log rank-size plot of settlements in Southern Mesopotamia during the Early Dynastic, Old Babylonian, Kassite, Neo-Babylonian/Achaemenid, Seleucid/Parthian and Sasanian periods, a–f respectively. The values at the top right of each graph (G) are Gini coefficients that show inequality in settlement sizes

periods, there is roughly an order of magnitude difference between the size of Babylon and the next-largest sites (Uruk, Nippur, Larsa and Adams Site #1439). In the Seleucid and Parthian periods, the disparity between top-tiered sites is still high, but it decreases more substantially and then rises again in the Sasanian period so that it is similar to the Neo-Babylonian and Achaemenid periods.

It is not clear how large the largest cities were in the later part of the AoE, that is, between the Seleucid/Parthian and Sasanian periods. In these cases, Adams (1965) indicates that Seleucia and Ctesiphon were about 550 and 540 hectares respectively. Seleucia might have been closer to 1000 hectares in size, similar to Babylon in the Neo-Babylonian and Achaemenid periods (Grainger 2014: 39). During the Sasanian period, or at least in the later part of the period, Ctesiphon was not so much a single city as part of a large urban area of sites abutting or near each other. The ruins in this area are called Madā'en in Arabic, meaning 'cities', indicating multiple cities next to each other (Adams 1965; Invernizzi 1976; Negro Ponzi 2005). In fact, historical sources mention seven cities (although only four or five were major cities, or perhaps some of the cities mentioned were the same city with different names) that abutted or were near each other and together covered about 1500 hectares or more (Lee 2006: 157; Morony 2009). Seleucia and Ctesiphon have not had substantial surface survey: in each case the walled area was assumed to be the total area of the site, so that it is difficult to be certain of its true size. In the case of Seleucia one can use Adams's results as a minimum value, while for Ctesiphon in the Sasanian period historical texts support the possibility that the site is part of other urban sites and formed a district within a larger urban area, which suggests that a site, or more accurately a group of sites, of nearly 1500 hectares is plausible. That is, the Ctesiphon area is more appropriately considered as a conurbation than as one city.

Figure 4.3 indicates the total settled area for the top 100 sites for the six periods investigated for Southern Mesopotamia. While there was an upturn in settlement area in the Old Babylonian period, overall there was an increasing trend towards a greater settled area during the AoE (the Neo-Babylonian to Sasanian periods). These data are used with caution, as site preservation and understanding of ceramics used for different periods in site recognition can vary greatly. Only the largest 100 sites are used here, as the smallest sites, from earlier periods in particular, may be less visible or less well preserved. The average size of the occupied area of the largest 100 pre-AoE sites was 2249 hectares , while for the AoE the average was 2713 hectares. Overall, occupation in the Sasanian period was far more substantial than in earlier periods. The AoE period generally had about 20 per cent

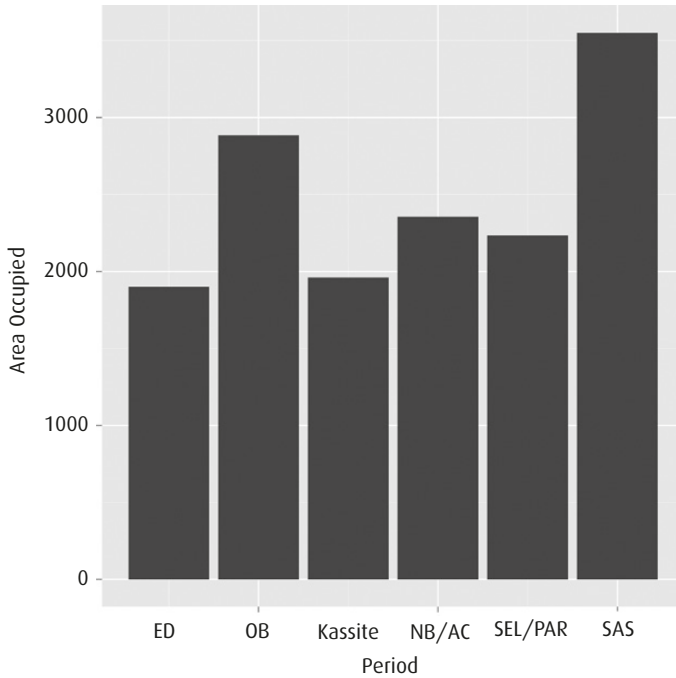

Figure 4.3 Total area occupied (in hectares) for the largest 100 sites in Southern Mesopotamia for the Early Dynastic (ED), Old Babylonian (OB), Kassite, Neo- Babylonian/ Achaemenid (NB/AC), Seleucid/ Parthian (SEL/PA), and Sasanian periods (SAS)

Table 4.1 Parameters applied in Scenario 1

Alpha (α)	Beta (β)	Advantage (*Z*)	Population (*X*)	k	ε	Simulation time
0.1–10.1	–0.05–1.011	1.0	200	1.0	0.5	100

more occupied area than the pre-AoE, with an increasing trend for larger, top-tier settlements. Combining these results with Figure 4.2 indicates that as the total settled area became larger in the AoE, much of that growth was concentrated in fewer, larger sites and disparity in site size increased.

To look at how settlement structures may have formed in different periods, and how population may have been dispersed or moved across a given landscape, according to settlement distribution, SIEM is employed, using the parameters listed in Table 4.1. Scenario 1 is applied to see what the major differences in settlement structures were between the Bronze Age and AoE.

Figure 4.4 shows the results of applying SIEM to the case study for the Early Dynastic to Sasanian periods. Overall, the results displayed

reflect a parameter sweep (North and Macal 2007) (that is, a test of the different parameter values in Table 4.1), to see which values most closely replicate the empirical settlement structures. A linear least-squares regression is applied that looks at how well a simulated urban population (using population as a proxy for simulated settlement size) compares or fits with empirical settlement size. The results reflect outputs that show the empirical settlement size versus the simulated population of settlements. The proportion of surveyed settlement hectares and simulated population, that is, the size and population of each site divided by the total size and population, allows us to apply the regression and compare the two sets of values. This informs us what values of α (return of site attractiveness) and β (ease of movement) create urban structures comparable to the survey data. The dark regions in Figure 4.4 indicate areas of good fit ($r^2 > 0.9$). The settlement structures assessed indicate that there was generally less emphasis on very large primate sites (sites that are far larger than lower-ranked sites), from the Early Dynastic to the Kassite period (Figure 4.4a–c). In other words, α is relatively low, as multiple sites that were large are evident and the largest sites were not as disproportionately large. Additionally, β ranges between 0.5 and 0.6 and 0.15 and 0.20 for good fit in Figure 4.4a–c when $\alpha = 2.1$. For the pre-AoE periods, good-fit β values when $\alpha > 3.1$ are not evident. The best-fit settlement structures for the pre-AoE periods (Figure 4.5a–c) show that generally when $\beta > 0.13$ there is closer agreement between the empirical and the simulated results.

For the Neo-Babylonian period, greater fit for values of α at ranges often greater than 3.1 is evident. For Figure 4.4d, good β fits are seen for values of less than 0.8 when $\alpha > 3.1$ and at 0.01 for $\alpha = 3.1$. Figure 4.5d shows a good-fit result between empirical survey data and simulated population. For our purposes, what β shows in Figures 4.4d and 4.5d is that to create the settlement structure that is evident, movement may have become easier as a primate site such as Babylon grew in the Neo-Babylonian and Achaemenid periods. This β indicates that people could aggregate more easily in the advantaged site. When $\alpha > 3.1$, there is also a good fit for $\beta > 0.8$. This means that another way to create the urban structures for the period is to restrict general movement but disproportionately concentrate what access there is into the largest site by giving it far greater advantages through high α. In other words, greater restrictions on movement would need to be compensated for by more advantages in order to create settlement structures comparable to those of the Neo-Babylonian and Achaemenid periods. For the Seleucid/Parthian period (Figure 4.4e; Figure 4.5e), the results show a better fit when $\alpha = 2.1$ and $\beta > 0.15$, indicating a pattern closer to the pre-AoE

results. This is affected by the fact that Seleucia was only 550 hectares, in a period when few other large sites existed. This period saw more conflict than the Achaemenid and later periods, with repeated invasions, which could be another reason why the urban hierarchy was not similar to the Neo-Babylonian/Achaemenid and Sasanian periods. However, the size for Seleucia may be incorrect, since it only uses the walled area. By the Sasanian period (Figure 4.4f, Figure 4.5f), the results are once again closer to the Neo-Babylonian/Achaemenid results, where there are good-fit results when $\alpha > 3.1$. Additionally, β has good fits at very low values (< 0), the best-fit result being $\alpha = 2.1$ and $\beta = -0.03$ ($r^2 > 0.95$).

This scenario shows how urban centres and structures develop when the population has an equal chance to move to any settlement. Another possibility is that a situation in which particular urban centres have advantages over others enables a greater concentration of population in specific sites. These advantages could be an already larger population or other benefits given to the city. To test this possibility, the empirical site sizes from surveys and size estimates are used to give different values for Z (the site advantage value). This scenario (Scenario 2) shows the degree to which larger sites influence mobility through their advantages. The results provide a possible insight into the ability of sites to socially integrate particular regions or sites through regional interactions (Altaweel *et al*. 2015). Movements at high volume across the full breadth of a region suggest a region in which movement is easier; these movements allow one to determine whether sites became major hubs for movement from surrounding regions, indicating a likelihood that a site had greater social and political dominance in a region.

Figure 4.6 shows the results of this scenario. These results reflect what factors of α (return of site attractiveness) and β (ease of movement) are needed to develop or maintain rank-size order of sites, as well as the correct proportion of site sizes. Spearman's rank order correlation and linear least squares are used so that the rank order of site population in the simulation is compared to the rank order of site sizes in the empirical data; this allows us to see whether the simulation has more closely determined the correct rank order from settlement survey data. Linear least squares are still used, since this approach allows us to see whether the proportions of site sizes and population between the empirical and simulated data are similar and form a close fit. Overall, what we see is that very comparable α and β values are needed to develop or maintain settlement size and rank for different cases. This reflects situations in which settlements are leveraging advantages in site sizes. For instance, if a site has greater social relevance it may draw more people to it even if its location is not optimal. In the Old Babylonian period, for example, Babylon is already large. In the Kassite period, the

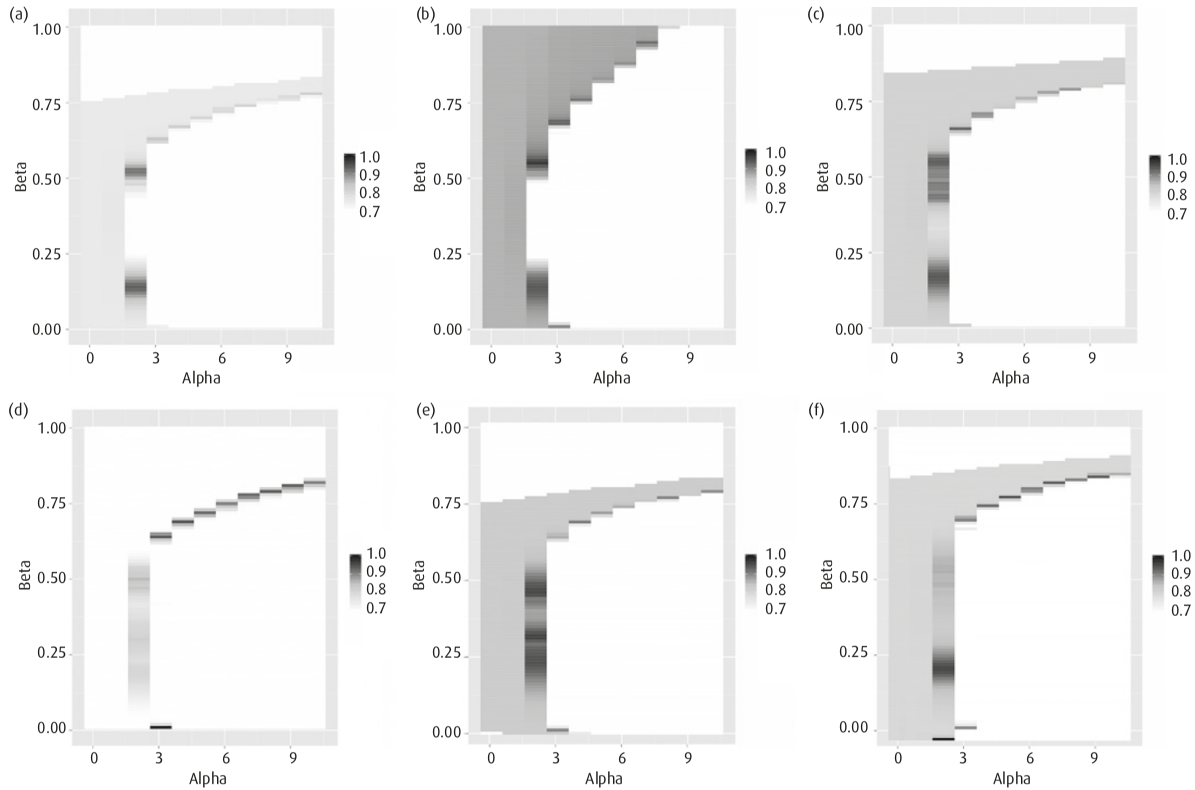

Figure 4.4 Results of a parameter sweep applied to α and β for Bronze Age and AoE settlements in Southern Mesopotamia. Graphs a–f are settlements from the Early Dynastic, Old Babylonian, Kassite, Neo-Babylonian/Achaemenid, Seleucid/Parthian and Sasanian periods respectively. Darker shading indicates better-fit results (e.g., $r^2 > 0.90$) based on empirical site sizes and simulated settlement population

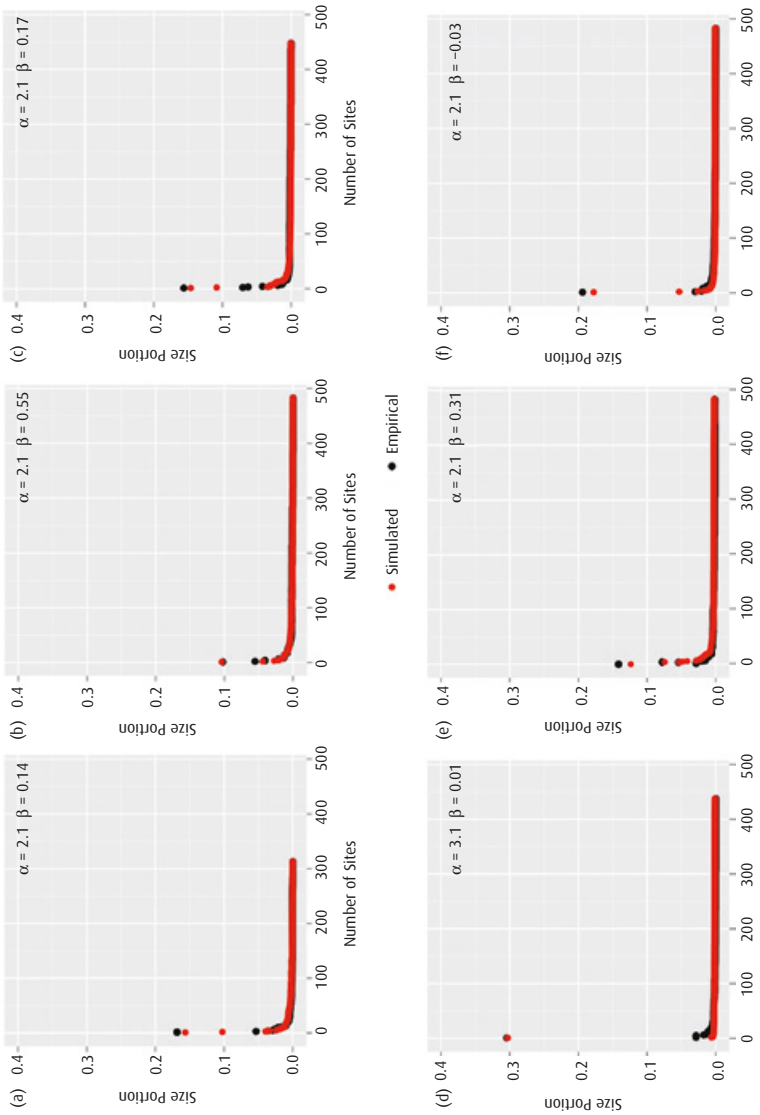

Figure 4.5 Results comparing empirical and simulated site sizes showing α and β values that have the best or nearly the best fit (i.e., $r^2 > 0.94$) to the empirical survey record. The size portion reflects the area occupied by a site relative to all sites in the surveys. Graphs a–f represent the Early Dynastic, Old Babylonian, Kassite, Neo-Babylonian/Achaemenid, Seleucid/Parthian and Sasanian periods respectively

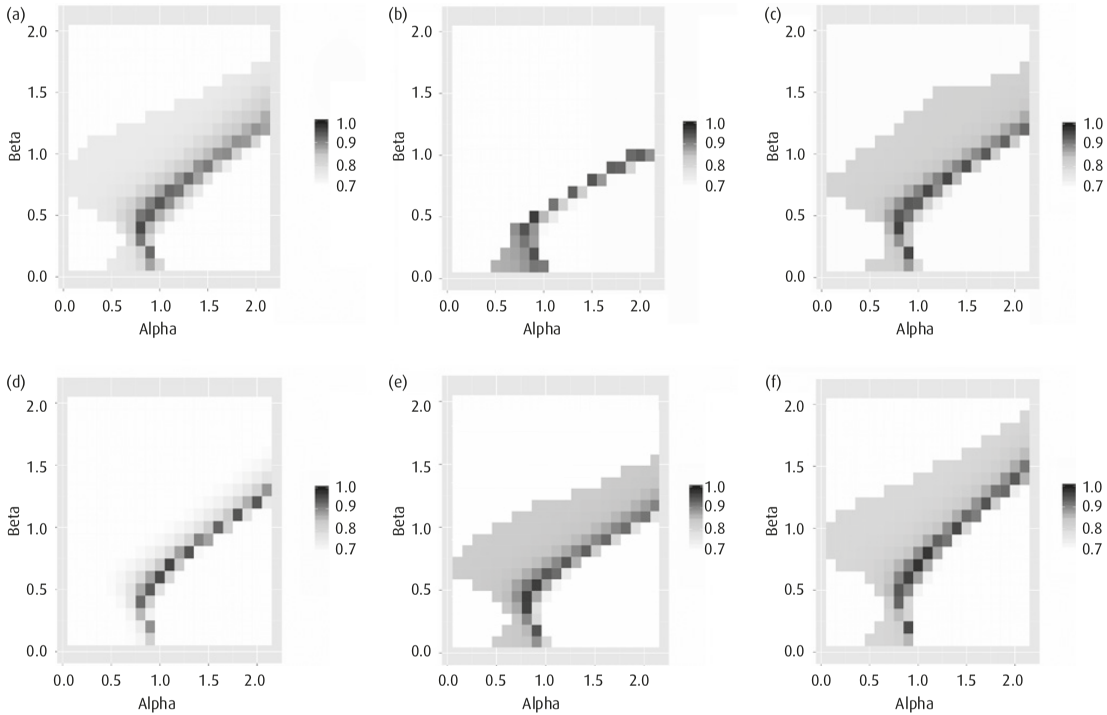

Figure 4.6 Results of a parameter sweep applied to α and β for Early Dynastic, Old Babylonian, Kassite, Neo-Babylonian/Achaemenid, Seleucid/Parthian and Sasanian periods (a–f) respectively in which different advantages, using empirical site size, are given to settlements. Values indicate r^2 fit using Spearman's rank order correlation and linear least squares (greyscale shading for $r^2 > 0.7$) together, which compare the simulated population results with the empirical settlement size data

settlement is still large, which may simply reflect a continuity of the settlement's attractiveness from the previous period (for example, its economy could draw many people). The scenario reflects what site attractiveness feedback and movement capabilities are needed to develop or maintain the overall settlement structure in the periods assessed, and accounts for initial settlement advantages. This also has the benefit of addressing edge effects, as these reasons could be endogenous or exogenous.

Because the results reflect settlements in which the initial advantages are based on the size of the settlement from the survey, α and β are less relevant for this scenario. In effect, initial advantages given to larger sites do not require higher α values to make them larger, while β can simply reflect the maintenance of the advantages, and by extension the population, that sites have. In fact, α and β are more difficult to compare because advantages for sites are different for each case. On the other hand, a benefit of this scenario is that it is informative about the level of interaction between settlements that helps maintain rank and size. Such interactions help demonstrate the intensity and distance of travel between sites. Figures 4.7 and 4.8 indicate the centrality of major settlements for the assessed periods in Scenario 2. Centrality is defined as the number of weighted links that connect to a site from a given site. The weights reflect flow output from the SIEM model, which represents a value for people coming to a site from another site. The flow links to sites provide a proxy for determining how influential a site might be in a given region with regard to its ability to attract people. For this case, graphs are studied using the MCL algorithm (see Chapter 3), which emphasizes influential sites in given regions, indicating where key hubs might be located. Figure 4.7 highlights some sites that are central or influential in interactions. These sites are: Uruk (159), Seleucia (185), Lagash (305), Umma (310), Babylon (137), Aqar Quf (ancient Dur-Kurigalzu; 436), Nippur (444), Adams's Site 004 (484) and the Ctesiphon region (803). What is apparent (Figures 4.7a–c and 4.8a–c) is that pre-AoE largest sites are not overly dominant in interactions, and multiple hubs emerge for interactions. Figures 4.7d–f and 4.8d–f show that in the Neo-Babylonian/Achaemenid and Sasanian periods, Babylon and the Ctesiphon area respectively occupy very dominant and central positions in interactions. The Seleucid/Parthian periods (Figures 4.7e and 4.8e) show Seleucia as less dominant in interactions. In Figure 4.8d and f, flow is heavily concentrated in primate sites; Babylon has about five times greater flow and the Ctesiphon area has about six times more flow than the site with the second-greatest number of interactions. The pre-AoE (Figure 4.8a–c) top two or three sites have far fewer differences in their portion of link flow; no city has more than double that of the second-largest city in flow. For Babylon (d) and Ctesiphon

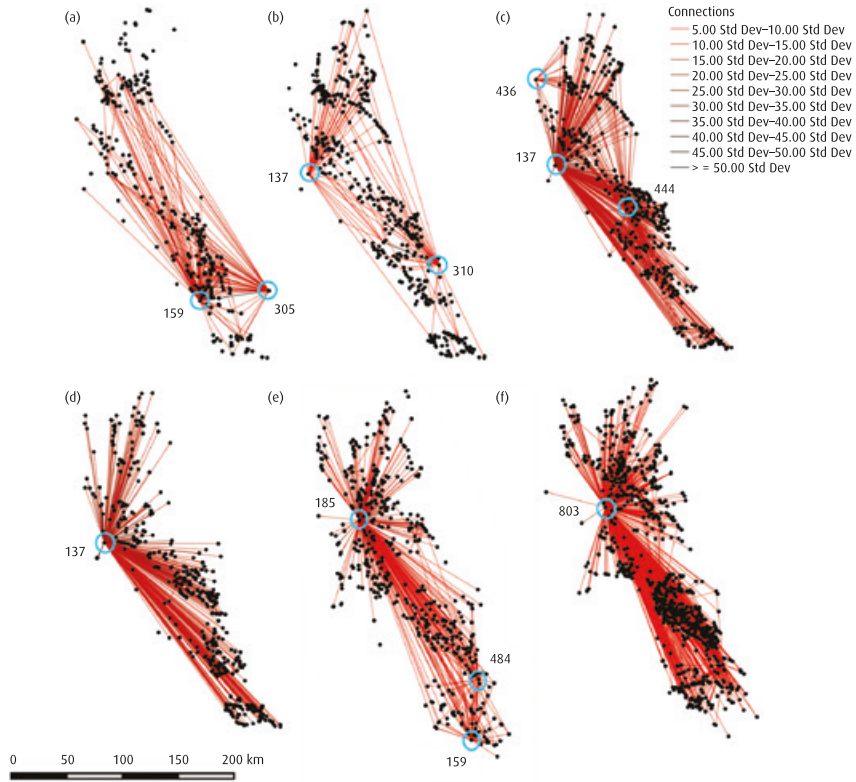

Figure 4.7 Pre-AoE (a–c) and AoE (d–f) sites in Southern Mesopotamia for the periods mentioned in the caption to Figure 4.6 and interactions that enable given settlement structures and hierarchies observed. The colour bands indicate the flow intensity (in standard deviation) of the given links between sites. The circles indicate some hub sites that have proportionally higher interaction flow

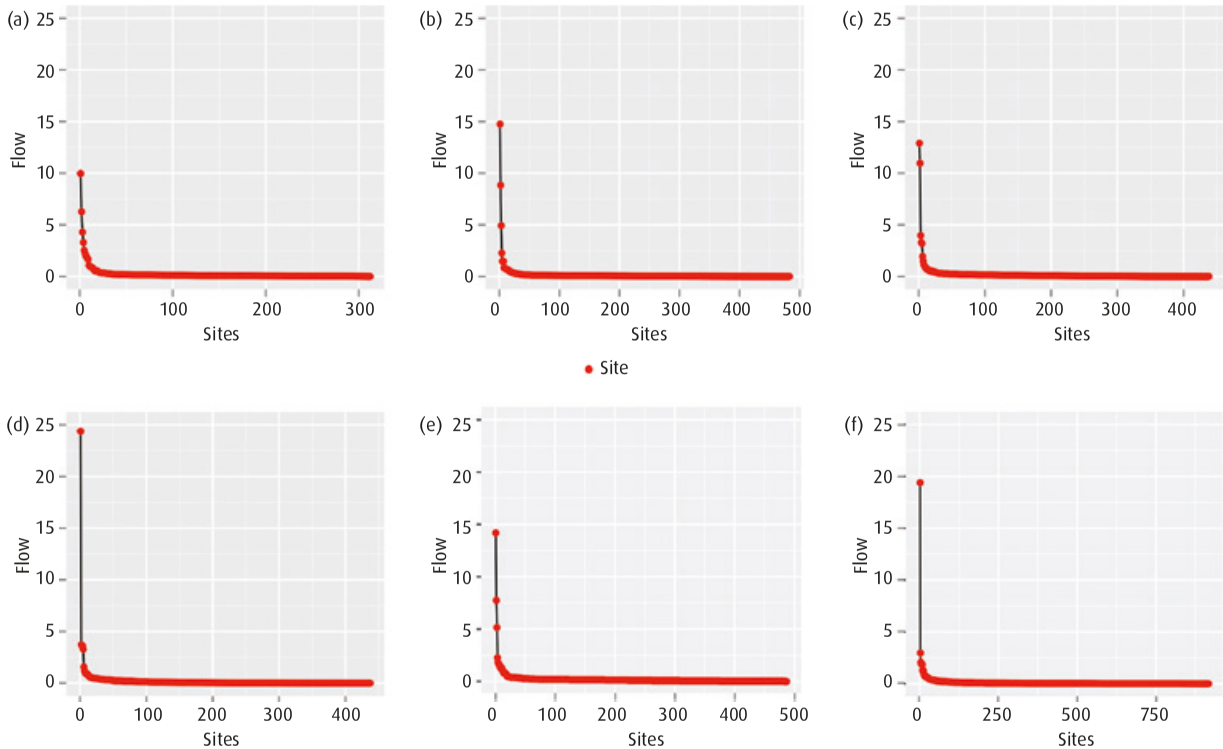

Figure 4.8 Pre-AoE (a–c) and AoE (d–f) link flow portions that demonstrate weighted centrality of top and smaller sites, listed in rank order. The dots reflect a site's relative value of interaction flow or relative dominance in interactions

(f) in the AoE, the portion of the total flow these cities have (20 per cent or more of the total) is far greater than second-ranked sites.

To assess the validity of the previous results, a bootstrapping method that tests the robustness and sensitivity of scenarios and what happens when only a percentage of sites exist is applied. The intent is to look at the entire period and see how multiple combinations of settlements using only part of the dataset at any given time would affect the overall settlement structure and hierarchy. This provides an idea of how well surveys have captured the general settlement structure in scenarios, while helping to show the strength of modelling results if settlements were not contemporary in any given period (see, e.g., Palmisano and Altaweel 2015). It is possible that many sites were not contemporary within the periods studied, as dating generally uses ceramics that are less precise in chronology. To address this issue, and see what may result if different combinations of sites existed in any one period within each archaeological period, sampling is done by removing a ratio of sites (e.g., 0.05) and then selecting sites for a given simulation run. This is repeated 500 times for each ratio; an average fit value with different sets of sites in each run is then determined. While one cannot be sure which sites were contemporary at a given time, this provides more confidence in the results, as these indicate what levels of sampling drastically change results from the previously tested scenarios. The results of this method are presented in the Appendix (Table A.1–2). Table A.1 tests the robustness of Figure 4.5's parameters, that is, the best-fit results in Scenario 1, using least-squares fitting. The results generally show that the Neo-Babylonian period was less sensitive to change and robust at least at the 0.05 sample ratio level (that is, 5 per cent of sites were removed from simulation runs). The results show more weakness at 0.15 and above for sampling. The other cases are more robust at all levels; where moderate weakness in results, however, is more evident at the 0.5 sampling levels. In general, this indicates that, even if a large number of sites were not contemporary in any period, for the pre-AoE sites in particular the overall structures suggested by the results in Scenario 1 are more likely to be representative of what existed. It is possible that the ratios studied may not adequately sample the correct sites that were contemporary, which means the structure simulated might not be accurate, but the simulated ratios are intended to provide a greater measure of confidence for the sites simulated. For Scenario 2's bootstrap test (Table A.2), which tests the best-fit results from Scenario 2, the results are an even better fit at all levels, using least squares and Spearman's rho for all periods tested. The results for Scenario 2 are generally better, since the sites with settlement

advantages have remained the same even if different combinations of sites are used for each scenario run.

What is evident in the Southern Mesopotamia case is a shift from multiple large settlements in the pre-AoE to one dominant, primate centre by the Neo-Babylonian and Achaemenid periods. The pattern of one very dominant site in the Sasanian period is also evident. It is possible that this is also the case in the Seleucid/Parthian case; however, Seleucia's size has been estimated to be 550 hectares, although intensive survey was not applied to the site. The results for Seleucia are likely to be less certain, since only the walled area was included in the site's size. Overall, Scenario 1 suggests that it is possible that freer movement initially enables cases in which one large or primate city can develop, whereas in the pre-AoE greater hindrances to movement are evident in the settlement structures. Such cities, through their interactions, become dominant: they have long-distance contacts and interactions that make them dominant in the region. Ease of movement and site attractiveness allow these cities to grow far larger through positive feedback. It is also possible that cities with great advantages obtained through higher α could become very large despite greater restrictions to movement (β). Scenario 2 (Figure 4.7) demonstrates how dominant sites such as Babylon and Ctesiphon are not only developed but also maintained. This means that movement could become either relatively restricted or not after a city has gained initial advantages over its neighbours. The scenario also shows that flow, and subsequently population, proportionally concentrate further in one area, as these sites dominate the region in their total interactions. In other words, large cities develop the ability to draw people and resources from more distant regions as they become more dominant as economic or social centres. Greater advantages of sites in the AoE allow them to draw people from far more distant places than in the pre-AoE. For pre-AoE cities, intense interactions were dispersed among multiple settlements and more localized.

Historical texts relating to Babylon suggest that this city was able to use its influence to attract greater foreign wealth and even foreigners (Jursa 2009; Moukarzel 2014). The ability to draw people and resources from more distant lands would suggest that movement became easier, which allowed resources to be concentrated in the city of Babylon at greater proportions. It is possible that movement was restricted, but this could have happened after Babylon achieved its dominant position; restrictions after Babylon became relatively large would have preserved the city's high proportional population. Ctesiphon shows similar patterns; there, a mixture of ethnic groups suggests immigration into or movement to the city was

high (Ṭabarī 1989). Chapter 5 will further discuss documents and material records in relation to Babylon and Ctesiphon, including how such records may reflect regional socio-economic dominance and indicate whether relatively easy movement to these cities enabled their growth and dominance. Our results suggest that Babylon and Ctesiphon were able to become dominant in size through ease of movement and through leveraging their advantages when the flow of people became concentrated in these cities. The AoE may have afforded opportunities for ease of movement and leveraging advantageous situations for these cities. One measure of social or political cohesion may be in the form of settlement hierarchies (G. A. Johnson 1980; Steponaitis 1981; R. McC. Adams 2001). In the AoE, differences in rank-size hierarchies and Gini values indicate greater proportional concentration of population into primate cities.

4.2 Case study: the Khabur Triangle

Southern Mesopotamia shows a progression from fragmented cities and interactions in the pre-AoE to more centralized ones in the AoE, during which the largest cities grew more quickly. We now explore other regions. This will help demonstrate whether the phenomenon noticed in one part of the Near East is comparable to patterns seen elsewhere. One region of the Near East that has been relatively well surveyed, in which many sites have been located by using satellite imagery and surveys are nearly contiguous, is the Khabur Triangle in Northern Mesopotamia. The proximity of surveys allows a wider area to be assessed, which will help us to understand whether the regional interactions noticed in Southern Mesopotamia are similar to what occurred in Northern Mesopotamia. This case study's data derive from the settlement surveys highlighted in Figure 4.1(2) (Meijer 1986; Eidem and Warburton 1996; Lyonnet 2000; Ristvet 2005; Wright, Rupley, Ur, Oates and Ganem 2007; Ur and Wilkinson 2008; Ur 2010; Ur, Karsgaard and Oates 2011).

Similarly to the previous case, the analysis begins by looking at the general settlement patterns and hierarchies found for different periods. Figure 4.9 lists pre-AoE settlement rank-size hierarchies from the Early (a) and Middle (b) Bronze Ages and the Iron Age (c) at the beginning of the AoE. What is immediately noticeable in the rank-size graphs is the decrease in the size of sites, whereby the largest sites became smaller from the Bronze to the Iron Ages. The rank-size curves flatten later in time, as the largest sites were no longer very large and there is a more general evenness in site sizes (T. J. Wilkinson and Barbanes

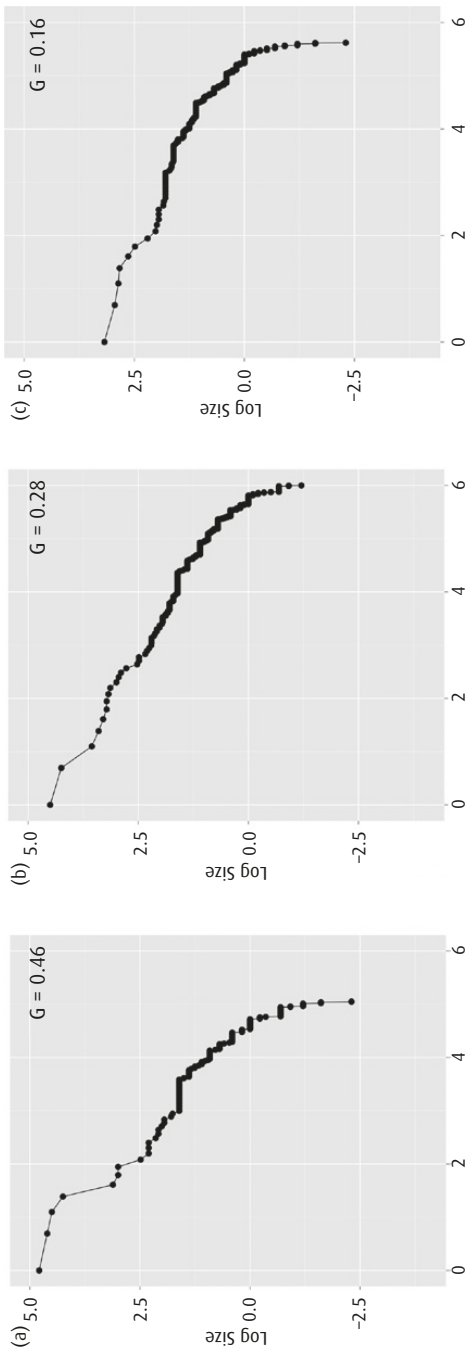

Figure 4.9 Rank-size graphs indicating pre-AoE ((a) Early and (b) Middle Bronze Ages) and AoE ((c) Iron Age) settlements in the Khabur Triangle. Gini coefficients are provided

2000; T. J. Wilkinson, Barbanes, Ur and Altaweel 2005). The Gini coefficients indicate a far greater equality in site sizes for the top ten largest sites in the Iron Age than for the other periods. In fact, the largest site in the Iron Age is only 20 per cent of the size of the largest site in the Early Bronze Age. The total occupied area is roughly 797 hectares, 1418 hectares and 697 hectares for the Early Bronze Age, the Middle Bronze Age and the Iron Age respectively.

Such results suggest that a very different phenomenon occurred in the Khabur Triangle than in Southern Mesopotamia. While in Southern Mesopotamia the top site became larger from the Early Bronze Age to the first half of the first millennium BCE, here the exact opposite is true. What is argued here, however, is that this could represent the same dynamic as in Southern Mesopotamia. To demonstrate this, a SIEM model is applied to determine possible factors that enable such settlement structures. Similarly to the procedure in Scenario 1 in Section 4.1, Table 4.1 is used to test factors of α (return of site attractiveness) and β (movement) that shape observed settlement structures. Figure 4.10 shows the results.

When α is 2.1, the upper range of good fit for β is 0.44–0.48 in the Early Bronze Age (Figure 4.10a). For the Khabur Triangle in the Middle Bronze Age, Figure 4.10b shows that the upper range of good fit for β is between 0.61 and 0.65 when $\alpha = 2.1$. Additionally, the lower ranges of good fit for β when $\alpha = 2.1$ are 0.1–0.15 in the Khabur Triangle in the Early Bronze Age and 0.1–0.15 in the Middle Bronze Age. Graphs a and b in Figure 4.11 indicate the best fit for these Bronze Age settlements. For the Khabur Triangle in the Early Bronze Age, the best-fit β results are between 0.1 and 0.15 in the Middle Bronze Age the best-fit results are when $\beta > 0.6$. These results could suggest that the Khabur Triangle in the Middle Bronze Age experienced more impediments to migration or movement interaction. For the Khabur Triangle in the Iron Age (Figure 4.10c), there are greater differences. One result shows that α could be comparable to the earlier cases (i.e., at 2.1), although there are many good fits when α is lower, at 1.1. As Iron Age sites are generally small, the result is expected. Unlike the other cases, however, the best-fitting results are when β is lower, specifically between 0.03 and 0.06 when $\alpha = 2.1$. There are also β values comparable to or higher than the other periods' upper ranges of good fit. This apparent contradiction is explained by the fact that easier and more restricted movement create settlement sizes comparable to the empirical record, and no site easily gains a larger population as α is lower (for example, see Figure 3.1). If movement is easy or facilitated and α is relatively low, then population spreads at a relatively even rate, while very restricted movement restrains

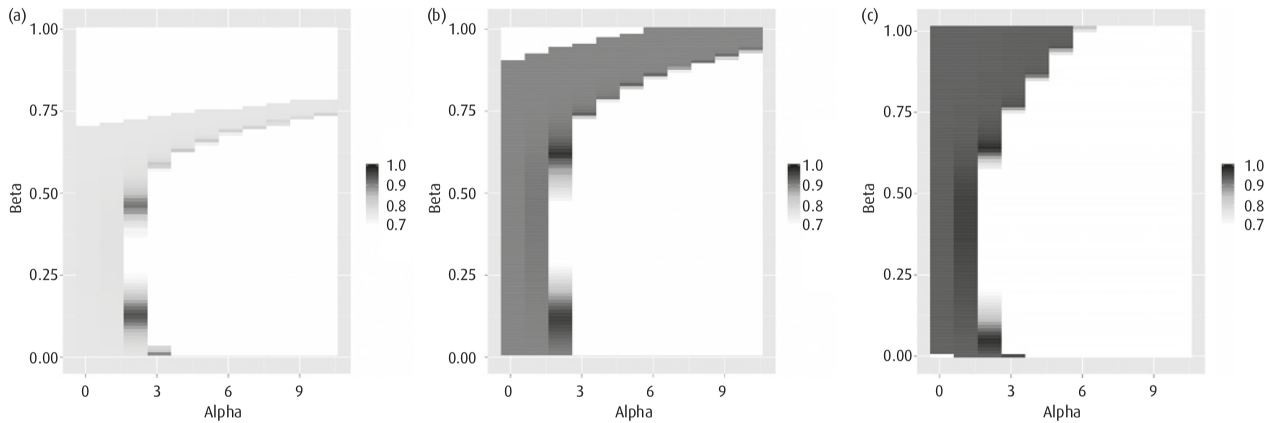

Figure 4.10 Results of a parameter sweep applied to α and β for Bronze and Iron Age settlements in the Khabur Triangle. Graphs a and b are from the EBA and the MBA respectively, while c represents the late Neo-Assyrian (Iron Age) settlement pattern

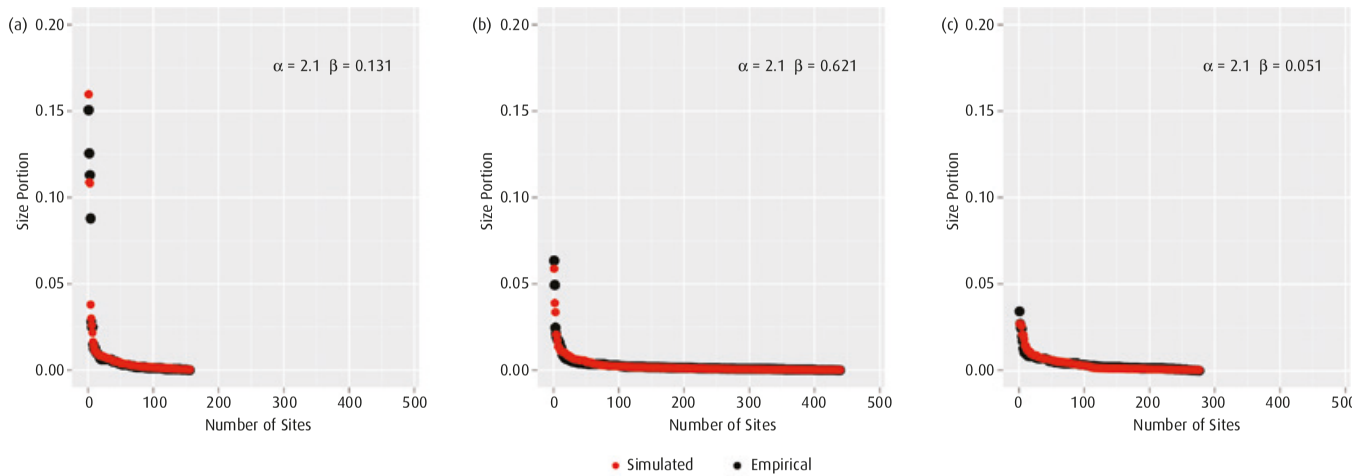

Figure 4.11 The α and β values that show a very good fit ($r^2 > 0.94$) between the empirical survey site sizes and simulated site populations. Graphs a–c represent the Early Bronze Age, the Middle Bronze Age and the Iron Age respectively

site sizes differences. In effect, a similar result is achieved under different circumstances. Figure 4.11c shows a good-fit result for the Iron Age. The significance of these results is discussed later in this section.

As previously applied to Southern Mesopotamia, Scenario 2 for the Khabur Triangle can be used to study interactions among settlement structures evident in the region for different periods. This time a Nystuen–Dacey (N–D) graph is used to emphasize which hubs attracted more flow or were more central (Figure 4.12). As before, the graphs show not just the intensity of interactions but also to what extent and from what locations sites are able to attract flow based on their relative importance in interactions, which suggests sites' relative importance in regional interactions. Results show that the Early Bronze Age ($\alpha = 0.8$, $\beta = 0.4$) and Middle Bronze Age ($\alpha = 0.9$, $\beta = 0.7$; Figure 4.12a and b) patterns are similar to those of Southern Mesopotamia, in that multiple settlements (e.g., 156 (Tell Mozan), 62 (Tell Brak), 60 (Tell Leilan) and 61 (Tell Farfara)) appear to be hubs, or locally important and central in interactions, and overall interactions for the region are not dominated by one site. For the Iron Age ($\alpha = 0.9$, $\beta = 0.6$; Figure 4.12c), something similar is noticeable. However, what is evident from the volume of interactions and the central nodes (Figure 4.13) is that the proportion of interactions for the top sites decreases through time, from the Early Bronze Age, through the Middle Bronze Age, to the Iron Age. By the Iron Age, the portion of interactions by the largest site (Tell Hamidiya) is only about 5 per cent of the total flow, whereas it is 14 per cent in the Early Bronze Age. The results show less dominance by any one site in the Iron Age and greater distribution of interactions among all sites, leading to more even site sizes. Although the Bronze Age sites do not have a single dominant site, a few sites are evident as centres. While there are multiple centres of interactions in the Iron Age, none of these attract a high portion of interactions, so that no dominant hub emerges.

The low β range (indicating easy movement) in Scenario 1 and the more equal flow demonstrated in Scenario 2 for the Iron Age is supported by the empirical data. When the region was integrated into the large Neo-Assyrian Empire, long-distance roads appeared in the landscape that connected key Neo-Assyrian cities and provinces (Altaweel 2008). This suggests that movements occurred over long distances, and that the Assyrian centres to the east of the Khabur Triangle integrated politically and interacted with the Khabur Triangle in the Iron Age (Radner 2006, 2011). This is in contrast to the Bronze Age, when the region is known to have consisted of small, fractured states that held territory across the entire region for only short periods (e.g., Eidem 2008, 2012). The

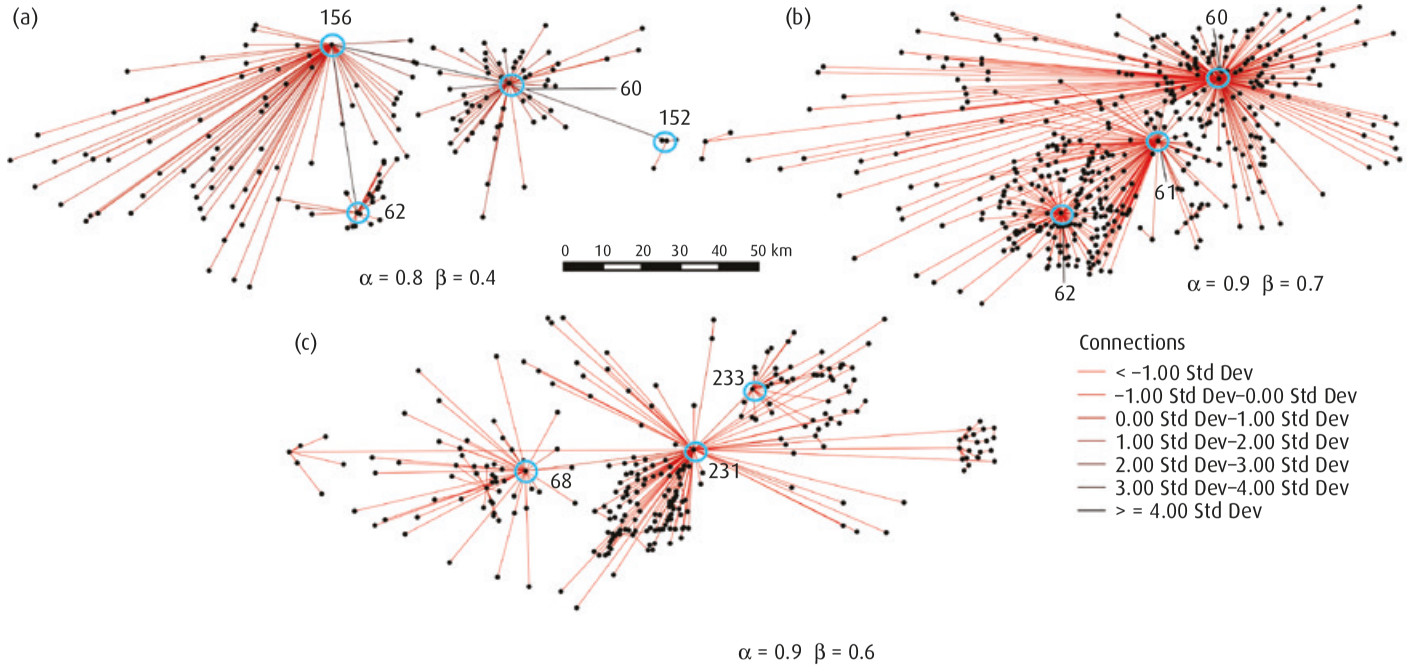

Figure 4.12 Interactions shown for the Early Bronze Age (a), the Middle Bronze Age (b) and the Iron Age (c) in the Khabur Triangle

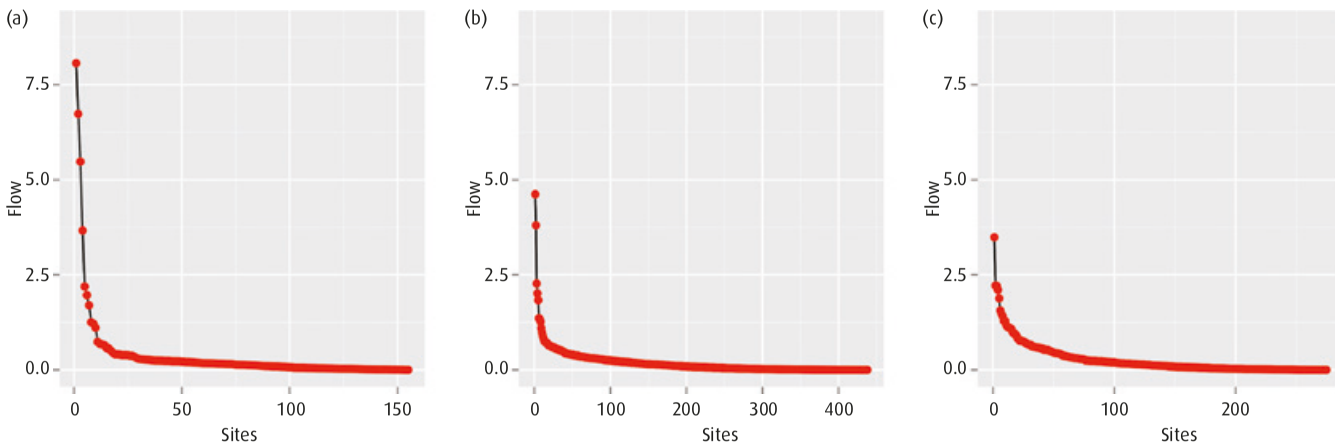

Figure 4.13 Interaction flow portions for sites in the Khabur Triangle during the Early Bronze Age (a), the Middle Bronze Age (b) and the Iron Age (c)

Bronze Age is also known for numerous short-distance hollow ways or roads connecting sites (T. J. Wilkinson 1994; Ur 2003). Such a preponderance of short-range interactions emphasizes how they could have shaped Bronze Age communities. During periods when communities were politically fractured, movement tended to be more constrained; it occurred primarily between neighbouring sites. In the Iron Age, the fact that long-distance roads become more apparent suggests that movement became easier and occurred over longer distances (Altaweel 2008). Similarly to Southern Mesopotamia, therefore, the early AoE showed relatively easy mobility, facilitating the development of more even site sizes, the main difference from Southern Mesopotamia's Neo-Babylonian and Achaemenid periods being the absence of a primate site that attracts much greater flow. Rather, the sites' populations concentrated in areas much farther away than the Khabur Triangle in the Iron Age. Southern Mesopotamia becomes a region of population concentration with a large urban area, while in the Khabur Triangle populations are drawn away from larger centres.

To demonstrate the strength of these results, a bootstrapping scenario similar to that applied earlier is used. These results are in the Appendix (Tables A.3 and A.4 for Scenarios 1–2 respectively). In general, Scenarios 1 and 2 for the Khabur Triangle show a strong likelihood that the simulation results are meaningful, even when 50 per cent of the sites are removed from scenarios. These results may reflect the greater intensity of surveys in the Khabur Triangle than in Southern Mesopotamia; removal of sites from specific simulation runs may not affect results as much, since there are many sites in a relatively small regional area. Nevertheless, the strength shown in the results is an average, meaning that any individual combination of sites may indicate some significant differences from what is evident in simulation results.

While the Iron Age results for the Khabur Triangle show that settlements remained small and dispersed, which suggests that conditions of low α and β could lead to the observed empirical patterns, the question arises as to whether this pattern persisted for the later AoE. Other cases are therefore needed. Figure 4.14a–c show settlement rank-size hierarchies in the Hellenistic to Sasanian periods for the North Jazira Survey (NJS) and the area of Hamoukar (T. J. Wilkinson and Tucker 1995; Ur 2010). While this does not represent the entire Khabur Triangle, much of the region appears to show developments comparable to these two areas (Meijer 1986; Eidem and Warburton 1996; Lyonnet 2000). In general, as in the Iron Age, sites are small in the later AoE periods. Although the Gini coefficient results in Figure 4.14 show differences from the Khabur

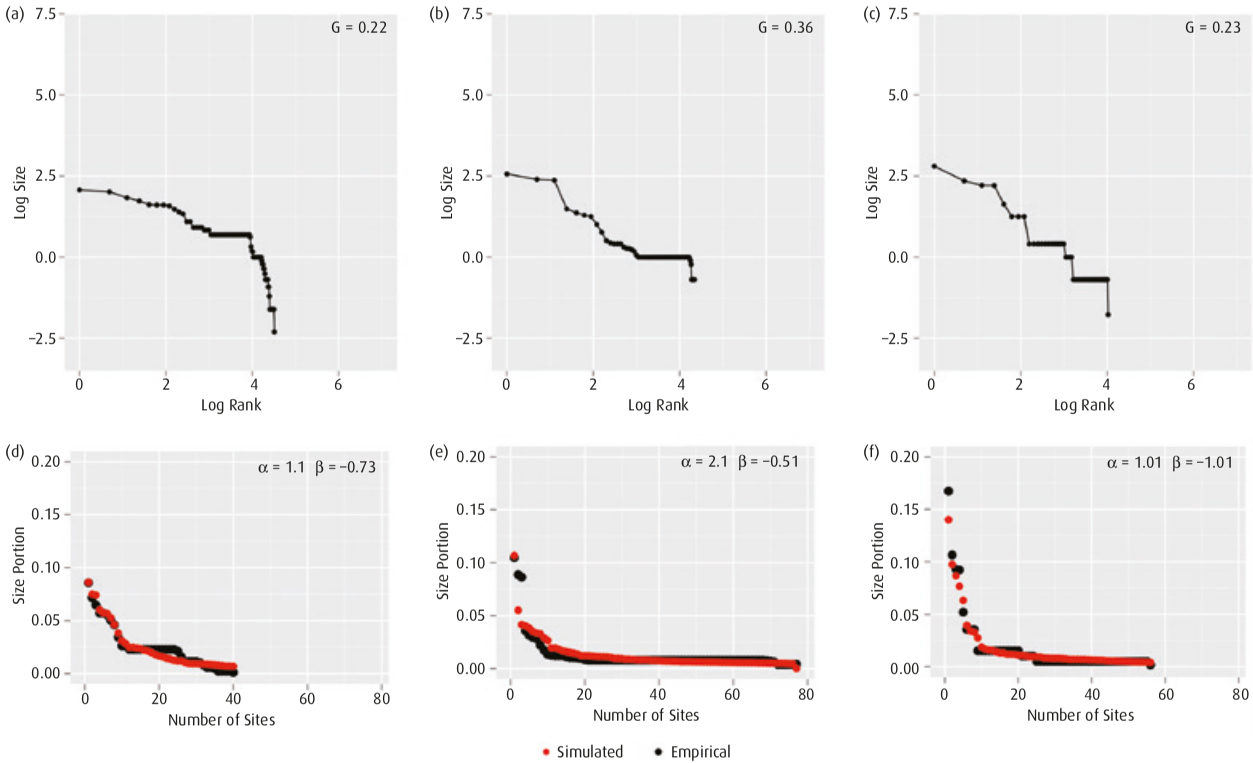

Figure 4.14 Log size-rank settlement hierarchies (a–c) and best-fit (d–f) simulation results in the Hamoukar and North Jazira regions for the Hellenistic (a, d), Roman/Parthian (b, e) and Sasanian (c, f) periods. The best-fit results are all $r^2 > 0.94$

Triangle in the Iron Age, the number of sites sampled is far smaller, probably affecting this measure's utility in this case. Simulation results for these AoE periods, in which settlements have equal initial advantages (as in Scenario 1, described above), show α at ≤ 2.1 and β at < 0.04, demonstrating that easy movement within the region may have persisted after the Iron Age (Figure 4.14d–f). Figure 4.15, applying Scenario 2 where Z equals site size, emphasizes flow and movement in the region. Because the region is smaller than that which was modelled for the whole Khabur Triangle in the Bronze and Iron Ages, the results show one or two dominant sites in the modelled area. The key output here, nevertheless, is not proportion of flow but to demonstrate that movement is generally easy across the landscape, as flow is directed across the entire area except for Figure 4.15a (the Hellenistic period), which has two main hubs. The fact that the surveyed areas are near to but not actually abutting each other may have affected the results somewhat. While some sites in the scenario appear locally dominant in attracting flow, no site is large or has an overwhelming ability to attract flow, as indicated in Figure 4.14. Generally, the population is low-density and spread across the region. For the North Jazira Survey, Bronze Age results from the application of modelling similar to that described here indicate that more restrictions to population movement are probably shaping settlement structures (Altaweel 2015). Larger and more differentiated sizes are also evident for that period. In summary, after the Bronze Age, large urban settlements mostly disappear from the Khabur Triangle and the North Jazira Survey, the regions becoming characterized more by dispersed, small settlements throughout the AoE. The scenarios demonstrate that in the AoE easy or unhindered regional movement, or at least less hindered than in the pre-AoE, may have affected the development of smaller settlement structures, in which pattern no site becomes overly dominant in size.

4.3 Case study: southwest Iran

The previous cases show seemingly divergent patterns of one region having increasingly large top-tier sites, specifically in Southern Mesopotamia, while the Khabur Triangle is characterized by smaller and more dispersed sites in the AoE periods. This section applies some of the methods used above to southwest Iran in the Susiana Plain to discover how the region compares with others (Figure 4.1: 3. Key data sources

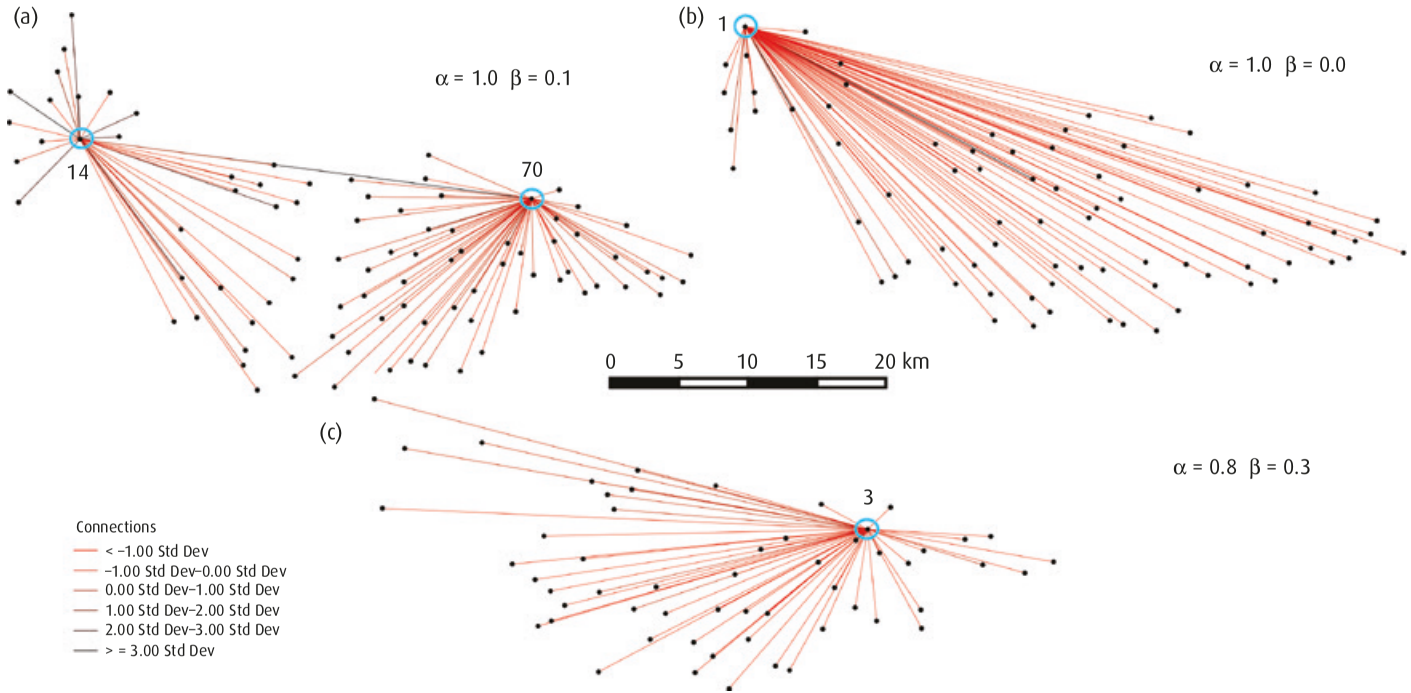

Figure 4.15 Scenario 2 results for the Hellenistic (a), Roman/Parthian (b) and Sasanian periods (c). Sites 1 and 14 (Ur 2010: sites 60 and 25) and 3 and 70 (Wilkinson and Tucker 1995) are indicated as the sites with the highest flow

are Adams (1962), Schacht (1987) and Wenke (1975–6, 1987), who conducted survey and quantitative analysis of different periods to look at key settlement transformations in the region. Wenke (1987) sees this region as having become an area of high-intensity settlement by the Sasanian period, suggesting that this was made possible by major investment in irrigation by the Sasanians. To sample some of the general trends between the pre-AoE and AoE periods, Figure 4.16 shows the settlement rank-size trends present in the region. What is evident is that second-millennium BCE settlements (Figure 4.16a and b) and Seleucid-Sasanian settlement patterns show that the size of the largest settlement increases through time. Additionally, the discrepancies between the first- and lower-order settlements become greater later on in the AoE, as indicated

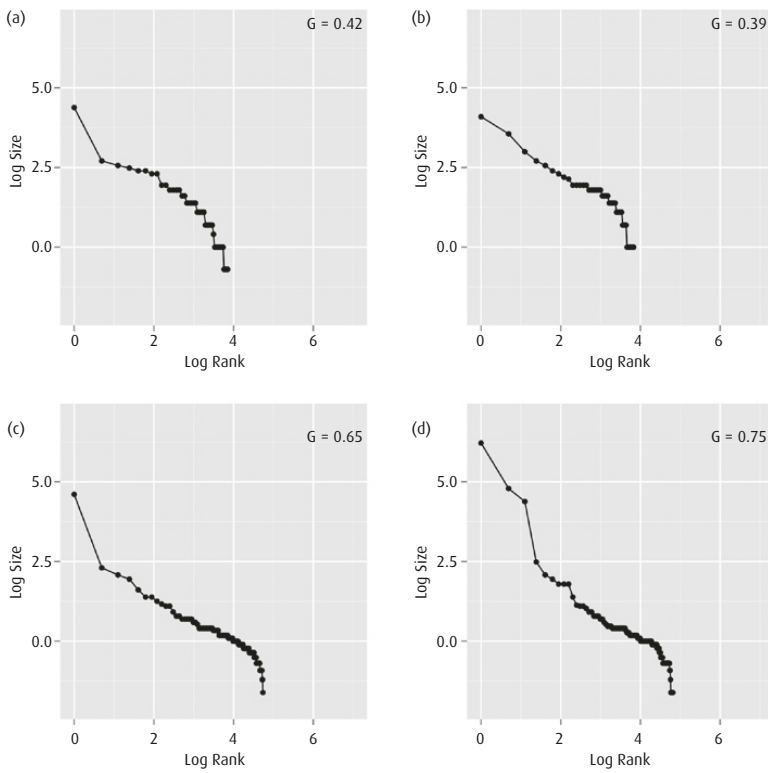

Figure 4.16 Log size-rank settlement hierarchies and Gini coefficients in the Susiana Plain from (a) the Sukkalmah (2000–1500 BCE), (b) the Middle Elamite (1500–1200 BC), (c) the Seleucid/Parthian and (d) the Sasanian periods

by the Gini coefficients in Figure 4.16. In terms of total occupied area, there are no great differences between the periods until the Sasanian period. The Sukkalmah and Middle Elamite periods appear to have nearly 270 hectares and 320 hectares occupied respectively, compared with about 260 hectares and 870 hectares for the Seleucid/Parthian and Sasanian periods. In the Seleucid period, rather than being characterized by large built-up areas that had increased relative to the pre-AoE, the region showed a greater concentration of population into one chief city. In the Sasanian period, numerous urban areas are present; however, the increase is far greater for one site as overall settled area increased.

Figure 4.17 applies a SIEM model to investigate settlement structural changes, using the same settings as in Table 4.1 (Scenario

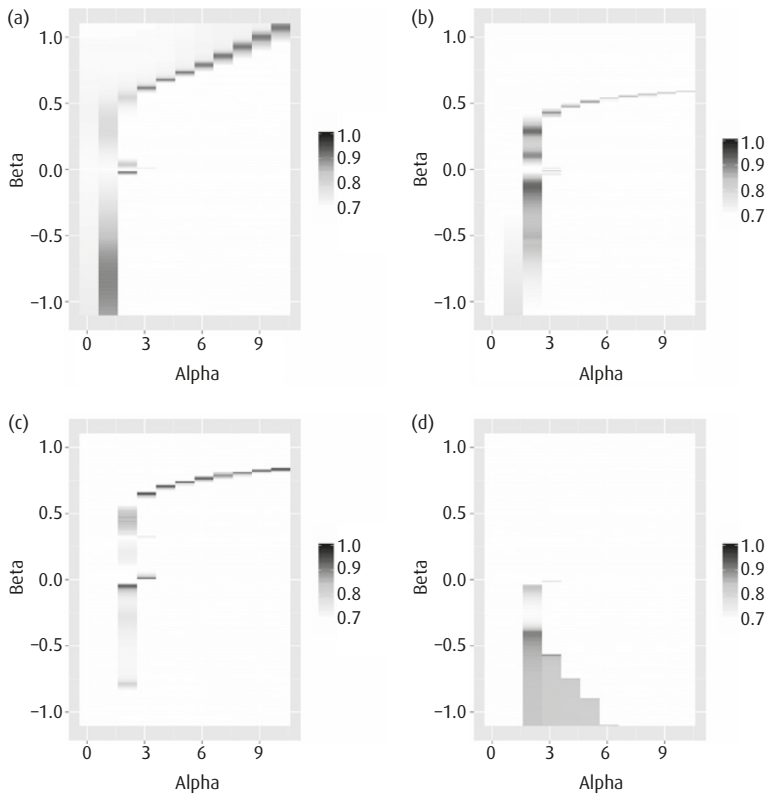

Figure 4.17 Scenario 1 r^2 results showing a parameter sweep applied to α and β for the Susiana Plain in (a) the Sukkalmah (2000–1500 BCE), (b) the Middle Elamite (1500–1200 BC), (c) the Seleucid/Parthian and (d) the Sasanian periods

1); however, here β ranges between –1 and 1, as these were found to have a better fit. The best-fit Sukkalmah results (Figure 4.17a) show α and β at higher ranges, greater than 1.1 and 0.5 respectively. For the Middle Elamite results (Figure 4.17b), the best-fit results are found when $\alpha = 2.1$ and $\beta < 0$, at around –0.1 to –0.15. For the AoE periods (Figure 4.17c–d), $\beta < 0$ is apparent for the better-fit results, suggesting relatively easy mobility. For the Seleucid/Parthian period, best-fit β is around –0.05, while for the Sasanian it is near –0.4.

The results for Scenario 1 suggest that relatively easy mobility may be evident as early as the pre-AoE periods, with this pattern continuing in the AoE. This is perhaps not surprising, as the area modelled here (2600 km^2) is far smaller than Southern Mesopotamia and the Khabur Triangle. Using Scenario 2 may provide other insights. Looking at interactions where *Z* equals settlement size (Figure 4.18), in all periods one site largely dominates. In this case, Susa (indicated by '1' in the figure) is the largest and most dominant in interactions in all periods except the Sasanian, when Jundishapur ('98') is the largest. The main difference between what is happening in the pre-AoE (Figure 4.18a, b, e and f) and in the AoE (Figure 4.18c, d, g and h) periods is that the dominant site in the AoE is larger and attracts far more flow. Historically, the region formed parts of Elam and corresponded to Susa's territory during the Bronze Age (Potts 1999). The results for the pre-AoE may simply support the political integration that occurred during that time. In the AoE period, the region is part of much larger empires; this period, and in particular the Sasanian period, were the zenith of economic and population growth for the region (Christensen 1993: 107). The population growth, therefore, could very well be because of high mobility in the AoE that enabled the Susiana Plain to be more intensively settled, leading to greater differences in site sizes between the largest and smallest sites, even though the settlement pattern suggests that single-site dominance was already occurring in the Bronze Age. Overall, the results suggest more intensive interaction, with easier mobility or greater advantage of a single urban site in the AoE periods than in the pre-AoE, which can lead to greater site-size differences between these periods, demonstrated in the Gini coefficients and settlement rank-size distributions.

In the Appendix, Tables A.5 and A.6 demonstrate the bootstrapping results, similar to those of previous cases, where ratios (0.05, 0.15, 0.25 and 0.5) for sites removed from runs are applied. Table A.5 is applied to the best-fitting parameters for Figure 4.17 (Scenario 1), while Figure 4.18's (Scenario 2) results are tested in Table A.6. The Seleucid and Parthian periods show the weakest results once sites are removed,

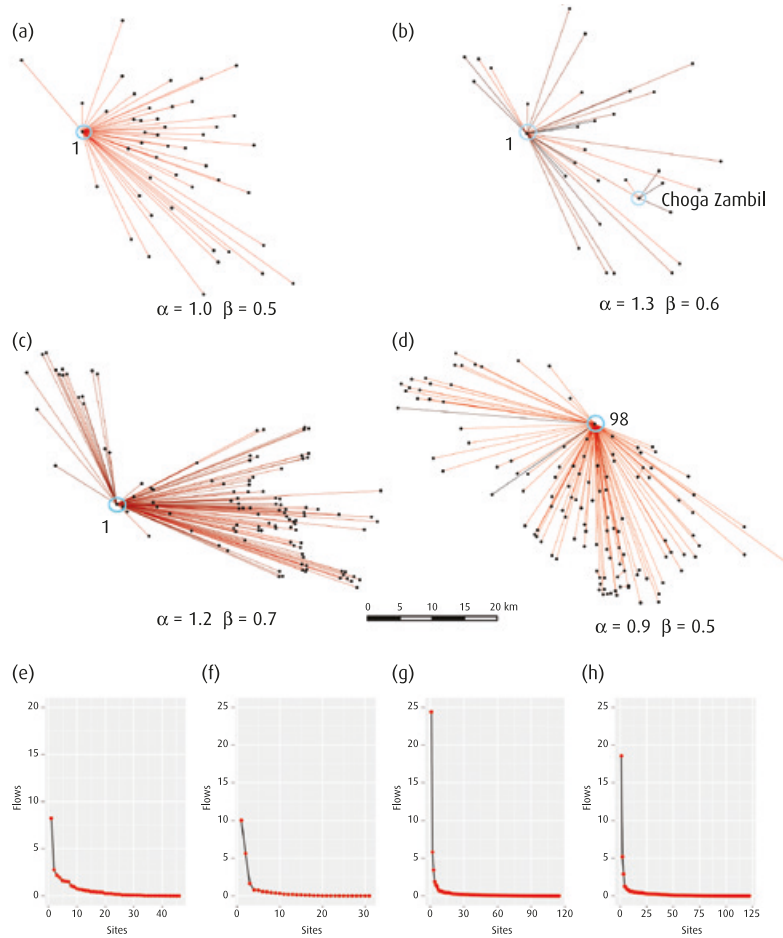

Figure 4.18 Interaction relationships using N-D graphs (a–d) and flows coming to sites as modelled using MCL (e–h) for the Sukkalmah (a and e; $\alpha = 1.5$ and $\beta = 0.7$), Middle Elamite (b and f; $\alpha = 1.3$ and $\beta = 0.6$), Seleucid/Parthian (c and g; $\alpha = 1.2$ and $\beta = 0.7$) and Sasanian (d and h; $\alpha = 0.9$ and $\beta = 0.5$) periods' settlement patterns

at greater than a 0.05 rate in Table A.5. As the ratio of sites removed increases, the results become weaker. The results here tell us that, at least at the 0.05 levels (the ratio at which sampled sites may not have been contemporary), more confidence in results is justified. Similarly to before, Table A.6 shows that using site size for *Z* leads to mostly robust results in the bootstrapping method; some weakness in the results are found at the 0.5 level, but generally less than in Table A.5. However, this

is an average, which suggests that there could be larger deviations in the robustness of results for any single scenario setting of settlements.

4.4 Case study: Central Anatolia

For Central Anatolia, data become patchy in regions and periods, so that it is generally more difficult to have a broad spatial overview of the area and its settlement structure. However, for the Middle Bronze Age, settlement data have been digitized from previous studies and earlier SIEM modelling already applied (Palmisano and Altaweel 2015; Figure 4.1: 4). This work is based on surveys and relevant research conducted in the region that are summarized in Table 4.2; these data allow us to reconstruct settlement patterns and hierarchy for this period (Figure 4.19a). Overall, in the Middle Bronze Age the Gini coefficients are the same (0.28) in Central Anatolia as they are in the Khabur Triangle, showing comparable site-size disparity among the ten largest sites in these regions. Overall, about 1209 hectares are occupied in the Middle Bronze Age.

Once again, SIEM is applied using Table 4.1 parameters to investigate the factors of α (site advantage feedback) and β (movement) that affect overall settlement structure (Figure 4.19b). In this case, the results show that if all sites have equal levels of advantages, then the best results are $\alpha = 2.1$ and $\beta = 0.051$–0.061 and 0.651 for linear least-squares fits that are $r^2 > 0.94$ between the surveyed and the simulated data. To further determine the social and economic dominance of sites, a second scenario that looks at site advantages using the empirical site size is applied. The result of the best Spearman's rank order correlation and least-squares fit ($\alpha = 0.8$, $\beta = 0.5$) is also indicated (Figure 4.19c). An N–D graph indicates eight main centres, one site being slightly more dominant (Boğazköy; Site 70); these results are similar to those in Palmisano and Altaweel (2015). Scholars indicate that the Middle Bronze Age, and the second millennium BCE in general, was a period of localized conflict (Glatz, Matthews and Schachner 2009), which could affect settlement structure by restricting population migration across the landscape. While some good-fit results are seen in the first scenario for cases where movement is less restricted, the results also indicate that more restricted movement is also possible. According to Scenario 2, which is similar to previous cases, no site is able to completely dominate the region – eight hubs are found – in part because of the nature of political competition in the region in the Middle Bronze Age (Palmisano and Altaweel 2015).

Table 4.2 Sources reflecting surveys from Central Anatolia

Season	Reference	Area (sq. km)
2000	Bahar 2002	5,825
1962, 1965	Brown 1967	31,349
2005	Di Nocera 2008 and 2009	1,034
1997–9	Dönmez 1999, 2000, 2002	23,408
1958	French 1970	1,127
1993	Gülçur 1995	1,341
1996–2002	Kealhofer 2005	200
2008–10	Kulakoğlu *et al.* 2009, 2010 and 2011	19,194
1995–7	Kuzucuoğlu *et al.* 1997; Marro *et al.* 1998; Özdoğan *et al.* 1997, 1999 and 2000	6,189
1997–2001	Matthews and Glatz 2009	7,737
1992–5, 1997–9; 2007	Ökse 1994, 1995, 1996 and 1997, 1999, 2000 and 2001; Engin 2009	27,789
1990	Omura 1992	58,847
1991	Omura 1993	6,899
1992–3	Omura 1994 and 1995	4,322
1994	Omura 1996a and 1996b	12,143
1995	Omura 1997	1,634
1996	Omura 1998	1,037
1999–2000	Omura 2000 and 2001a	6,152
2000	Omura 2001b	2,057
2001	Omura 2002	4,555
2002	Omura 2003	1,786
2005	Omura 2006	2,672
2006	Omura 2007a	3,529
2003–6	Omura 2007b	7,988
2007	Omura 2008	1,435
1975–6	Özdoğan 1977	369
1989, 1995–8, 2001–5, 2007	Özsait 1991, 1998, 1999 and 2000, 2002, 2003, 2004, 2005, 2006 and 2007, 2009; Özsait and Özsait 2001	26,454
1997–8	Senyurt 1999	5,804
1996–7, 2002, 2006	Sipahi and Yildirim 1998, 1999 and 2000, 2004, 2008	13,964
1988–8	Süel 1990	1,440
1977	Yakar and Gürsan-Salzmann 1979	21,370

While the above results indicate the settlement structure for the Middle Bronze Age, after the Late Bronze Age settlement sizes and overall occupation may have declined. However, from the Iron Age to the later AoE periods, the overall settled area shows an increase in the number and size of settlements in such regions as north Central Anatolia (i.e., Paphlagonia). In the Hellenistic era, a period characterized by conflict

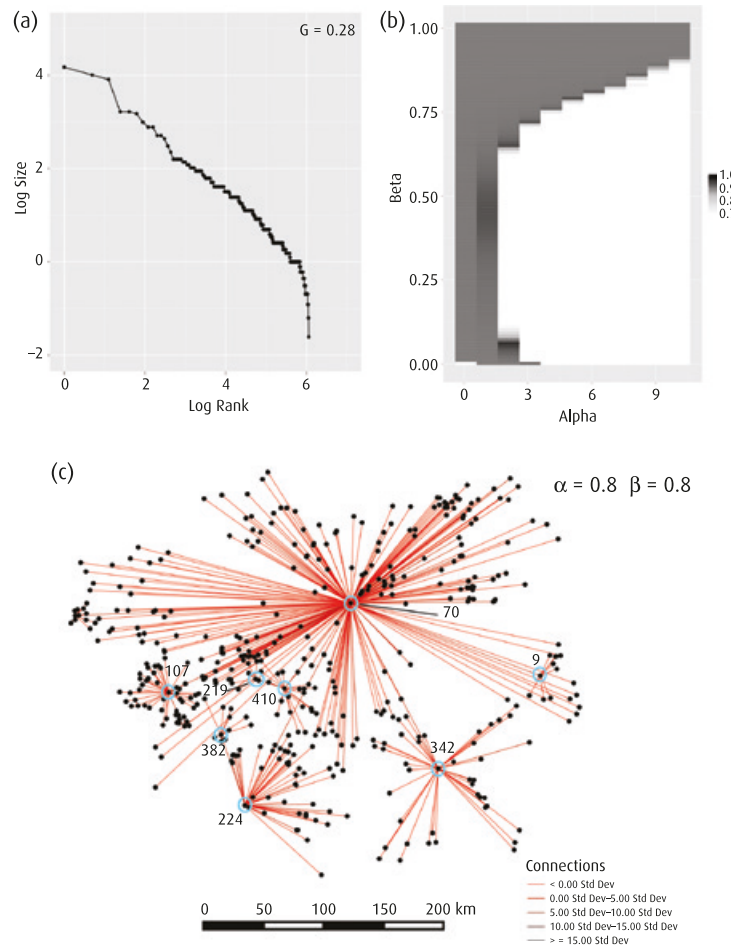

Figure 4.19 (a) Rank-size hierarchy for settlements, with the Gini coefficient (G), for CA during the Middle Bronze Age (2000–1600 BC); (b) Scenario 1 results; (c) an N-D graph for Scenario 2

in Anatolia, where the wider region was more fragmented than other parts of the Near East, overall settlement in Paphlagonia was low. In the Roman and early Byzantine periods (ca. second century BCE–seventh century CE), a steady increase in settlements, small and large, is evident (Matthews, Metcalfe and Cottica 2009: 178, 189). This observation is comparable to those for other parts of Anatolia, including Phrygia (Kealhofer 2005: 148), Lydia (Pleket 2003: 89), the Konya region (D. Baird 2004: 232), Sagalassos (Vanhaverbeke, Martens, Waelkens and Poblome 2004: 255), Cilicia (Blanton 2000: 60), and western coastal regions (Izdebski 2013). Overall, much of Anatolia became more

intensively settled by the Roman period. One possibility is that as greater socio-economic integration and less internal warfare occurred in the region there was greater opportunity for settlement and economic potential (Köse 2005). Some of this growth could have been migration-driven.

In the next set of runs, SIEM is used to investigate parts of Central Anatolia for the AoE periods where data are present. Before we apply this, however, Figure 4.20 shows settlement rank size from several surveys in the region (Brown 1967; Efe 1990, 1991, 1992, 1993, 1994, 1995, 1996, 1997; Ökse 1994, 1995, 1996, 1997, 1999, 2000). The results show an increasing trend in overall settled hectares, from about 135 hectares for the Iron Age to 180 hectares in the Hellenistic/early Roman and 240 hectares in the late Roman/Byzantine periods. The full extent of site sizes given in the survey results suggests that sites did not reach the largest settlement sizes seen in the pre-AoE. However, the surveys are more problematic than the earlier cases, because site area rather than occupied area is provided for each period. If the site areas are an indication of period occupation, then the pattern shows a greater number of larger sites later in the AoE than in the earlier AoE, similarly to the trends seen in other regions of Anatolia. While these results are less reliable than others because of the survey data, with modern cities such as Ankara probably obscuring some of the ancient sites, it is evident that there is a settlement pattern of more equal site sizes in the Iron Age. Even with the less reliable results, this is likely to be true since full site sizes are generally small. There is more differentiation in site size in the Hellenistic/early Roman and late Roman/Byzantine periods. Figure 4.21a shows the results of applying SIEM using Scenario 1 parameters (Table 4.1); it indicates that the best-fit results are obtained when $\alpha = 2.1$ and $\beta = 0.05$–0.1 and 0.4–0.42. For Figure 4.21b, the best results are $\alpha = 2.1$ and $\beta = 0.11$–0.14 and 0.39–0.42 for the Hellenistic/early Roman periods. The best-fit results are $\alpha = 2.1$ and $\beta = 0.03$–0.1 and 0.39–0.431 for the late Roman/Byzantine periods (Figure 4.12c).

Scenario 2, allowing *Z* to be equal to settlement size, demonstrates flow to settlements similar to other cases discussed previously. In Figure 4.22a and d, the Iron Age (Phrygia period) shows more dispersed interactions; Figure 4.22b and e show Hellenistic/early Roman interactions, mostly focusing on the largest site (Site 35; Harabe, about 40 hectares), where the site has the greatest portion of interactions. Figure 4.22c and f show interactions for the late Roman/Byzantine periods, showing similar central flow, but in this case to Site 81 (Porsuk 1; about 26 hectares). According to these data, from the Hellenistic period and later, there is increasing settlement size but also centralization of flow to the largest site. Given these results and what is known about the region politically and economically between the

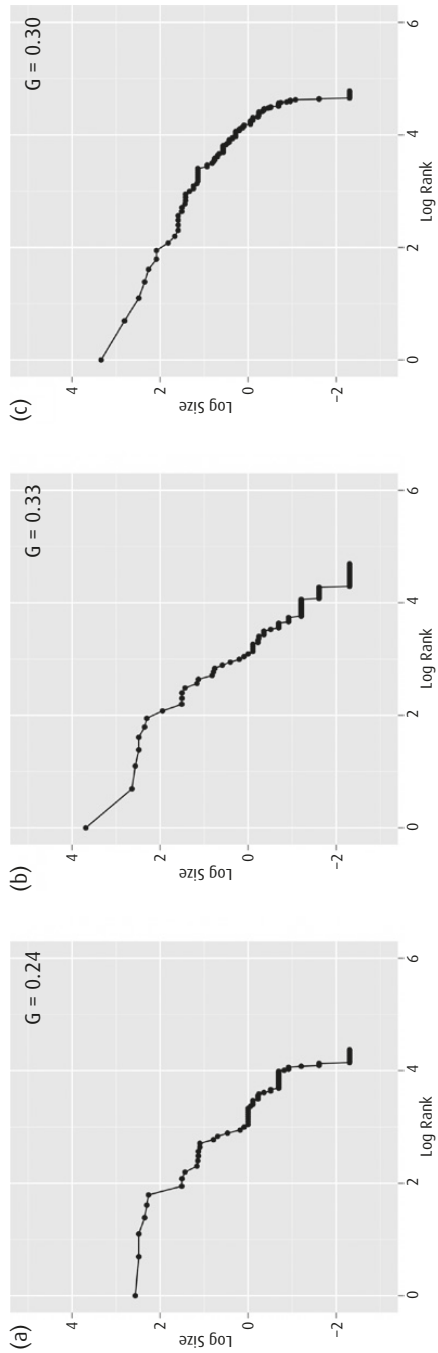

Figure 4.20 Rank-size graphs for the Iron Age (a), Hellenistic/early Roman (b) and late Roman/Byzantine periods (c)

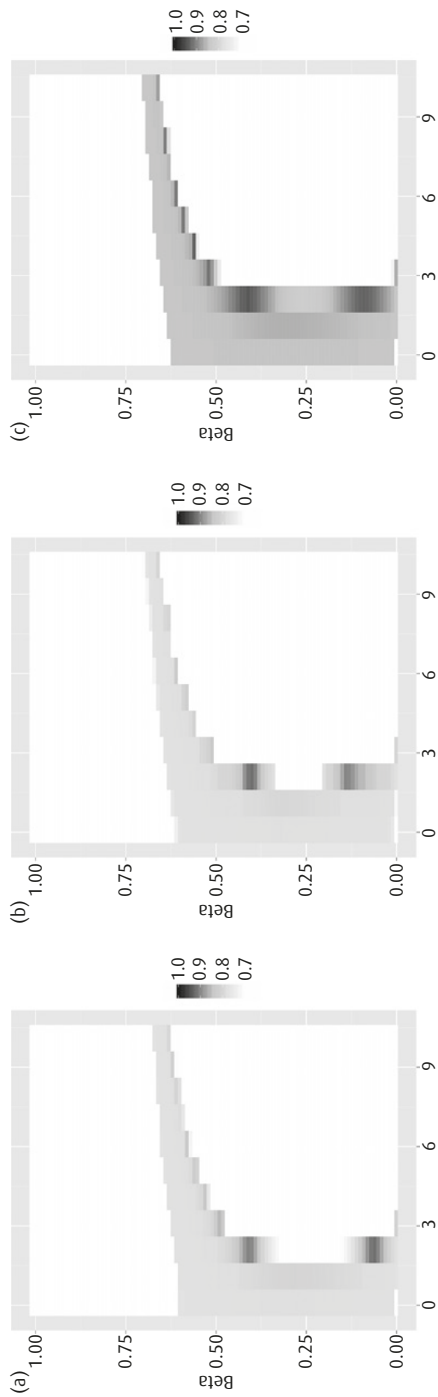

Figure 4.21 Scenario 1 results for settlement interactions for the Iron Age (a), Hellenistic/early Roman (b) and late Roman/Byzantine periods (c)

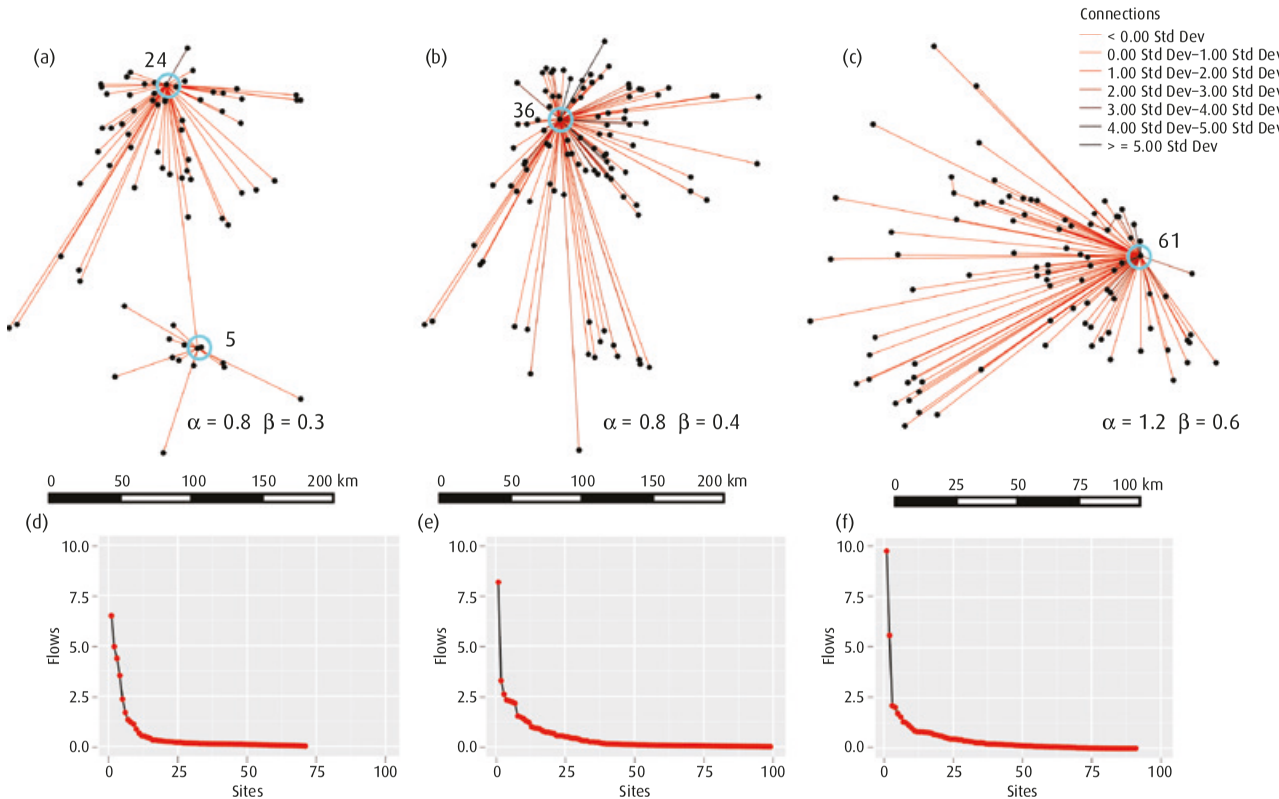

Figure 4.22 Scenario 2 interactions for the Iron Age (a), Hellenistic/early Roman (b) and late Roman/Byzantine periods (c); interactions shown for the IA (d), Hellenistic/early Roman (e) and late Roman/Byzantine (f) periods

Iron Age and Byzantine periods, movement may have been more restricted in the Iron Age because of warring states in Anatolia (that is, higher β in Figure 4.21a is plausible). By the Hellenistic/early Roman periods, movement may have been less restricted in the scenario. The Hellenistic period also witnessed conflict in Anatolia, as it was less integrated into larger states similar to other regions in the Near East at the time. In the late Roman/Byzantine periods, however, movement appears to be the easiest or most facilitated of all cases, with β somewhat lower in this period for Scenario 1, and proportionally greater flow towards the largest site (i.e., Scenario 2). To summarize, the results suggest that movement in the region becomes much easier by the Roman and Byzantine periods, as this was a time when the region was well integrated into larger empires for long periods. Flow towards the largest site in the late Roman and Byzantine periods may have been concentrated towards a single site rather than to more dispersed settlements. The largest sites in Central Anatolia during the AoE also appear not to reach the level seen in the Middle Bronze Age, despite having greater regional dominance in interactions. Nevertheless, larger sites may have been present in the AoE, but they may be obscured or have been destroyed by more recent or modern construction.

Similarly to previous cases, a bootstrapping methodology is applied to test the robustness of the best-fit results from Scenarios 1 and 2 (Tables A.7 and A.8). The results for both scenarios show that the results are not very sensitive to change. Weaker results, that is, < 0.9 r^2 fits, are seen at the 0.5 sampling ratios for all periods except the Middle Bronze Age. This suggests that, even if many sites were not contemporary, the results observed may represent the known settlement structures, although, for any individual case, settlement structure may have been different in parts of the period represented. While the trends in these results appear to largely parallel what has been described for other regions in Anatolia, size estimates for sites are less clear for Central Anatolia, since surveys were often general and not intensive. Although the results are relatively robust, as demonstrated in the bootstrapping results, the lack of intensive survey in the region means that sites and empirical site-size estimates may have been missed, which may have adversely affected our understanding of the true settlement structures.

4.5 Case study: western Syria, southern Anatolia and the Northern Levant

For regions covering southern Turkey and the Northern Levant, several surveys have been conducted. They include the Kurban Höyük

(T. J. Wilkinson 1990), the Amuq (Casana and Wilkinson 2005), Land of Charchemish (Wilkinson, Peltenburg and Wilkinson 2016), Homs (Philip, Abdulkarim, Newson *et al*. 2005), Titriş Höyük (Algaze, Mısır and Wilkinson 1992) and Tell es-Sweyhat (T. J. Wilkinson 2004) regions (Figure 4.1). As before, one can look at known sites and apply Gini coefficients to the top ten settlements to obtain an idea of overall settlement inequality or differences between the larger and smaller sites, which tells us if there is much disparity between them. Overall, Figures 4.23 and 4.24 show increasing disparity over time until the Iron Age, whereas disparity decreases in the Hellenistic and Byzantine periods. The Roman period, on the other hand, sees an increase in disparity. The total occupied area declines after the Early Bronze Age and then recovers in the Iron Age. Only in the Roman period does the overall occupied area increase more than in the Early Bronze Age; the Byzantine period sees another decline.

While the results demonstrate general trends for the wider region, consideration of the surveys that have been mentioned may provide evidence of variation across different survey regions, as the larger results may mask geographically relevant developments. The graphs for the Kurban Höyük and Tell es-Sweyhat regions (Figure 4.25a and b) show that they never reached the same total occupied area after the Early Bronze Age in the periods investigated. On the other hand, in the Hellenistic or Roman period the total number of hectares occupied recovered, and even exceeded the Early Bronze Age in the Homs and Amuq regions (Figure 4.25c and d). Therefore, in most areas to the east and around the Euphrates, settled occupation never approached the level of the Early Bronze Age, while in the Levantine regions the area occupied exceeded that of the Early Bronze Age in parts of the AoE, starting in the Hellenistic period and continuing into the Byzantine period. Looking at this further using rank-size hierarchy, we see that in the inland regions, specifically those around Kurban Höyük (Figure 4.26a–d), not only did occupied area decline after the Early Bronze Age, but also settlement rank-size hierarchy became relatively even, as indicated by the Gini values. Even when total settlement area recovers in the Roman period, differences in size between settlements are minor. In the Homs region (Figure 4.26e–h) there are greater differences between the largest and smallest sites over time, particularly in the Roman period. In other words, the Homs region had more and larger sites, with greater size differences, in the Roman period than in the Early Bronze Age. In the Amuq (Figure 4.26i–l) the rank-size differences were no greater in the AoE than in the pre-AoE, but there were more settlements, and a greater area was occupied, in the Hellenistic and Roman periods.

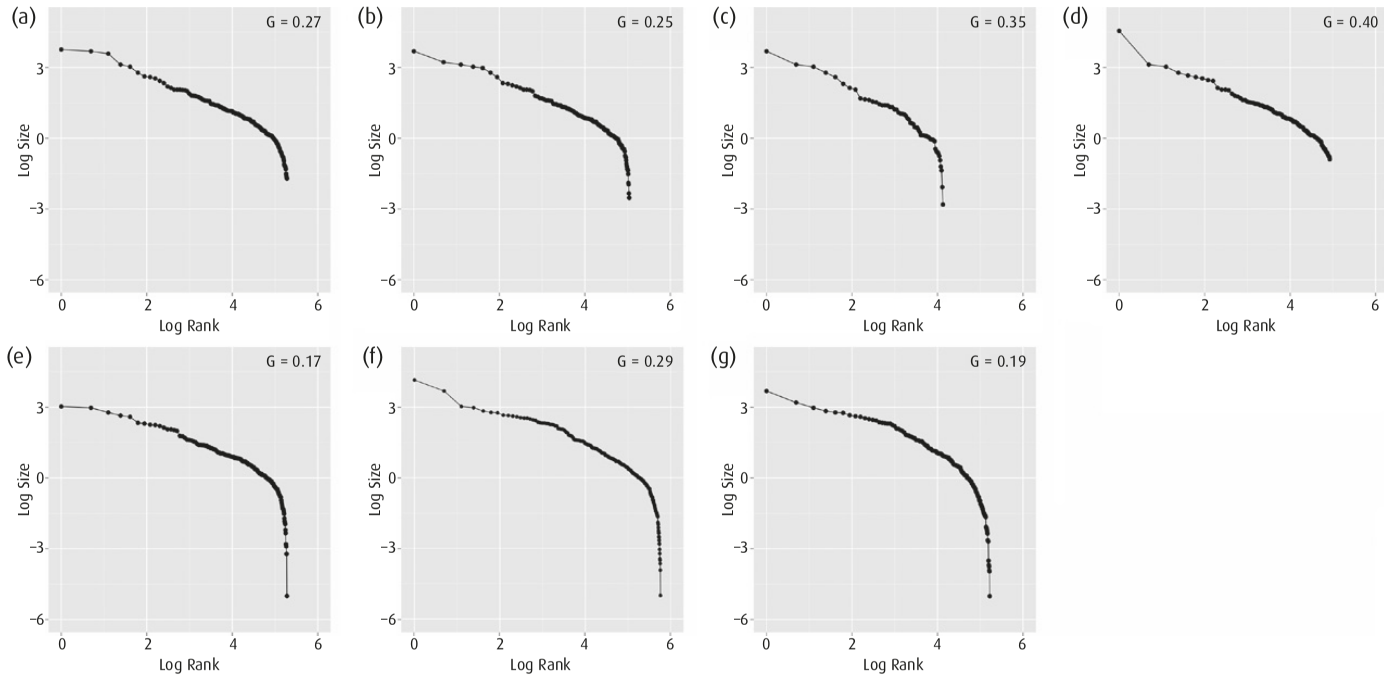

Figure 4.23 Settlement rank-size graphs with Gini coefficient (G) values for the top ten largest sites. The periods represented (a–g) are Early Bronze Age (EBA), Middle Bronze Age, Late Bronze Age (LBA), Iron Age (IA), Hellenistic (HEL), Roman (ROM) and Byzantine (BYZ)

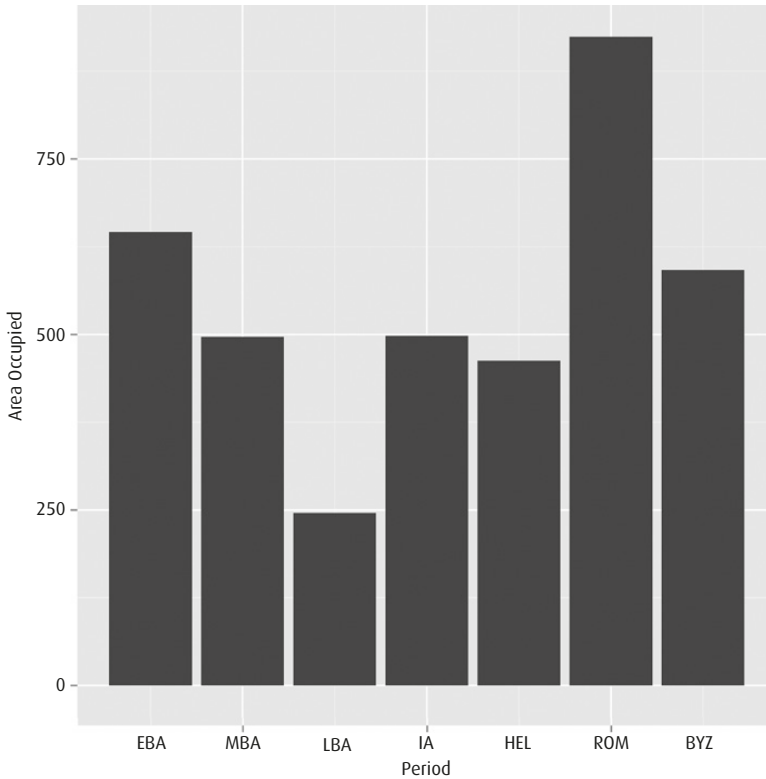

Figure 4.24 Total area (in hectares) occupied in the EBA, MBA, LBA, IA, HEL, ROM and BYZ periods

What appears to have been happening is a shift of settlement to regions closer to the Levantine coast later in time and during the AoE, whereas regions around the Euphrates or to the east were less occupied for most periods after the Early Bronze Age. This is largely in agreement with what Mazzoni (1991–2) has stated. In the Roman period, when more settlements in regions further inland are evident, the settlements were generally similar in size; that is, they were small, without the major urban centres of the Early Bronze Age. The dispersed and relatively flat rank-size hierarchy curves were very similar to those in the Khabur Triangle in the Iron Age and later periods (discussed earlier) for regions such as the North Jazira. This suggests that the population was generally smaller, but the settlement sizes suggest that movement was easier or facilitated, as in the Khabur Triangle regions in the Iron Age and later periods. In other words, such structures, of more even settlement sizes, suggest relatively easy movement across the landscape.

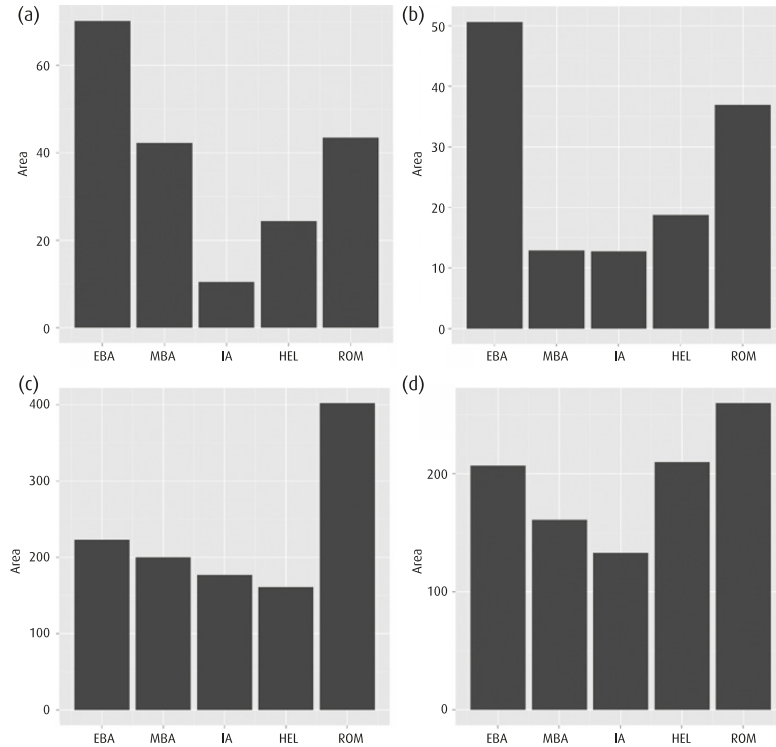

Figure 4.25 Surveys from the Kurban Höyük (a), Tell es- Sweyhat (b), Homs (c) and Amuq (d) regions showing total occupied area (in hectares) for the EBA, MBA, IA, HEL and ROM periods

In fact, it is not just the less occupied regions but also the more densely occupied coastal regions, such as the Amuq during the AoE, that suggest that freer movement and interactions were affecting settlement structures. As the Amuq region is more expansive, and settlements have been recovered throughout the valley for all periods, one can use SIEM to investigate how settlement structures may have been created by factors of site benefit feedback and movement. Once again, Scenarios 1 and 2 are applied to test factors shaping settlement structures, this time focusing on the Roman period when widespread settlement and total area occupied were at their peak. The results (Figure 4.27) show good β fits for values < 0.1 when $\alpha = 2.1$ (Figure 4.27a), some of the best fits being at $\alpha = 2.1$ and $\beta = 0.069$ ($r^2 = 0.98$; Figure 4.27b). Figure 4.27c and d show Scenario 2, which emphasizes how sites can maintain rank and size. The best results ($\alpha = 0.8$ and $\beta = 0.4$; $r^2 > 0.98$ and Spearman's rho > 0.94) show dispersed interactions where no site is able to draw

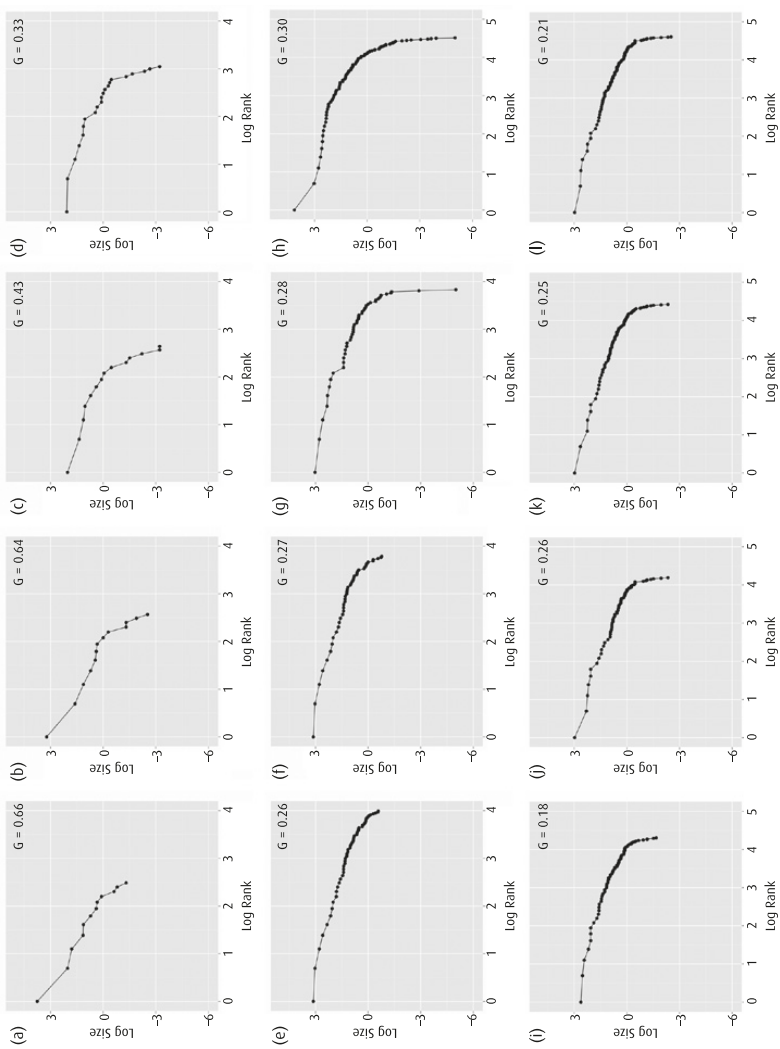

Figure 4.26 Rank-size graphs for the Kurban Höyük (a–d), Homs (e–h) and Amuq regions (i–l), with Gini coefficient (G) values. The periods shown are the EBA (a, e, i), MBA (b, f, j), Hellenistic (c, g, k) and Roman (d, h, l)

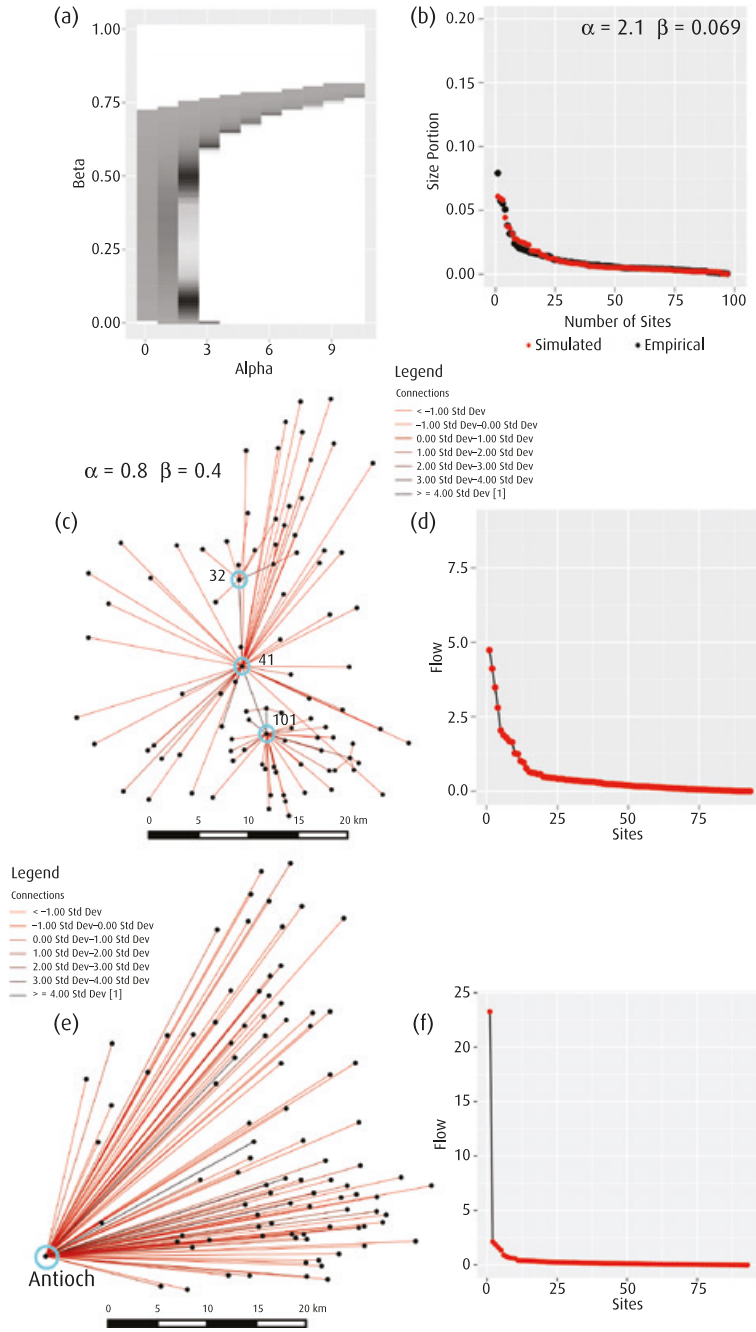

Figure 4.27 Results of SIEM (Scenarios 1 and 2) for the Amuq region in the Roman period. The results show r^2 fit between empirical and simulated data for Scenario 1 (a) and the best-fit case (b). Scenario 2 shows an N-D graph (c) and a portion of interactions (d). (e) and (f) show a hypothetical case that adds Antioch using Scenario 2's approach

many more interactions, similarly to the Khabur Triangle in the Iron Age. As before, a sensitivity analysis was done using a bootstrapping method. The results are robust at all sampling levels (0.0–0.5 ratios) for both scenarios: the 0.5 ratio resulted in a least-squares fit between the empirical and simulation of $r^2 > 0.94$ for Scenario 1; Scenario 2 shows $r^2 > 0.98$ and Spearman's rho > 0.98.

An aspect missing from this analysis is the major city of Antioch, which is mostly obscured by modern occupation. Its incorporation in the analysis would certainly have affected the results, given the ancient city's very large size (perhaps over 1000 hectares). Figure 4.27e and f show hypothetical results under the assumption that during the Roman period Antioch reached 1000 or more hectares; the results show the city dominating the region's interactions. This city, in fact, was probably already several hundred hectares by the Hellenistic/Seleucid period, which would mean that even as early as that the city would probably have dominated the region in size (Aperghis 2004: 93; Cohen 2006: 93). This would suggest that the Amuq in the Hellenistic to Roman periods bore more similarity to Southern Mesopotamia during the Neo-Babylonian and Achaemenid periods (see Casana 2007); the Gini coefficient for site-size difference should also be far greater than indicated in Figure 4.26k and l. The results probably show that in the Hellenistic to the Roman periods the Amuq mostly had small settlements, Antioch probably being far larger than anything nearby. Adding a large Antioch to the region shows it dominating interactions as Babylon did. This suggests that movement towards the centre of Antioch was relatively easy, which is similar to Scenario 2's results for Babylon's Neo-Babylonian/Achaemenid periods, indicating Antioch's regional socio-economic significance.

From these results, there are two possibilities for areas that have greater occupation by the Roman period, specifically the coastal and Levantine regions. One is increased occupation spread over many smaller sites, while the other is increased settlement over the entire region with a more dominant centre as in the Homs region, probably the city of Antioch. The Amuq region interactions show that movement could have been easier or less constrained in order to form the settlement structure observed. In fact, for the Amuq, the proximity of Antioch seems to have made many settlements around this site far smaller than they might otherwise have been. While one cannot know how many settlements were contemporary, the settlement structures suggest that, perhaps as early as the Hellenistic period for the Amuq, but certainly by the Roman period for both the Homs and Amuq regions, movement was easier, and population may have been concentrated in one large city. Unfortunately,

much of the Achaemenid period is relatively unknown in these regions, but political integration may already have facilitated interactions and ease of movement by this period. In the Iron Age, however, smaller sites are known, suggesting that regional interactions more like those in the Khabur Triangle may have occurred earlier in the AoE, when movement may have been relatively easy as in the Khabur Triangle.

4.6 Case study: the Southern Levant

As quantitative analysis has already been applied by authors who have investigated settlement patterns in parts of the Southern Levant (Falconer and Savage 2009), some of the relevant results can be summarized here. In this case, cluster analysis and assessment of the types of rank-size curves indicate a Bronze Age landscape of shifting or multiple centres where the political landscape is interpreted as fractured and dynamic. The settlement patterns reflect this, in that multiple major centres arise in different periods that dominate specific but small regions, and settlement structure and hierarchy change throughout the third and most of the second millennia BCE. In particular, in the Middle Bronze and Late Bronze Ages, even when much of the Southern Levant was occupied by Egypt, the pattern of city-states is evident. Overall, little regional integration is evident in settlement patterns. These statistically based results largely support the similar conclusions already drawn for other regions such as Southern Mesopotamia and the Khabur Triangle during pre-AoE periods.

Other works can be used to summarize trends that can be compared with what has already been discussed. In the Iron Age I (ca. 1200–1000 BCE), small sites (254 from the survey) dominated much of the inland hilly regions of the Southern Levant (Finkelstein 1998; Levy and Holl 2002). New migrations or changes in settlement were already apparent by the Late Bronze Age. In the Iron Age I, the inland regions did not show a clear urban centre. The coastal region, on the other hand, probably showed the establishment of the Philistines, whose five main cities (Ekron, Gaza, Gath, Ashdod and Ashkelon) had already begun to develop, which may have led to the gradual squeezing out of the Canaanite populations of the region (Stager 2003). By the Iron Age II (ca. 1000–600 BCE), several small states had arisen, including the Philistines', Israel, Judah, Ammon, Edom and Moab. These states generally had a chief city associated with their territory, which was often the political capital. The eighth century BCE in particular saw the rise of many larger towns near each other, including Dan, Hazor, Megiddo,

Jokneam, Dor, Samaria, Shechem, Jerusalem, Gezer, Beersheba and Lachish (Faust 2012: 259). Some of these, however, belonged to the same state. Nevertheless, given that several polities occupied the Southern Levant, this pattern is likely to be similar to that seen in the Bronze Age, in which multiple large towns existed near each other and multiple states existed in a small area. The ninth to eighth centuries BCE were a period of major conflict between small states in the region and, in particular, with Assyria. While Jerusalem was a large city in the seventh century BCE, its sacking in the sixth century BCE suggests that much of the region may have become devoid of large settlements by that time, although this is not universally agreed upon (Lipschits 2006).

In the Achaemenid period, surveys and scholars have indicated a decline in the total number of settlements in the inland hill country in Israel and Judah (Faust 2007). Where there are clear settlements they are generally small. This reflects a pattern similar to that seen in the Khabur Triangle, where the region became more rural and sparsely settled. Jerusalem may have served as a slightly bigger town, but it was still likely to have been no larger than 5 hectares, while other rural settlements were generally smaller than 1 hectare. On the other hand, evidence of Phoenician-influenced settlement appears to indicate some population increase or recovery along the coast. This probably reflects new commercial interests in the region, as international trade increased by the Achaemenid period (Lipschits 2006). In the late Achaemenid, or more clearly in the Hellenistic period, in the fourth century BCE and later, settlement began to increase and, probably, overall population (Lipschits and Oren 2007; Faust 2007). Some of this probably reflects Achaemenid construction of fortresses and other sites, possibly including administrative ones, in response to Egypt breaking away in the late fifth and continuing into the fourth centuries BCE. The trend of increased settlement continued throughout the Hellenistic and early Roman periods. By the first century BCE, it is likely that Jerusalem was far larger than any other regional town in the Southern Levant, although disagreements remain about the exact figure for that population (Levine 2002: 343; Geva 2014). Overall, a pattern comparable to that in the Northern Levant occurred, in that the settled area increased in the coastal regions and slightly inland, by the Hellenistic period, trade being a probable factor in this.

In Late Antiquity, that is, from the late Roman period until the Byzantine period, like the Northern Levant the Southern Levant experienced high population growth (Broshi 1979; Bar 2004). In this period, seven settlements were probably between 90 and 120 hectares (Ptolemais, Legio, Caesarea, Scythopolis, Aelia-Capitolina, Anthedom and Gaza).

Four of these cities were on the coast, and the other three slightly inland. It is likely that this reflects the prosperity in the region with regard to the trade and other commercial activities that became more active across the Mediterranean, with the Roman and Byzantine Empires integrating the region. The settlement pattern largely reflects trends seen in places such as the Homs region, where larger sites emerge. However, settlement sizes are dissimilar to Antioch's, sites being probably not larger than 120 hectares, which indicates that the Northern Levant had a far larger city in the form of Antioch, which was probably more than 1000 hectares. In effect, while population grew and settlements became larger, size disparity between the largest and second-tier sites probably grew throughout the Levantine region. Population was more concentrated along the coast, but within this concentration it was skewed to a particular place.

Generally, the Southern Levant has a lot in common with the Northern Levant. The region moves from a fractured Bronze Age system to a more densely populated Iron Age one, although most of the Iron Age shows a fractured political landscape and probable settlement pattern. In the early Achaemenid, apparent low settlement numbers reflect perhaps either a lack of knowledge of Achaemenid material culture, or that it took some time for settlements to recover from the destruction and deportations of populations that occurred in the seventh to sixth centuries BCE. The settlements that are known are structurally similar to those we see in post-Iron Age regions of the Near East such as the Khabur Triangle. By the late Achaemenid, or at least by the Hellenistic period, and into Late Antiquity, many settlements and a large number of areas were occupied again, although in many cases settlement sizes between the largest sites were not very different in the Southern Levant. Unlike in the Northern Levant, very large cities like Antioch appear to have been missing. Nevertheless, the recovery of settlements by the Hellenistic era begins to reflect trade and other activities in the coastal regions. The trend of greater population shifts towards the coast in the Levant suggests movement of population to areas where active trade and other interests were growing along the Mediterranean. This begins to show a closer economic, and eventually political, integration across the wider Mediterranean. The dominance of Antioch suggests that by the Roman period it would have been in a category of its own in terms of urban scale, dominating in size the length of the Levantine coast, where it was possibly an order of magnitude larger than any other city. This would indicate that Antioch had a similar socio-economic dominance in the region to that of Babylon in the Neo-Babylonian/Achaemenid periods.

4.7 Summary

Throughout the AoE, a pattern of easier movement becomes evident in several regions. While we cannot define movement or migration as a short-term process, settlements, as a picture of where people lived in a given period, indicate that cities that were disproportionally larger were developing in some selected regions. Figure 4.28 shows relative patterns of urbanism in the AoE from the end of the Achaemenid/early Hellenistic to the Sasanian periods, when the trend of large and small urban areas shows regional variations. Total population may have increased, particularly in parts of the Roman, Parthian and Sasanian periods, but larger differences between city and site sizes indicate that greater population concentration was also happening in regions in relation to the overall population. Regions that include southwest Iran, Southern Mesopotamia and the Northern Levant developed cities that were far larger than anything near them. The Levant in general became a region of greater urbanization, and this is probably true of other places, such as the coastal regions of Anatolia. These changes were not uniform, and concentrations of populations were focused differently in the various regions and periods. Whereas Southern Mesopotamia developed an even larger capital in the Neo-Babylonian and Achaemenid periods, Antioch reached its peak size in the Roman period. In southwest Iran, Gundishapur became far larger in the Sasanian period. In the AoE, the Susiana Plain in Iran has large-scale settlements that not only dominate the immediate surroundings but also suggest that movement from distant areas could shape them; greater attraction to a single site is evident. Where movement across a landscape is facilitated, population can grow disproportionally. Such growth may not be explained by natural birth alone; it is likely that migration also explains why some regions, rather than just sites, gain in population. Nevertheless, population growth often favours those places that have natural or accrued advantages, such as through trade and wealth, and this leads to greater concentration in fewer places and creates more disparities in site size. This is possible when movement becomes unhindered, allowing concentration of population as people from distant regions are able to migrate. In the Khabur Triangle and Northern Mesopotamia during the Neo-Assyrian period, decreasing site sizes and a flattening of the settlement rank-size curve are evident. Both patterns, of one very large site and of sites that are relatively even in size, could be created by the greater ease of movement that was afforded during periods of broad political integration. For the Khabur Triangle and Northern Mesopotamia, greater population migration became focused on regions

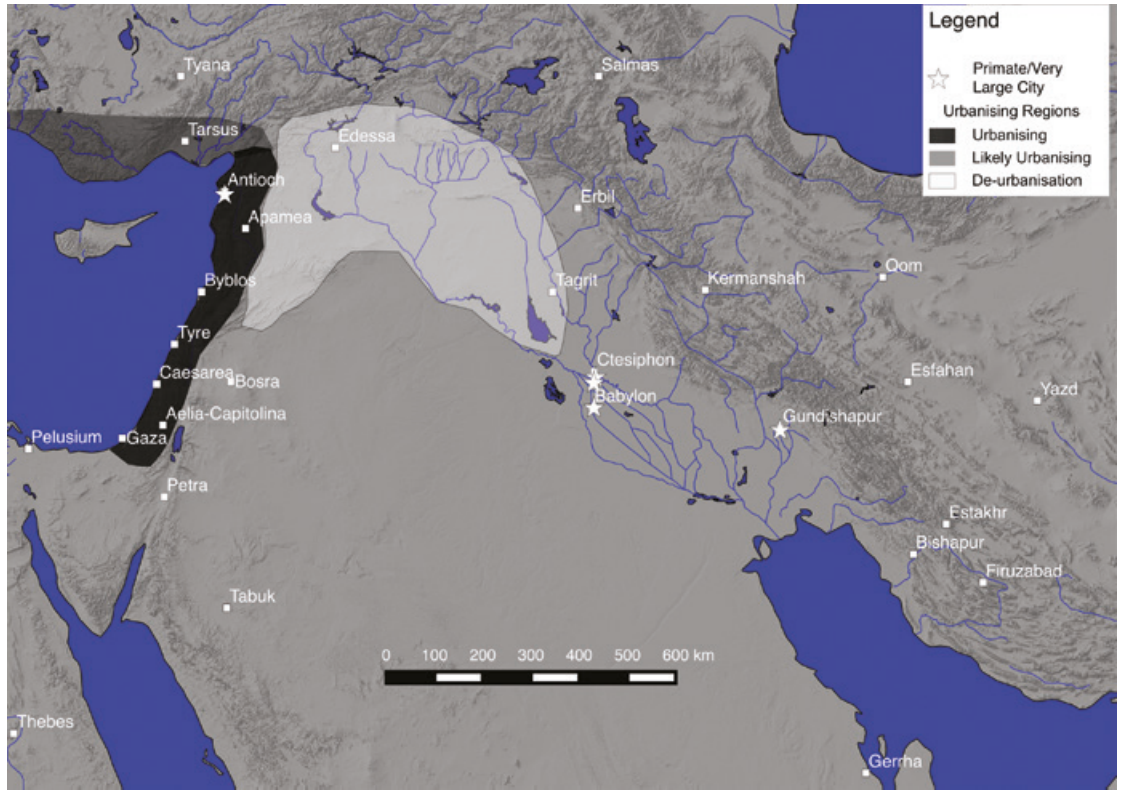

Figure 4.28 General representation of urban growth from the late Achaemenid to the Byzantine/Sasanian periods. The Levant, particularly in the Hellenistic-Roman period, experienced greater urban growth, while much of Northern Mesopotamia probably saw cities declining, or at least less abundant, during and after the Iron Age. Cities that are hundreds of hectares larger than nearby sites are indicated as very large (primate) cities

that were more distant. In general, these regions became less urban than in previous periods. Although larger cities, such as Nisibis and Hatra, still existed in Northern Mesopotamia in the AoE, they became fewer, and often farther apart.

The pattern of movement in Anatolia during the AoE may be different from that in other regions. For instance, the Hellenistic-period settlement structures in Anatolia suggest more politically fragmented patterns, in which multiple large centres and the lack of a very dominant site are evident. By the Roman period, the region appears to have great political unity, which might be evident in the settlement patterns. Other regions (e.g., the Kurban Höyük region) show similarity to the Khabur Triangle in the Iron Age: flat settlement hierarchies are evident and no settlement dominates. In effect, throughout much of the AoE, areas further from the coastal region in the Near East were characterized by a greater number of smaller sites. Nearer to the coastal regions, by the Hellenistic and later AoE, greater population concentration is present. Antioch, in a similar manner to the Ctesiphon area and Babylon, probably dominates the region, and no other city near it is likely to be similar in scale and population.

The settlement structures therefore begin to provide a picture of changing settlement sizes in the Near East as early as the Late Iron Age, these changes continuing into later periods of the AoE and leading some regions to have much larger cities or generally larger sites. Previous peaks of about 500 hectares, reached in the Bronze Age, were far surpassed in the AoE, when population movement became a possible mechanism for a lot of this growth. These changes may have not have been happening concurrently in all regions but do appear to have become pervasive throughout the Near East by the later periods of the AoE, that is, from the Roman to the Sasanian period. Some regions became more rural, such as the interior regions of the Near East; greater population movement may have made this possible. This process had begun by the Iron Age. Even the regions around Nineveh and Ashur, once the capitals of Assyria, probably became less populated after the fall of the Neo-Assyrian Empire. In the pre-AoE periods, restricted movement created more centres or relatively large top-tier sites, with a large number of sites similar in size and not very far from each other. In the next chapter, we present data from within cities, including some of the cities discussed here, that may provide further evidence of movement and social change during the AoE.

Changing Cities: Settlements, Infrastructure, and Spatial Planning

Chapter 4 showed that patterns of urbanism changed during the AoE. These patterns include increasingly small settlements in areas where site sizes were more diverse, as dispersion and easier movement of population spread people across the landscape. At the same time, much larger centres emerged where greater populations began to concentrate. These included the cities of Babylon, Antioch and the Ctesiphon area. Such urban patterns were fundamentally new in their time, representing a clear shift away from the pre-AoE urbanism that was often characterized by a greater number of larger settlements much closer together. Although there were fewer centres in areas where larger cities were once present in the interior regions of the Near East in Syria and Mesopotamia in the AoE, the Levant became more densely settled. The previous chapter investigated the underlying dynamics that shaped pre-AoE-to-AoE settlement patterns; this chapter focuses on the characteristics found within cities, including how cities changed and how their physical characteristics, such as their architecture and population, reflected greater migration. Cities are defined as urban areas greater than 20 hectares (Creekmore 2014: 35), where size reflects a larger concentration of population than in other types of settlements in the environs. Case studies of large cities, including many of the largest, from different periods and regions are presented to contrast urban characteristics between the pre-AoE and the AoE. These are used to show how movement of population may have resulted in noticeable change within cities and not only in the surrounding settlement structures. Additionally, the nature or characteristics of some small settlements, including those that replaced areas where larger cities were once found, are discussed to demonstrate a pattern of easier movement in the Near East during the AoE. While both the pre-AoE and the AoE periods show material cultural changes within cities, during the AoE forms

of syncretism in material culture, ideas, government, religion and variety of languages show connections between more distant regions. These AoE changes began to reflect some of the consequences of movement across the Near East that helped to shape the region's emerging universalism.

5.1 Large pre-AoE cities

In the fourth millennium BCE, Uruk (R. McC. Adams 1981; Finkbeiner 1991) and Tell Brak (Ur, Karsgaard and Oates 2007) developed into large settlements in Mesopotamia. In fact, the trend of larger settlements continued into the Early Bronze Age in the third millennium BCE (Wilkinson, Philip, Bradbury *et al*., 2014), with urbanism spreading to more areas in the Near East in later parts of the Bronze Age. By roughly 2500 BCE, Northern and Southern Mesopotamia, as seen in Chapter 4, had multiple sites that were more than 100 hectares. Additionally, not only did the largest types of settlements become bigger during the pre-AoE, but also cities displayed key characteristics during this time. These included large temple complexes for the main deities, and the chief cities had palaces. Other distinctive features included city walls, monumental gates and upper towns that served as areas for government centres or major religious precincts, sometimes fortified or separated from the rest of the city. Lower towns were often enclosed within outer walls, private houses were found within condensed neighbourhoods, and smaller shrines or temples were located in neighbourhoods. Other characteristics within cities included shops, markets, open spaces, gardens and even places for goods manufacturing (Van De Mieroop 2004). Cities and regions were often multi-ethnic (Kamp and Yoffee 1980) even in the pre-AoE, although it is difficult to detect this using material culture, given that many groups either were assimilated or adopted local customs. This is not always the case, however, and groups sometimes brought very distinctive culture to the region (see, e.g., Kohl 2009). In some of these cases, there were rapid or radical changes in the material culture, for example in the pottery used. Nevertheless, most of these more rapid changes occurred in the less urbanized regions of the Near East in the Bronze Age, such as in parts of Anatolia or northern Iran.

5.1.1 Uruk

An example of a large urban centre in the pre-AoE, and one of the largest cities during most of the third millennium BCE, was Uruk, which reached

a size of roughly 400 hectares in the first half of the third millennium BCE (Finkbeiner 1991). By the mid- to late fourth millennium BCE, Uruk had already developed large religious complexes and temples (Figure 5.1). In the Ur III period (2112–2004 BCE), the Eanna district, which was one of the two main districts, continued to display a large temple complex to a major goddess, this time adding a multistage tower or ziggurat (van Ess 2001). Such complexes were religious centres, but they also had important economic roles, as temples often owned major landholdings and were involved with the production of goods. The temples of chief gods were critical to cities, as the identity of a city and its fortunes were seen as being related to the gods; upkeep of these temples and religious activity were intended to appease the gods that resided in these temples. In fact, in Mesopotamia, and probably in other ancient Near East regions in the Bronze Age, ideology, chiefly in relation to urban-based gods, and government power were tied closely together in cities that saw their political fortunes vary (Van De Mieroop 2004: 33). A god who did not favour his or her city might abandon it, leading to its decline, while a favoured city

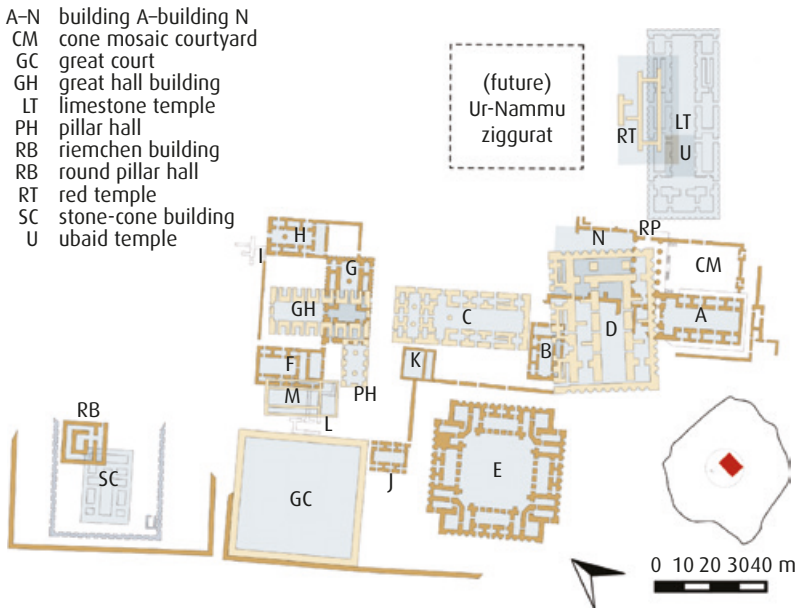

Figure 5.1 The Eanna district at Uruk during the late fourth millennium BCE (Eanna IVa and Eanna IVb; after Lamassu Design 2009)

could grow, flourish, and even become a centre for a larger state. Uruk devoted much of its space to its chief temples.

These temples are distinctive in representing the architecture prevalent in the region of Southern Mesopotamia. Distinctive features, such as large ziggurats surrounded by sacred precincts with large courtyards, characterize major cult centres in Southern Mesopotamian cities during the late third millennium BCE. The primacy of the city, and its regional culture, were indicated by the distinctive architecture of the cult centres. Even though foreign populations from distant regions had already begun to live in Southern Mesopotamia, the signatures of these cultures on Mesopotamian religious complexes were often not distinctive, although ideas from different regions were probably blended within established traditions. In other words, such populations probably became assimilated or kept their religions away from the major cult centres. Patterns of syncretism in religious architecture are less evident in the third millennium BCE. The basic form of major temples and temple complexes in Southern Mesopotamia had developed by the fifth to fourth millennium BCE (Safar, Mustafa and Lloyd 1981; Nissen 2002), multistage ziggurats being added in the third millennium. The pattern of major religious complexes dedicated to gods continued into the first millennium CE with minimal change.

5.1.2 Ur

Bronze Age Ur was another major city, though far from being among the largest, as it reached a size of about 90 hectares. While Ur had many features similar to Uruk's, including chief temples (to the gods Nanna and Ningal) which were enclosed in a sacred precinct, what has been revealed at Ur is a substantial part of a residential district within the city (Woolley and Mallowan 1976). The Old Babylonian (ca. 2000–1600 BCE) residential area had houses, primarily courtyard and linear structures (Van De Mieroop 2004: 80–1), neighbourhood shrines or temples, open spaces, squares, shops and workshops. The houses have a typical Near Eastern pattern or even a Mediterranean-style configuration of dense housing, probably with relatives often living close to each other. Alleyways and streets are generally narrow, which is characteristic of the Mediterranean region as it keeps areas cool and shaded. Burials were underneath houses or in cemeteries (Leick 2002; Van De Mieroop 2004). In particular, Ur is a good example of larger residential districts within pre-AoE cities, as many other major Mesopotamian cities do not have large areas exposed. During the Old Babylonian period in the early

second millennium BCE, households began to write more extensively, or to have access to writing, which allows us to learn about private economic activities, inheritance and family relations. Although multiple ethnic groups migrating into Mesopotamia are known, they are difficult to distinguish, given the similarities of material culture between many groups (Arnold 2004).

As one might expect from an important maritime city, many foreign objects from distant regions were present at Ur during the third and second millennia BCE, including carnelian, gold, silver, electrum, shell, various stones and lapis lazuli. These items originated from such places as Egypt, Anatolia, Iran, the Indus, Arabia and Central Asia (Figure 5.2; Woolley 1934; McIntosh 2005: 257). Despite the city's connection to maritime trade in the Bronze Age, indications of significant foreign populations from areas where luxury items were obtained (e.g., lapis lazuli) are not evident at Ur. While importing of exotic goods became common in Ur, the integration of foreign populations as part of trade colonies or general movement was not evident. There is evidence of individuals who may have been from Meluḫḫa, that is possibly the Indus region, residing in Sumerian lands, around Lagash, although if this did occur it does not seem to be a large settlement and some even had Sumerian names (Parpola *et al*. 1977: 150). Even if one assumes that trade with the areas the foreign objects found at Ur came from was direct, the longitudinal range the precious objects seem to span was from North Africa/Egypt to Central Asia/India, a distance that was surpassed in the AoE. While wealthy cities such as Ur developed tastes for exotic foreign goods, these goods were probably brought without any large-scale accompaniment of foreign populations.

Figure 5.2 Reconstructed headdress and necklaces (a) and the so-called Standard of Ur showing combat (b). These works incorporate carnelian, lapis lazuli, gold and shell imported to Ur (after JMiall 2010; Standard of Ur 2016)

5.1.3 Ebla

In the mid-third millennium BCE, one of the great cities in the Northern Levant and western Syria was Ebla (Matthiae 1981, 2010, 2013). This city dominated much of this region politically, in the period immediately before it was sacked by the Akkadians (ca. 2400–2200 BCE). Texts show that it had an important if not dominant economic role as well; the main palace (Palace G) was central to regional trade and exchange. The city had links with a long-distance trade network that connected Central Asia and Cyprus, although some of the goods that came from distant places, such as precious stones, may have arrived indirectly via various trade routes from the Gulf or Iran. There is a good understanding of the architecture of the famous Palace G, which had a large archive of texts (about 20,000 cuneiform tablets) and forms a large part of our historical understanding, from around 2400 to 2300 BCE, of Northern Mesopotamia and the Levant. The site itself was about 60 hectares at its peak, but few residential districts have been extensively studied (Figure 5.3). After its sacking, it continued to be occupied as a major centre into the first half of the second millennium BCE, but it was abandoned shortly thereafter. Large palatial structures, which were often the centre of government and administration, had an important economic function for the city, and were a characteristic of major cities such as Ebla by the third millennium BCE. Palaces such as Palace G reflect regional architectural traditions; in this case, the culture integrates Levantine and Mesopotamian traditions. The gods represented in texts and in the city come from Mesopotamia or the Levant (Snell 2011: 133). As in Uruk and Ur, wide-ranging ethnic diversity is not evident, although some of the gods, who are unknown to us, may have come from more distant regions. Exotic goods are found, but they reflect mostly the trade activities the palace was engaged with rather than the people who became part of the city's social fabric. Ebla was a regional centre but its gods and material culture show no evidence of having integrated diverse populations beyond Syria and the Levant.

5.1.4 Mari

One of the best-known and most complete palaces in the ancient Near East is the palace at Mari renovated by Zimri-Lim (eighteenth century BCE), which was occupied during the early second millennium BCE (Parrot 1958; Margueron, Pierre-Muller and Renisio 1990). Mari was also one of the most important cities along the Euphrates north of

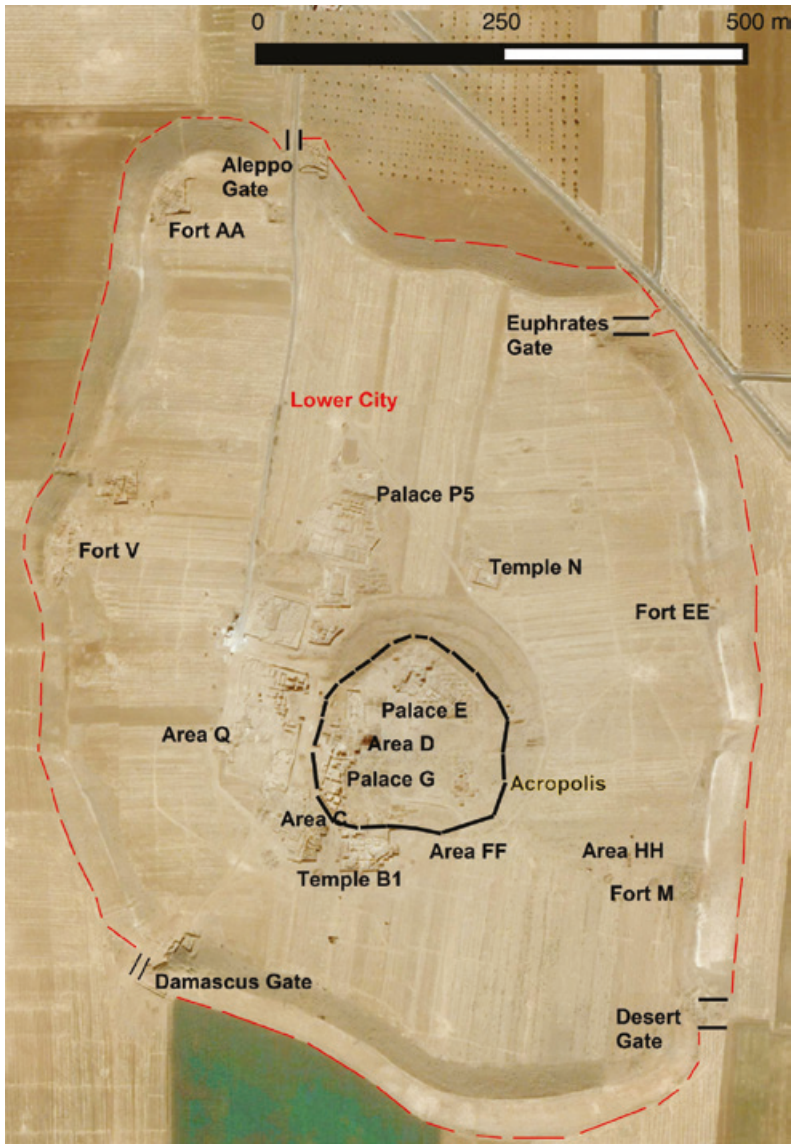

Figure 5.3 The acropolis and lower mound (or lower city) of Ebla (about 60 hectares) with key areas within the site indicated, including Palace G, which was the main palace in the mid- to late third millennium BCE (after Barlemi74 2014)

Southern Mesopotamia, possibly reaching ca. 100 hectares at its peak occupation (Figure 5.4). The palace and its archives, of about 25,000 texts, form an important historical record of a period in which several

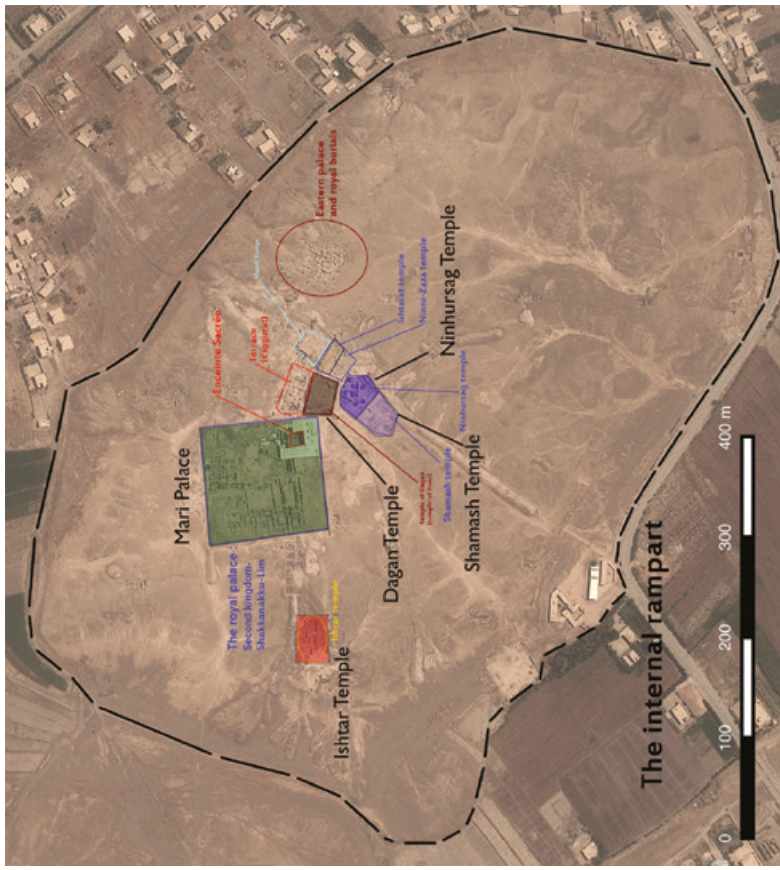

Figure 5.4 The site of Mari showing key structures and temples of local or nearby Near Eastern gods (after Attar-Aram 2015)

dynasties had power in Northern Mesopotamia. The city's history spans much of the third millennium BCE, and conflicts with Ebla are attested in texts. Much of the palace archives relate to the eighteenth century BCE and the rulers Shamshi-Adad and Zimri-Lim; the latter ousted the dynasty of the former. In the Middle Bronze Age the city was destroyed by Hammurabi, although a small number of people remained in the city. The archives provide us with an understanding of how volatile politics were in the Middle Bronze Age; dynasties and larger states were often short-lived and not often replaced to a similar spatial extent (Durand 1997, 1998, 2000).

Mari is a case study of a city that shifted from being the centre of a small state to the centre of a small empire; the palace archives document

this change. The culture of the surrounding region mostly remained similar during that time, with Hurrians, Amorites and Assyrians characterizing Northern Mesopotamian politics. Localized culture is expressed in the palatial architecture (a large courtyard with surrounding rectilinear rooms; McIntosh 2005: 154) and material culture found in the site. The temples were dedicated to the gods from the surrounding Levantine and Mesopotamian region, such as Ishtar, Dagan and Shamash; the statues of gods found reflect the surrounding region's artistic traditions. Material culture, such as seals, inlays, statues and architecture, is largely Mesopotamian or influenced by Southern Mesopotamia, building on traditions established before the second millennium BCE. Although the archives at Mari suggest that there were trade links between Crete and Central Asia, from whence luxury goods were obtained, the site, like Ur and despite its regional importance, mostly used local or nearby regional tradition in its most important and common art, material culture, religion and cultural influences.

5.1.5 Dur-Untash

The Elamite cities, as stated in Chapter 2, were great rivals to Southern Mesopotamian cities. Susa became an important royal residence in the Achaemenid period, but long before this it was a chief capital within Elam. During the Middle Elamite period (ca. 1500–1100 BCE), Anshan became united with Susa, and Anshan reached a size of nearly 200 hectares (Sumner 1976; Carter and Deaver 1996). Additionally, in the fourteenth and thirteenth centuries BCE throughout the Near East, a new spate of royal cities, including Dur-Kurigalzu (Baqir 1946), Amarna (ancient Akhetaten, discussed below), Kar-Tikulti-Ninurta (Eickhoff 1985**)** and Elamite Dur-Untash, were built. Most of these cities were either abandoned or lost their significance after the death of the founding ruler. As much of Dur-Untash was built in a single period, the extensive remains allow one to see what much of the city was like.

Perhaps like the other royal cities in the Late Bronze Age, Dur-Untash ('the city of Untash', modern Choga Zanbil) may have served as a new power base established for the religious and political establishment during the reign of Untash-Napirisha (late fourteenth century BCE). Although the reasons for the construction of the city remain unclear, its remains show the large-scale establishment of a new city of over 100 hectares, at a time when the Elamite state was united and Elam was considered one of the great powers of the Near East (Carter and Stolper 1984: 37).

After the reign of Untash-Napirisha, the royal capital appears to have moved back to Susa, which was continuously occupied until the seventh century BCE, when the Assyrians sacked it. The best-known structure in Dur-Untash is the largest known ziggurat in the ancient Near East, dedicated to the city's main deity Inshushinak (Figure 5.5). Features in the city include a large inner temple district surrounded by a wall, a royal quarter to the east of the ziggurat, and a large palace with burial chambers (Hypogeum Palace; Ghirshman 1966, 1968). What is evident at Dur-Untash is that it was a form of ceremonial city; this ceremonial city is distinct among Elamite cities; however, the architecture (e.g., ziggurat and temenos) and material culture do not show a syncretistic pattern or mixing with distant surrounding cultures. This city symbolic of Elamite power showed clear Elamite or Southern Mesopotamian cultural influences. In the Achaemenid period, a very different type of royal and ceremonial city developed, which began to import and incorporate various cultural elements and people. While it is hard to determine who may have occupied Dur-Untash, and whether the city was fully utilized as an urban centre or served strictly ceremonial functions, cultural elements generally resemble those found in the immediate surrounding area. In effect, as it was a symbol of the Elamite state, its cultural representations were mostly local.

Figure 5.5 The ziggurat in Choga Zanbil (Dur-Untash), demonstrating localized architectural elements (after Nováková 2014)

5.1.6 Hattusha

In the second millennium BCE, the Hittites either emerged as a new ethnic group or developed from the local third-millennium BCE cultures. During the Late Bronze Age, Hattusha became a major city and was the most dominant in all of Anatolia by the late second millennium BCE. In fact, the growth of Boğazköy, the modern name of the site, is not only remarkably evident but also was rapid during the mid- and late second millennium BCE. The site may have spanned 180 hectares during the New Kingdom phase, with a lower city and an administrative acropolis, known today as Büyükkale, separated from the rest of the city by a wall (Bittel 1970; Neve 1996). As might be expected, the scale of palaces and living areas expanded as the success of the Hittite state increased. This, in part, can be attributed to the fact that more goods and resources could now be brought to the capital than in earlier periods, when the site was far smaller. Despite the success of the Hittites, major cities did not expand beyond the 400/500 hectare limit seen in Uruk and Babylon during the third and second millennia BCE. Sites such as Boğazköy and other major capitals in the pre-AoE were not able to surpass this limit even though they often expanded rapidly in periods of social, political and economic growth. Near Hattusha is found the significant Hittite shrine of Yazılıkaya, which famously depicts a procession of more than 90 deities and beings that represent Hittite, Hattic, Hurrian and Mesopotamian gods and figures (Seeher 2011; Figure 5.6). The shrine shows that the Hittites syncretized their neighbouring cultures' gods with their own beliefs. Even this

Figure 5.6 Relief of the storm god Teshub and goddess Hebat, who are of Hurrian origin, at Yazılıkaya (after Gagnon 2014)

syncretism, however, was regionally limited compared with that which occurred in the AoE, as the figures displayed at Yazılıkaya were mostly those found in Anatolia, Syria and Mesopotamia.

5.1.7 Hazor and Southern Levant cities

During the Middle Bronze Age, 2000–1550 BCE, the Southern Levant witnessed a great urban expansion during which several large rival towns and cities emerged. In this city-states period, well-fortified sites with monumental gates appeared (Figure 5.7). Among the largest sites was Hazor, of nearly 80 hectares including its lower town and a monumental city wall, a moat, a revetment and a gate system (Yadin, Aharoni, Amiran *et al*. 1989; Ussishkin 1992). Like other major cities, Hazor developed important temple and palace complexes in the Middle Bronze Age. Throughout the Middle Bronze Age, sites including Tel Dan, Megiddo, Gezer and Shechem acquired large city walls with glacis and moats, presumably as intense city-state competition and local warfare developed (Burke 2008). Such urban patterns emerged during a period of conflicts between small states, during which large centres, often found near each other, became common. Not only were these cities fortified, but also their walls became symbols of their strength. Urban characteristics reflect the defensive traits spawned by conflict and competition between neighbouring small states. Cities such as Hazor, in their size, material culture

Figure 5.7 City gate from Tel Dan's Middle Bronze Age (after Nimi 2011)

and display of fortifications, reflected the fragmented nature of politics in the period, which was similar to that of other Near East regions during the Middle Bronze Age.

5.1.8 Amarna

A good example of a newly established major capital in the Late Bronze Age period is Amarna, known as Akhetaten in ancient Egyptian, which became the chief seat of government of Akhenaten (ca. 1353–1334 BCE) and the centre of diplomatic correspondence between states during his time (Kemp 2013). The city was large and extended into several areas along the east bank of the Nile, covering over 380 hectares (Kemp and Garfi 1993; Lacovara 1997: 82). Amarna was largely abandoned shortly after Akhenaten's death, perhaps because he was viewed as a heretic for his focus on Aten or monolatristic worship. The main districts were the north city and the central city, which included important palaces, temples to Aten and houses, and the main suburbs to the south, where the private houses of important nobles were located (Kemp 2013). The outer parts of the city were marked by boundary stelae describing the city and its foundation by Akhenaten; tombs of the city's nobles were also located in these outer areas.

The city was a large urban area founded by a specific king, and because there was little activity at the site after its abandonment the preservation is good. While Amarna gives us an idea of urbanism in ancient Egypt because it is extensively preserved, it also has the characteristics of a monumental city associated with a particular ruler, and the city did not remain politically significant beyond the ruler's reign. This is similar to Dur-Untash, discussed earlier, and other Late Bronze Age cities. Newly established cities such as Amarna may have been attempts to unify kingdoms around new ideas or political agendas. Furthermore, while the diplomatic correspondence centred on the city may imply that foreign dignitaries would periodically visit or be based in the city, there is no evidence that a large number of foreigners migrated to Amarna or to any of the other newly built centres. The new religion established by Akhenaten, with its cult and worship focused on the god Aten, was intended solely for the Egyptians and not universal. In contrast, the later monotheistic and universal faiths were intended to incorporate all people: the intention was greater social and cultural unity across different ethnic groups (Montserrat 2000). The tombs and other material culture from the site suggest it was a city built for the local Egyptian elite. While the city of Amarna was a new city, it was distinctively Egyptian at a time when Egypt controlled vast areas outside of Egypt, including some

Figure 5.8 Although Akhenaten introduced new religious ideas to Egypt, including representation of the Aten as in this example, representation, incorporation and display of foreign influences and foreigners were not common (after Ollermann 2008)

in Nubia and the Levant. Few attempts seem to have been made to integrate the religion, the art or other cultural elements of conquered areas within the larger empire (Figure 5.8). As an example, rulers in the other major Near East states during the Late Bronze Age and in regions administered by Egypt could not marry Egyptian princesses, even though such marriages may have helped with diplomacy (Robins 1993: 32). Although foreigners may have been well respected privately, and were even potential allies, royal display and propaganda did not show foreign populations as equals or with the high regard afforded to Egyptians (Kemp 2006). While foreign populations had already begun living in Egypt long before the construction of Amarna, reflections of their cultures had not become prominent in the common material culture of Egypt even by the New Kingdom period. This would change in the AoE, particularly as more foreigners began to live in Egypt and as they blended and integrated their ideas with those of the Egyptians.

5.2 AoE cities

Many of the larger cities in the AoE continued to have the characteristics apparent in the pre-AoE. These include large temple districts, large

palaces, city walls, gates, manufacturing areas and large residential districts. However, some important changes happened during the AoE; these were driven, at least in part, by the population movement discussed in the previous chapter that made cities noticeably different from their pre-AoE predecessors. Evidence of greater wealth and displays of power became more evident in the AoE. Not only were there much larger chief cities with far larger monumental structures and districts, but also large neighbourhoods of foreign populations began to be found. The records show that towns and cities had multiple temples dedicated to gods from distant regions. A large number of languages were spoken within cities, even as common languages developed to facilitate communication between populations. Material culture reflected not only the influence of local cultures but also that of much more distant cultures. As populations began to mix, new cultural trends, which included syncretism in art and ideas, including knowledge and philosophy, emerged. Below are descriptions of some cities that demonstrate key changes from pre-AoE cities.

5.2.1 Kalhu, Dur-Sharrukin and Nineveh

In the ninth century BCE a new type of ceremonial and capital city emerged in Northern Mesopotamia (Figure 5.9). The first of this type was Kalhu/Calah, or modern Nimrud, where the main citadel mound has been extensively investigated by Western and Iraqi archaeologists. The city was approximately 360 hectares, the main citadel being about 20 hectares (Oates and Oates 2001). In Northern Mesopotamia in the pre-AoE, it was rare for cities to be much larger than 100 hectares. The Neo-Assyrian capital cities far surpassed this limit. Furthermore, beginning at Nimrud, a new level of wealth emerged. Vast quantities of ivory, probably the greatest amount in the ancient world from a single site, have been found in the city, while the palace reliefs from the site are world-renowned. This wealth reflected the ability of the Neo-Assyrian Empire to exact or receive tribute from distant regions, that wealth being sent to the royal capitals. The royal treasures of the Assyrian queens have also been found; their splendid tombs represent a level of wealth previously unseen in royal graves in Northern Mesopotamia. These treasures indicate the reach of royal power that brought such wealth to the capital from distant regions. Furthermore, the Assyrians developed the skills to manufacture some of these luxury objects, as skills and workers from conquered territories were acquired and brought to their capitals (Oates and Oates 2001; Herrmann, Coffey and Laidlaw 2004; Hussein, Altaweel and Gibson 2016).

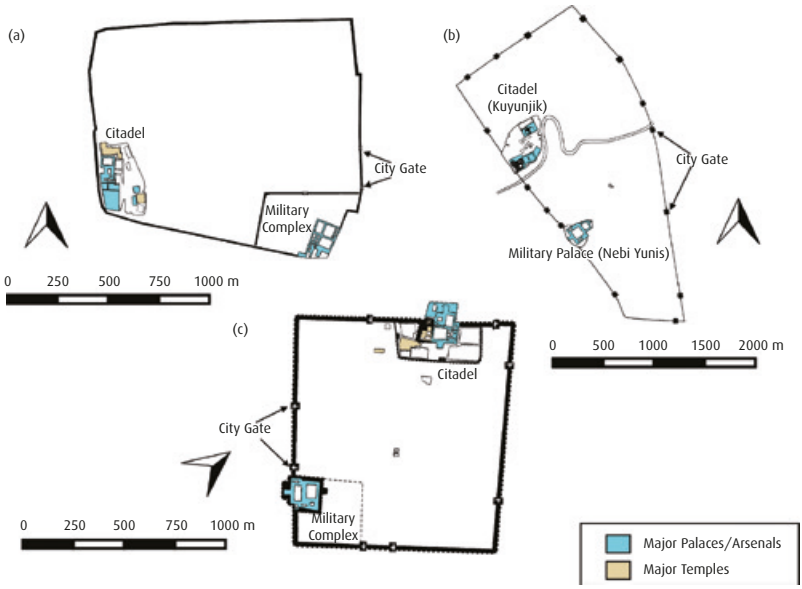

Figure 5.9 The Assyrian royal cities of (a) Nimrud, (b) Dur-Sharrukin and (c) Nineveh. Temple, palaces and arsenals indicated (Kertai 2015; after Zunkir 2015a, 2015b; Fredarch 2016)

This pattern of wealth and grandeur continued with the later royal Assyrian cities of Dur-Sharrukin and Nineveh. Although Dur-Sharrukin was largely abandoned soon after its establishment, as Sargon II, the founder, was killed in battle, its wealth and position as a great capital are clear. The sheer size of the site, over 300 hectares, and major palaces and temples suggest a royal city that easily eclipsed most Bronze Age cities outside of Southern Mesopotamia (Loud and Altman 1938). The reliefs, such as the winged bulls (*lamassu*), from the site are among the largest Neo-Assyrian types. Dur-Sharrukin was eclipsed in its turn by Nineveh, which reached an unprecedented 800 hectares (Altaweel 2008). Within the city, Ashurbanipal created a royal library where scholars from Babylonia resided; the acquisition of scholarship from foreign lands, including Babylonia and Egypt, became a focus for Assyrian kings (Parpola 2007; Radner 2009). Workers, including artisans, from different areas of the empire became resident in the royal cities as they served in the construction and maintenance of some of the major monuments, including large irrigation projects and artworks (Oded 1979; Zaccagnini 1983). Although all the royal cities were very large, some of the space was taken up by new gardens that formed displays of the power and wealth

of Assyrian royalty. The royal palaces, key media for wealth and power, were used to indicate Assyria's might to Assyrians and foreigners alike (Kertai 2015). The presence of arsenals in the royal cities also made the new Assyrian capitals important armouries and bases for the Assyrian army (Reade 2011). Direct and long-distance roads – 'royal roads' – were longer than Bronze Age roads and helped to connect regions to the Assyrian capitals. Movement to the Assyrian capitals from distant regions became direct, and probably more rapid, as the use of horses developed (Kessler 1997; Altaweel 2008; Radner 2014a). The key characteristics noticeable in Neo-Assyrian royal cities were their wealth, the presence of foreigners, including those brought to the cities, displays of power, the aggregation of knowledge, the use of long-distance roads and sizes that demonstrated a level that began to differentiate AoE cities from the pre-AoE. By expanding into regions far beyond their homeland, the Assyrians brought both physical objects and people to their royal cities, creating the conditions for the intermixing of populations and cultural ideas.

5.2.2 Babylon

Babylon, which was already a great city by the second millennium BCE, perhaps as large as 500 hectares (Gibson 1972), reached nearly 1000 hectares during the Neo-Babylonian period, by the sixth century BCE (Figure 5.10). The city probably extended far beyond its city walls. Similarly to that of the Neo-Assyrian cities, the scale of the ceremonial, religious and palatial areas became far larger than in earlier periods. The temple of Ésagila and its enclosure alone, dedicated to the chief Babylonian god Marduk, occupy approximately 15 hectares. Babylon became the ceremonial, economic and political capital, reflecting not just its power but its central role in the Babylonian state and society (Koldewey 1914; Unger 1970; Jursa 2009; Seymour 2014: 9). Even after the fall of the Neo-Babylonian state, the city's importance continued for some time, until the Hellenistic period after the fourth century BCE, after it had served as one of the Achaemenid capitals. The presence of foreigners in Babylon and throughout Babylonia was already prominent in the Neo-Babylonian period, when Elamites, Egyptians, West Semites, Arabs and probably others from around the Neo-Babylonian Empire's territory, became evident in textual sources (Zadok 1979, 1981; Moukarzel 2014: 144). People either came to Babylon voluntarily or were brought forcibly. The exile of the Jews, mentioned in the Bible, brought another foreign element to Babylon, and much of this community remained in Iraq until the early 1950s CE. By the Achaemenid period, the Jewish community was

Figure 5.10 Babylon's inner city indicating major structures and temples. The Greek theatre and the large temple of Ésagila are indicated (after Micro 2006)

thriving; it contributed to the rise of prominent banking and landholding corporations such as the Murashu, who were able to conduct business in various Babylonian cities (Stolper 1985).

As Babylon became very large, not only did it become an increasingly ethnically diverse city, but also the various cultural groups had opportunities to thrive socially. In the pre-AoE, Babylon incorporated foreigners such as Amorites and Kassites; however, in the AoE the diversity was probably greater or from more widespread regions, and there were opportunities for these groups to express their ethnic makeup. In the Seleucid period a Greek community was established, adding further ethnic diversity to the already diverse population. The presence in the city of a Greek theatre and gymnasium, among other structures, shows foreign and distant influences on Babylon (van der Spek 2009). Cultures expressed at Babylon did not simply reflect Babylonian elements, as

they may have done in the Bronze Age, but the presence of various Near Eastern elements and, later, Greek elements began to be reflected in the city's architecture and material remains.

5.2.3 Persepolis

The trend towards ceremonial capitals, seen in the Late Bronze Age, appears again in the Achaemenid period with the construction of Persepolis in the late sixth century BCE (Figure 5.11). While it is not clear how large the city was, several characteristics that contrast with those Bronze Age centres are evident. A remarkable aspect of Persepolis is the multiple iconographic and architectural elements incorporated within the central royal district and its key structures (Figure 5.12; Root 1979). Within 100 years of the collapse of the Neo-Assyrians, the multi-ethnic character of the Persian Empire had become evident, as we see in its remains today. Specific structures, such as the Apadana, demonstrate the incorporation of various populations which were paying homage to the Persian kings. Egyptian-style gateways, Hellenistic-style flowing robes and Assyrian-style winged human-headed bulls (*lamassu*) are among the artistic and architectural elements. In fact, Persepolis is not portrayed as having been founded only by Ahuramazda, the Persian god, but 'all' the gods are stated in the foundation inscription from the city to have participated (Schmidt 1953; Mousavi 2012; Babaie and Grigor 2015). It was not intended to be a city just for the Persians, but a place that represented the varied populations within the empire of the Achaemenids. Paradise, as envisioned by the Achaemenids, was embodied in the architecture and gardens of their royal cities (Boucharlat 2001). Included in this ideal were the multitudes and diverse populations found in their realm.

Persepolis began to represent the idea of universalism, in which people from different regions were symbolically united through the representation and presence of their gods in the metaphysical sense, but also in an earthly way through the architecture and art of the city. The architectural intent may have been to demonstrate a type of 'voluntary' subordination, as Khatchadourian (2016: 114) suggests, but the message was to display the diversity found in the city. This contrasted greatly with earlier Bronze Age and Iron Age cities and their iconography, in which the triumphant king was generally shown as being superior to his vanquished foes. The emphasis in pre-AoE cities was on the local, chief gods, while at Persepolis the inclusion of 'all' the gods represented the Achaemenids' different view, which incorporated others in their triumph rather than displaying them as victims. In Persepolis'

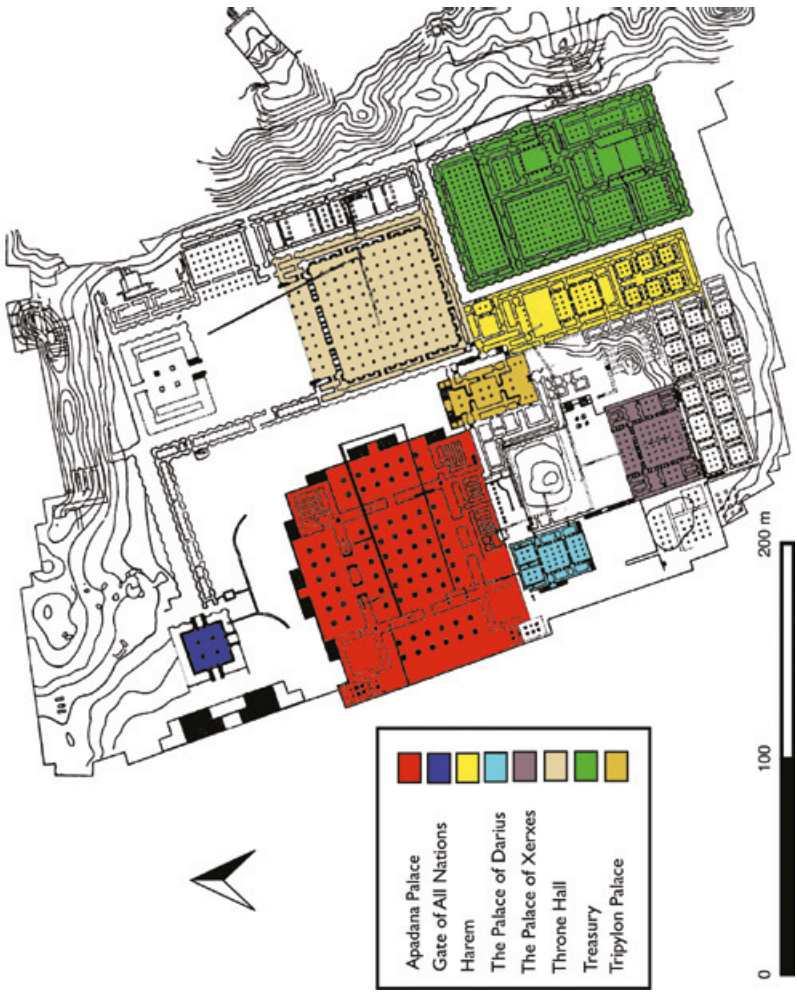

Figure 5.11 Plan of Persepolis, indicating some of its well-known structures (after Pentocelo 2008; Mousavi 2012: 10)

reliefs, foreigners are not shown as inferior or vanquished but as individuals who supported and praised the Achaemenid king: they provide gifts to the court rather than having those items forcibly taken from them (Figure 5.13). Although the art at Persepolis certainly reflected official propaganda, where content foreigners came from different parts of the Achaemenid Empire (Dandamaev, Lukonin, Kohl and Dadson 2004: 293), the emphasis on inclusion of, rather than triumph over, foreigners indicates that the official message had begun to shift. Real policy implications became evident at places such as Persepolis. Foreigners are attested to have been based at Persepolis, including by texts from the Persepolis Fortification Archive (PFA). These foreigners included Arabs,

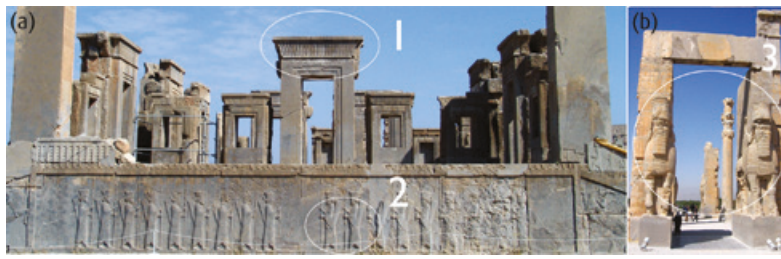

Figure 5.12 Reliefs from Persepolis found in the Palace of Darius ((a) Kawiyati 2007) and the Gate of All Nations ((b) Farshied86 2006). Numbers 1–3 indicate Egyptian, Hellenistic and Assyrian influences

Figure 5.13 Depiction in the Apadana of foreigners bringing wine to the Achaemenid court (Maiwald 2008)

Cappadocians, Indians, Babylonians, Bactrians, Egyptians and others who were civil servants or professionals who may have stayed temporarily, or lived permanently, in Persepolis and other royal cities, such as Susa. Languages in the PFA include Greek, Phrygian, Aramaic, Elamite, Persian and Babylonian (Stolper 1984; Dandamaev *et al*. 2004: 293). The population diversity at Persepolis may have been foreshadowed at Pasargadae under Cyrus, where foreign influences are evident. Evidence from Pasargadae suggests that foreigners, including Babylonians and Lydians, were incorporated into the population, and stylistic syncretism is evident in the art (Stronach 1997; Briant 2002: 77–8).

The very strategy of Achaemenid kingship, emphasizing the integration of foreign populations under the unifying power of the Achaemenids, was symbolized by Persepolis. Darius, Xerxes and some of their successors even use the title 'king of lands (or nations) containing all sorts of men' to show this diversity (G. Cameron 1973; Stolper 1984). At Persepolis, it is the foreign influences in the art and architecture and the incorporation of varied populations and their gods within the city that differentiate it from its pre-AoE predecessor ceremonial cities such as Dur-Untash and Amarna.

5.2.4 Ctesiphon

At one time perhaps the largest city, or more accurately urban zone, anywhere, ancient Ctesiphon (Figure 5.14), about 35 km south of modern Baghdad's centre, served as one of the great capitals of the Parthian (Arsacid) and Sasanian states (ca. 247 BCE–651 CE). By the late Sasanian period, the cities in this urban zone were Aspanbur, Veh-Ardashir, Hanbu Shapur, Darzanidan, Veh Jondiu-Khosrow, Nawinabad and Kardakadh. However, it is likely that only four or five of these districts had large populations; some of the names may refer to the same place (Morony 2009; Davaran 2010: 59). Ctesiphon is best known for its famous archway, the largest freestanding vault until the last century, which is a remnant of a monumental Sasanian palace compound. The exact dimensions of the city are difficult to determine with certainty, and it is possible some of the site is missing because of erosion by the Tigris, but the city seems to have merged with Seleucia, the Seleucid capital, which was located nearby. Some of the districts and cities were created, in part, by deported populations; together they formed the area known as al-*Madā'en* (Invernizzi 1976; Negro Ponzi 2005). This made Ctesiphon and its urban region part of a heavily populated urban zone that may have contained a population in the hundreds of thousands (Ṭabarī 1989). Although the walled area of

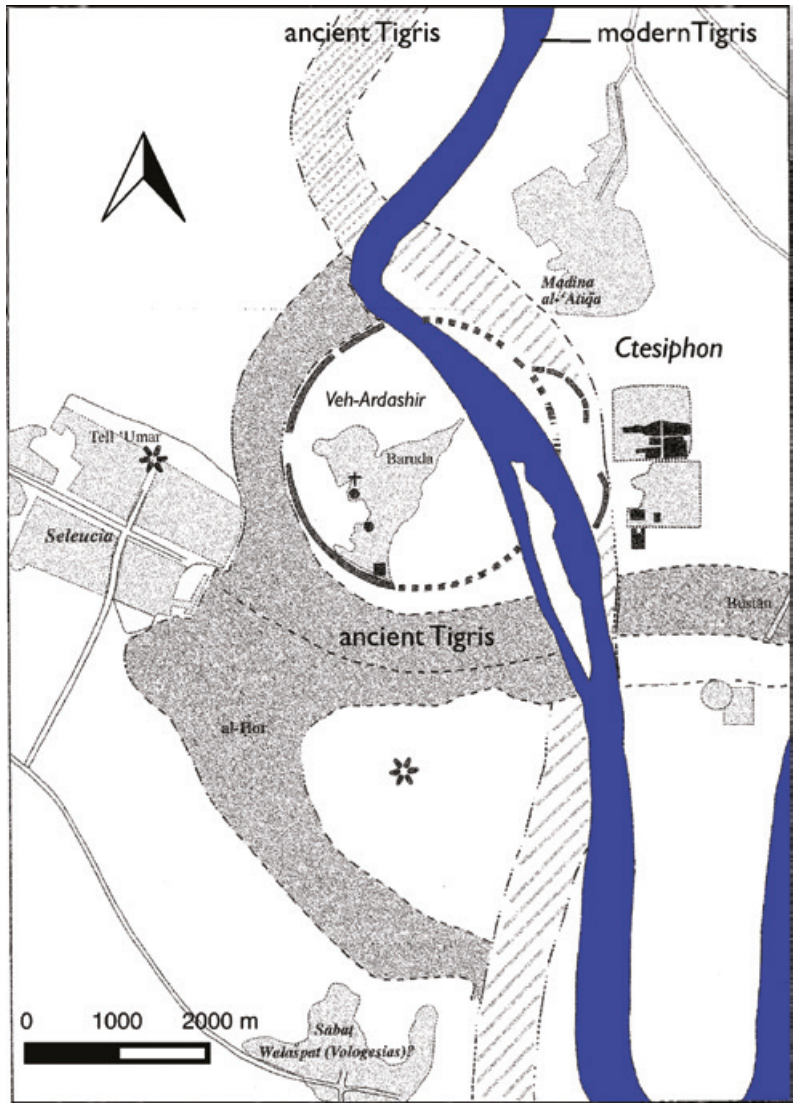

Figure 5.14 Map of Ctesiphon and its urban region (after Lencer 2007; Negro Ponzi 2005: 167)

Ctesiphon is about 550 hectares, an estimated 1500 hectares is a reasonable estimate for the maximum extent of Ctesiphon and its urban environs. Given the effects of erosion, of the multiple urban districts, and of the site, or more accurately sites, not having been fully surveyed, this estimate is plausible (Lee 2006: 157).

Relevantly for demonstrating how such large cities came into being during the AoE, the population consisted of various ethnic groups, including Greeks, Persians, Jews, Assyrians, Arabs, Arameans, Babylonians, Syrians, Romans and probably others. In the Sasanian period, religions represented within the city included Judaism, Christianity and Zoroastrianism, while other cults existed, at various periods, of other gods that were associated with the various population groups (Ṭabarī 1989). The population therefore reflected the type of primate city the AoE helped to produce: it was a disproportionally large population made up of various ethnic groups, some of which had migrated or been brought to Southern Mesopotamia from distant regions; they included people who had arrived during earlier periods or in the lifespan of the city. Religion in the city represented the wide diversity of the population rather than just the local or regional beliefs. Large-scale manufacturing, dependent on foreign products from more distant parts, was increasingly important in the Sasanian period to large cities, where glass making and other production thrived, as it became possible to obtain resources from distant regions (Simpson 2014: 204). Great wealth flowed to Ctesiphon through long-distance trade, and the position of the city on the Silk Road routes allowed products from China and Europe to come to the city (Wagstaff 1985). Access to the Tigris and canals would have enabled it to benefit from seaborne trade from the Arabian Sea. Long-distance connections, easy movement and connections to international trade helped the surrounding countryside thrive economically and increase in population and population diversity, while the urban region itself developed into a major political and economic centre.

5.2.5 Antioch

One of the great cities founded at the end of the fourth century BCE was Antioch on the Orontes (Figure 5.15). The city was established in a Hellenistic grid layout by Seleucus I. Much of the city is now underneath modern buildings or buried by sediment; however, it has been partially reconstructed from ruins and from historical texts. From its beginning, the city had a diverse population composed of people from the surrounding region in the Northern Levant, but also of Jews, Macedonians and Greeks (Malalas 1986). Antioch appears to have been founded as one city in a tetrapolis of Seleucid cities in Syria, the others being Laodicea, Apamea and Seleucia Pieria. It became a capital in the Seleucid period. By the Roman period, it dominated the Eastern Mediterranean coast

Figure 5.15 Conjectural representation of Antioch (after Cristiano64 2010; Downey 1974: Fig. 11)

economically and culturally, far surpassing its nearby rivals in size and economic weight (Sandwell and Huskinson 2004).

Although the exact population is unknown, it is clear that the city was very large and had a diverse population in the Roman period. A reasonable estimate of the population is in the order of several hundred thousand; the city became one of the primate cities that greatly

surpassed other Mediterranean cities (De Giorgi 2016: 180). The area of the city may have been only about 200–300 hectares during the Seleucid period, but it was far larger in the Roman/Byzantine period (Aperghis 2004: 93; Cohen 2006: 93). This growth probably contributed to its rise as an early seat of Christianity and a major centre for Judaism, which probably further diversified the already diverse population. Within the Christian community in the city, for instance, were missions from Armenia, Greece and Latin-speaking regions. The universal faiths began to use large and diverse cities such as Antioch as new bases, even though those cities had little to do with the origins of those faiths. Additionally, many temples to Greco-Roman gods, including Jupiter and Artemis, were found (Downey 2015). Large cities such as Antioch had influence that stretched over three continents. In the Roman period, although primary texts from Antioch itself are scarce, texts from other regions indicate the existence of individuals who identified themselves as having come from or lived in Antioch and its region. These include people from North Africa, southeast Europe and the Near East (De Giorgi 2016: 175). People were migrating to and emigrating from the city across many regions, and commerce from other cities throughout the Mediterranean and elsewhere became directly linked to the city.

5.2.6 Alexandria

The best-known city founded by Alexander after his conquest of Egypt ca. 331 BCE is Alexandria. While the city's Jewish, Greek and Egyptian populations are well known, during the Ptolemaic period Syrians, Medes, Persians and other Asian populations also lived in the city. By the Roman period, if not earlier, various populations from different parts of Europe were intermixed with the already cosmopolitan population (Vrettos 2001: 7). In the first century BCE, the city was perhaps the second largest in the Roman Empire and served, through its great harbours, as the commercial entrepôt for the Eastern Mediterranean (Strabo 1967: book 17.1.31; Haas 1993: 234). Throughout its history in the AoE, Alexandria was an astounding mix of cultural ideas, ethnic groups and religions (Hinge and Krasilnikoff 2009). The intermixture of so many population groups made the city not only cosmopolitan but also a great example of how universalism transformed the urban makeup of primate centres in which a variety of cultural expressions and syncretism in art and ideas were found together. Whereas in the pre-AoE Egyptian thought and culture dominated, as in Amarna, in the AoE the cultural landscape became much more varied, even in respect of

common material culture. Syncretism is expressed through the variety of artistic, theological, philosophical and religious ideas prevalent in the city, such as the worship of the Greco-Egyptian god Serapis (Figure 5.16) or the philosophy of Philo. Greco-Roman and Egyptian art and architecture commonly became fused (Vrettos 2001; McKenzie 2010). Such variety in ideas and material culture reflected the mixtures of cultures that were prevalent and the fact that they were able to intermix freely as they resided together.

Although it is not well preserved today and has been built over in many places by the modern city, our knowledge about Alexandria has been preserved in historical works. There were several unique structures during the history of this city, such as the lighthouse in Pharus. One of the best-known structures was the library of Alexandria, which functioned as part of Alexandria's *Musaeum*, an institution devoted to scholarly activity (Stephens 2010). The library epitomized the spread of knowledge

Figure 5.16 The god Serapis (above), a syncretized Greco-Egyptian god, was worshipped in the Serapaeum, or temple to Serapis, at Alexandria (Nguyen 2009)

and information as travel and movement encompassed greater distances and became more direct during the AoE. Galen speaks of ships having to unload their written works to the library for copying. From what scholars can reconstruct, the library contained not only Greek and Egyptian knowledge but also knowledge originating from Babylonia. Although earlier cities, such as Nineveh, had established libraries, to which knowledge and scholars were brought from different regions, the knowledge held at Alexandria originated from even more diverse places and came to be collected in a central repository (MacLeod 2004; Potts 2004a; Barnes 2004). Alexandria's library showed that knowledge and learning became more mobile in the AoE.

5.2.7 Dura Europos

The town of Dura Europos (Figure 5.17), which has a Hellenistic-style grid layout, is found along the Euphrates in southeast Syria near the border with Iraq. The town was founded ca. 300 BCE and lasted until ca. 256/257 CE, the year in which it was destroyed by Shapur I (Matheson 1982). The site is small in comparison with the larger cities of the AoE, such as Alexandria and Antioch, as the city walls enclosed an area of only 75 hectares. At this time, as stated earlier, many of the great cities of the region were to be found along coastal areas or along major waterways, particularly in Southern Mesopotamia. Nonetheless, Dura Europos had many of the characteristics of a cosmopolitan city similar to the major urban centres that became more international. It contained places of worship for Jewish, Christian and polytheistic religions originating from Greco-Roman, Near Eastern and Indo-Aryan regions. Places of worship also contained temples dedicated to syncretized Greco-Near Eastern gods. The languages spoken and written in Dura Europos during the Roman period reflected the ethnic diversity found in the town: they included Aramaic (including Palmyrenean, Hatrean and Syriac), Hebrew, Parthian, Persian, Arabic, Greek and Latin (Kaizer 2009: 235). The famous art known from the town, including tempera wall paintings in the well-known synagogue (Figure 5.18) and church, indicates a mixture of local Semitic/Near Eastern and Greco-Roman stylistic influences, including dress and iconographic symbols from these varied cultures (Perkins 1973; J. Baird 2014). In short, the mixture of languages, cultural symbolism, religions and art styles reflects how people and ideas from distant regions came to characterize smaller towns such as Dura Europos and not simply large cities.

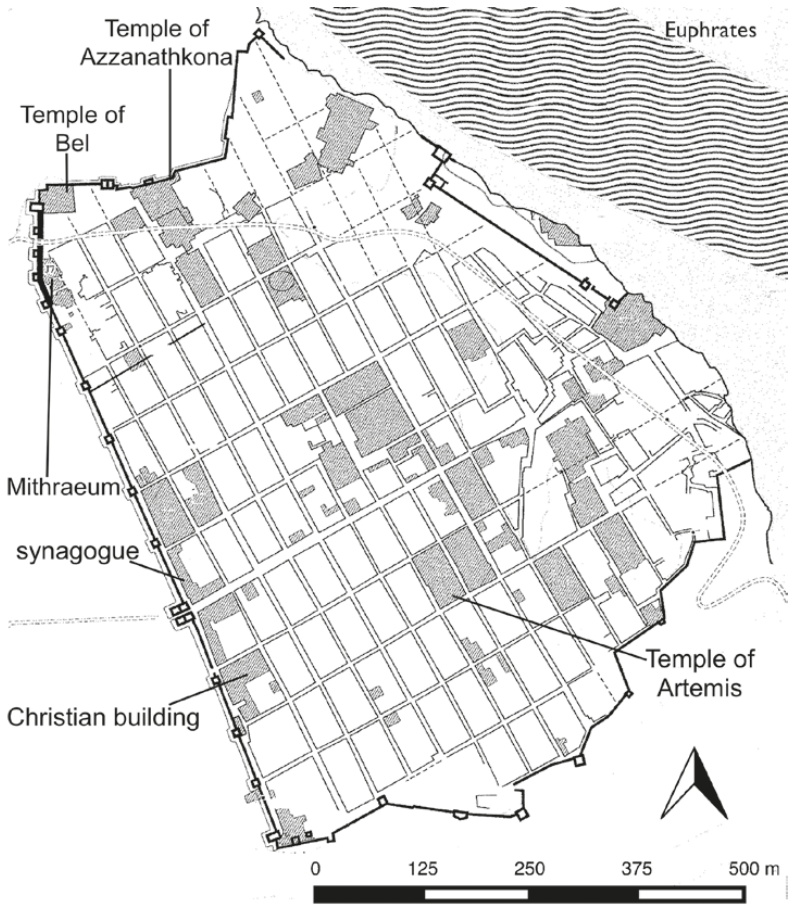

Figure 5.17 Site plan of Dura Europos showing areas excavated (shaded). Areas uncovered include important religious structures from various religions and dedicated to Christian, Jewish, Roman, Near Eastern, Indo-Aryan and syncretized Greco-Near Eastern gods (after Marsyas 2016a; Gelin 1997)

5.3 Spaces in between: the ruralization of the countryside

Although most of this chapter focuses on major urban centres from the pre-AoE and the AoE, another transformation may have affected small-scale sites, that is, those sites that are less than a few hectares. Chapter 4 showed that in some areas new, dispersed and small sites were increasingly found in places where in the pre-AoE there would have been larger

Figure 5.18 Examples of tempera wall paintings from the synagogue found at Dura Europos. Scenes a–d are: (a) from the Book of Esther (Duraeuropa 2016; (b) Moses being pulled from the Nile (Becklectic 2016a); (c) David anointed by Samuel (Marsyas 2016b); (d) the Exodus (Becklectic 2016b)

sites, and a greater diversity of different-sized sites, including secondary and tertiary towns in a relatively small area. More proportional representation of varied settlement sizes was evident for different periods within the pre-AoE according to the rank-size curves shown in that chapter, including the Khabur Triangle region. There we also explained that small settlements were likely to become prevalent as movement became easier. The examples demonstrated that as populations were concentrated into fewer larger cities, some areas developed a greater proportion of small sites that had little area differentiation from each other. While ease of movement may explain how such patterns emerged in the AoE, it does not explain what exactly these small settlements were during the AoE.

As most archaeological excavations focus on larger sites in many periods, very small sites are often neglected or poorly understood. Archaeological surveys, although they often document small sites, generally do not adequately explain their functionality. Where there have been excavations or other investigations of small sites, large and isolated structures with relatively wealthy finds have been evident. This suggests that at least some of these sites may have been more than simple farming villages, hamlets or fortifications.

Examples of such small sites are Tell Boueid (Al-Maqdissi 1995) and Bir el-Haddad (Rouault and Masetti-Rouault 2014), both in eastern Syria, Tell es-Sa'idiyeh (Pritchard 1985) in the Southern Levant, and the 'palazzetto' at Tell Mardikh in western Syria (Mazzoni 1990; Figure 5.19a–d). Other sites, such as Khirbet al-Qasr (Altaweel 2006: 164–5) in the northern Jazirah of Iraq, are sub-hectare, single-period occupations that appear to have been newly established in the Iron Age or later (Figure 5.19e). Very small, sub-hectare sites such as Khirbet al-Qasr are often only noticed in areas surveyed intensively. Many other small or sub-hectare sites do not have any easily noticeable mounding, which makes them nearly invisible to archaeologists. The excavated sites mentioned above (Figure 5.19a–d) have isolated buildings that generally do not appear to abut or incorporate other buildings, although Bir el-Haddad's structure seems to abut a long wall that may be contemporary with the structure itself. The sites' structures are large, or larger than common houses, and have central courtyards. There is evidence of expensive goods (for example at Tell Boueid), such as well-made incense burners and stone figurines. They could, in some cases, be fortifications, but evidence of common burials (e.g., at Tell Boueid) and a lack of large, wide walls and military installations (e.g., at Bir el-Haddad and Tell Mardikh) suggest they were more probably residential, civilian or administrative in nature. Administrative devices are not found in large

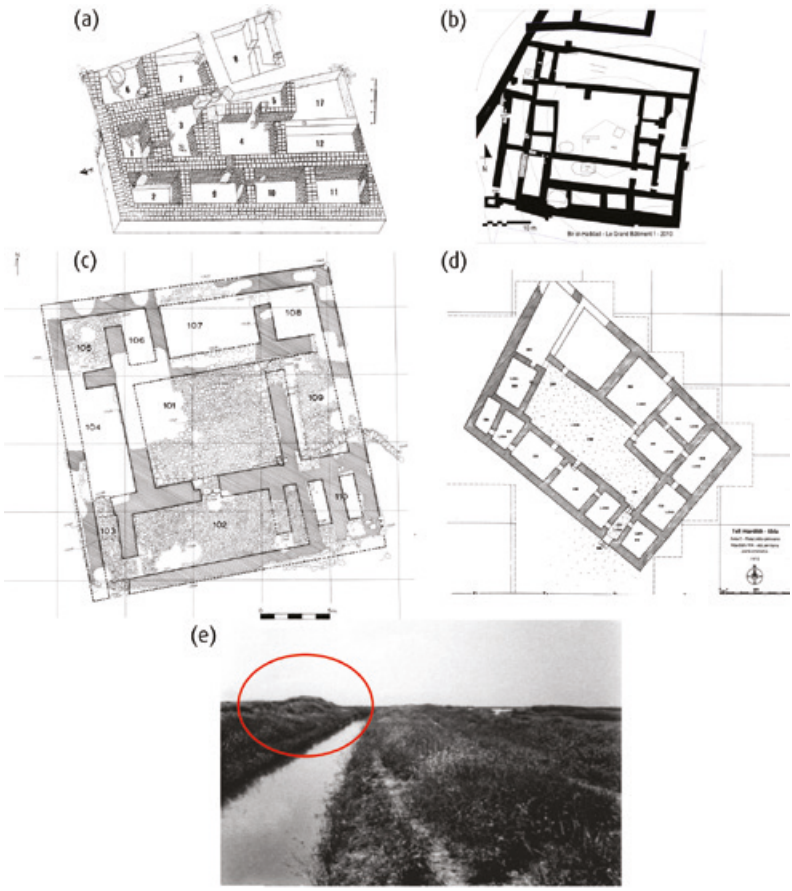

Figure 5.19 Some examples of villas or large residences. These include (a) Tell Boueid (after Al-Maqdissi 1995: Fig. 8), (b) Bir el-Haddad (after Rouault and Masetti-Rouault 2014: Fig. 8), (c) Tell es-Sa'idiyeh (after Pritchard 1985: Fig. 185), (d) Tell Mardikh '*palazzetto*' (after Mazzoni 1990: Fig. 2) and (e) Khirbet al-Qasr (circled; after Altaweel 2006: Fig. 12). Figures are all reprinted with permission

quantities, although Bir el-Haddad had a cuneiform administrative text. The sites mentioned here all date to the late Neo-Assyrian and/or the Achaemenid period (that is, to about the eighth to fourth centuries BCE). Other structures, similar to those described above, often relatively isolated farmsteads, have been found from between the eighth and second centuries BCE, such as Tirat Yehuda, in the Levant (Faust 2006).

Historical data may support the idea that at least some parts of the landscape had villas or wealthy estates by at least the Neo-Assyrian and Achaemenid periods. In the Neo-Assyrian period, texts indicate royal land grants and estates given to individuals as a reward for their service to the Assyrian state (Fales 1990). The Assyrian/Akkadian word *kapru* is used, which suggests something comparable to a farmstead or large country villa. In the Achaemenid period, land tenure texts indicate that the royal family and the nobility owned large estates or wealthy agricultural holdings in some of the interior regions of the Near East, which larger Bronze Age centres once occupied (Sartre 1989). Types of agricultural estates similar to those of the Neo-Assyrian period seem to have continued into the Achaemenid period.

The settlement surveys referred to in Chapter 4, along with textual sources, suggest that some small sites could have developed into wealthy farming estates by the early AoE. Small sites show that as the larger settlements of the interior of the Near East were abandoned, for example in eastern Syria (Akkermans and Schwartz 2003: 391), the Jazirah in Iraq and parts of the Levant, small-scale settlements became common. This may mean that the countryside was transforming into a region where reduced violence and increased socio-political integration facilitated the rise of country estates for the wealthy. While, admittedly, this is an under-researched area in Near Eastern archaeology, such a process would be similar to that observed for the Roman Empire, where *villa rustica* sites, or country villas, appeared in areas of greater safety and integration into the Roman economy and political system (Garnsey and Saller 2014: 221). Using Roman villas in Gaul as examples, we show that these types of settlements became associated with the export of agricultural products to urban regions as the presence of Rome became more pronounced (King 1990). Villas in the Roman Empire may have been acquired as 'rewarded' estates given by the central government, in a process similar to that seen in the Neo-Assyrian and Achaemenid periods (Roymans 2011). In the case of Rome, the giving or awarding of land to foreign, non-Roman troops may have helped to Romanize the empire. Similar reasons for rewarding officials or military personnel may have occurred for the AoE states, where rewarded land may have been used to create greater loyalty to the central state, including from individuals from different ethnic or social backgrounds who served the state. This does, in fact, seem to be the case in the Neo-Assyrian and Achaemenid periods. Villas in the Near East may have become a type of settlement that reflected increased economic or even political integration of the countryside with the larger states in the AoE.

There is further archaeological and historical evidence of villas in different parts of the Near East and Egypt in Late Antiquity. In Egypt, texts from Oxyrhynchus demonstrate that the town had wealthy, large estates nearby that were operated by the Apion family, who leased land for profit and whose business activities resembled in many ways those of the Murashu family in the Achaemenid period (Sarris 2009: 85). Archaeological remains of villa architecture have also been found in the region of Caesarea, where the production of wine or oil would have been important to the local economy (Hirschfeld 1997: 46). Similar well-built and wealthy examples appear to have existed in northern Syria and in the region of Antioch at about the same time (Sarris 2009). This is not unexpected, as the Roman and Byzantine periods are well known for such remains. However, these estates, in the Near East, resemble structures that were found earlier in the AoE; the Roman or Late Antiquity villas were also large, isolated in cases, and indicated greater relative wealth. The model of large country estates run by wealthy families was an important economic component when the conditions of large empires permitted their widespread existence. Such settlements could spread in areas of the countryside that became pacified, and migration to larger cities may have depopulated, or at least deurbanized, some of the older settlements and regions, opening up more countryside for new owners or types of settlements. As larger cities developed in some regions, demand for agricultural goods would have required the rural regions to produce a greater supply for the more distant cities. In summary, the *villa rustica* model prevalent in Europe in the Roman period may be applicable to how Near Eastern rural places functioned early in the AoE, through their economic contribution and type of settlement, as larger empires emerged in the Neo-Assyrian period.

5.4 Conclusion

Contrasts between large urban centres in the pre-AoE and the AoE are evident. The largest sites in the pre-AoE became even larger in the AoE, particularly along or near the Mediterranean shore and major rivers such as the Tigris and the Euphrates. Whereas Uruk and Babylon were perhaps the largest pre-AoE cities, at 400–500 hectares, in the AoE the largest cities reached 1000–1500 hectares, Babylon, Antioch, Alexandria and the Ctesiphon conurbation being among the largest. Cities along international trade routes on the Mediterranean, the Tigris and the Euphrates now reached far greater sizes than in the pre-AoE.

However, it is not just size that differentiated AoE cities from their pre-AoE predecessors. This chapter demonstrates that in urban centres in the AoE, populations became far more international, not only coming from distant regions, as shown by their ethnicity, but also expressing their diversity through their religions, languages, art and ideas. This is what would be expected if movement had become a major driver of population shifts for cities. Neo-Assyrian, Neo-Babylonian and Achaemenid cities demonstrate that diverse populations had already characterized various cities in the Near East before the arrival of more Greek populations after Alexander's conquests. While natural population increase could accelerate the growth of some urban areas, it was the arrival of new populations from different areas that drove growth in many of the AoE's larger cities. Often it is not clear when such populations arrived, as some foreign populations may have migrated earlier than they were mentioned in texts, but for our purposes evidence shows that it became more common for people from geographically distributed origins to move or be moved to cities. Although migration is evident in the pre-AoE, for example the migration of Amorites or Kassites in the Near East, it is the scale and geographic spread that differentiates the AoE movements from earlier periods. Additionally, cultural expression, for example through architecture, art and religion, became more diversified and accepted: Greek, Egyptian, Roman, Indian and Near Eastern influences were found in major Near East cities in different periods. In contrast, major Bronze Age cities were more localized in architectural, artistic and religious expression, and imports of ideas and material goods were evident mostly in luxury objects. The major centres in the pre-AoE did not display foreign cultural influences as prominently as the AoE cities.

Antioch in the AoE had individuals from afar come to it, but, as well, people from Antioch began to spread and were found in a wider area, which reflects the city's influence. Knowledge became mobile, Alexandria's library probably collecting knowledge from Greek, Egyptian and Babylonian cultures. Religious worship became more diverse in the AoE, even in smaller cities such as Dura Europos. In contrast, major cities in the pre-AoE, such as Mari, appear to have more local or regional gods. Art influences in paintings, and new street or urban patterns, from Greece are introduced in the AoE in more parts of the Near East, as seen in Dur Europos, Antioch and Alexandria. Resources from distant regions made possible manufacturing areas, such as the ones at Ctesiphon, that created new types of goods, including types of glass, while international trade routes through AoE cities connected eastern Asia and Europe. Greater wealth from more distant

areas was brought into large capitals in the Neo-Assyrian period, as demonstrated at Nineveh and Kalhu, where some of this wealth was extracted by force.

At Persepolis, the claim that 'all the gods' were important to the foundation of the city, rather than just the national or patron god of the Achaemenids, is evident. The ceremonial capital of the Achaemenids showed itself as giving a stake in the city to different populations through their representative gods. Foreigners from various places within the empire and beyond came to the city and were employed for their labour. The city itself developed architectural and artistic styles that integrated elements from various parts of the empire. Foreigners are shown bringing tribute and not simply as vanquished foes. Although forced migrations existed in the Achaemenid Empire, large population movements may have become increasingly voluntary as individuals recognized opportunities. Along with art, architecture, religions and diverse population groups, the foundation of new cities such as Alexandria, Antioch and Persepolis shows that blended cultures and various types of syncretism had become the norm. In the pre-AoE, the foundation of ceremonial cities such as Dur-Untash or Amarna glorified local chief gods, and local art displayed their greatness. In the AoE, the evident diversity and scale of change reflected population movement and influences from distant places that began to transform the social makeup and characteristics of cities in the wider Near East; multiple cultural groups now found expression as part of a larger whole.

The phenomenon of villas or large estates that developed in the countryside may be another factor that demonstrates increased movement and the socio-political and economic integration of the countryside. Although some of the cities of the pre-AoE became depopulated during the AoE, that urban landscape was being replaced with small sites in places. Where some small AoE sites have been excavated, structures that resemble Roman villas have emerged. It is possible that these types of compounds became of interest when the countryside became more pacified or perhaps more integrated into the economy and politics of the larger states in the AoE, similarly to regions such as Gaul in the Roman Empire. There are historical references to agriculturally based estates or farmsteads in the Neo-Assyrian and Achaemenid periods that seem to resemble country villas, as parts of the countryside were owned by wealthy individuals and those obtaining land gifts from royalty. The transition to small, villa-like sites in parts of the Near East, just as very large, primate cities began to emerge, shows that larger states and empires became the political norm.