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*WHY CITY-STATES EXISTED?*  
*RIDDLES AND CLUES OF URBANIZATION AND FORTIFICATIONS*

Azar Gat

**Abstract**

Why city-states existed in a pre-industrial society, where some eighty to ninety percent of the population, at least, were necessarily engaged in food production, is a mystery, which scholars have seldom addressed or even recognized. City-states neither had low rates of urbanism, nor, as a rule, relied heavily on imported food, as some scholars have assumed. Most of the city-states' populace consisted of peasants who lived in the city and walked to work their land outside it, in the city's near vicinity. Rather than massive industrial and commercial concentration, which only existed in a few, high-profile, historical cases, it was defensive coalescence that mostly accounts for the fact that city-states generally appeared in clusters of tens and hundreds. City-states emerged where large-scale territorial unification did not take place early in political evolution, and the peasant population of petty-polities coalesced to seek protection against raids from neighboring such polities. Hence the problems that scholars have regularly encountered with the concepts of 'city' and even 'urbanism' as applied to these often miniscule 'town'-polities, which should be more adequately described as densely- and centrally nucleated petty-polities. A central refuge/cultic/chiefly enclosure, sometimes supplemented by more extensive ditches and earth and timber works at strategically and topographically exposed directions, as well as the sheer size of the nucleated settlement provided defense against raiding hosts. It took centuries of early urban evolution until continuous circuit brick and stone walls replaced more limited fortifications.

**How Urban Was the City-State?**

**Pre-Industrial Society, Urbanism, and Defense**

The city-state phenomenon raises some truly fundamental questions, which while surfacing here and there in the scholarly literature with reference to particular cases, have rarely been posed systematically, let alone answered. Although most of the evidence – and some of the more general insights – presented in this article are not new, they have not been put together into a broad theoretical framework. For example, how urban was the city-state? Comparative studies of city-state systems barely address this question (Griffeth and Thomas 1981; Burke 1986). In recent studies, non-urban petty-polities have been conflated with city-states as a matter of course, as such a distinction seems to have been barely recognized by the authors (Nichols and Charlton 1997; also Feinman and Marcus 1998; but see Wilson 1997 and mine in manuscript). In this they have been following a growing skeptical trend in the study of some city-states systems - particularly the ancient Greek *poleis* – which, suggesting that the city-state is a misnomer, questions that it was either urban or, indeed, a state. This trend has recently been stemmed by Hansen's exemplary work, culminating in his comparative study of thirty city-state cultures (2000). The present article agrees with Hansen that the city-state was indeed highly urban (as well as

being a state), in the sense that an unusually large part of its populace lived in a central nucleated settlement. On the other hand, other attributes usually associated with the concepts of 'city' and 'urbanism', such as population in the many thousands and economic complexity, were often missing in what was mostly town-size polities. It is this special module of urbanism that this article sets out to explain.

As mentioned, one obvious measure of urbanism is the percentage of the city-state's population that actually lived in the city, rather than in its surrounding countryside. Curiously, the only instance where this highly significant variable is seriously addressed is with respect to early Mesopotamia. Based on their archaeological surveys of lower Mesopotamia, Adams and Nissen (1972: 18-22, 86-7; also Adams 1972; 1981: 130; Nissen 1988: 131) have estimated that by the Early Dynastic period (ca. 2900-2350 BC) some eighty-ninety percent of the Mesopotamian city-states' population lived in the cities, mostly in the city-state's capital city but also in a few satellite towns; indeed, it was their movement there from the countryside in the late fourth and early third millennia BC (Late Uruk and Jemdet Nasr periods) that had made these cities into what they were. To be sure, these estimates are not free from ambiguities: rural settlement and population are notoriously elusive archaeologically; and urban population estimates are tenuously based on settlement area and analogies from pre-modern population densities in the region (e.g. Postgate 1994b, for the problems). Still, even if the Mesopotamian level of urbanism was actually somewhat lower than that suggested by Adams and Nissen, it was still extraordinary, for the economy of pre-industrial societies was exactly the reverse of Adams's and Nissen's figures, that is, at least eighty-ninety percent of the populace consisted of food producing peasants (Aerts and Klengel 1990; Yoffee 1995; Liverani 1996; Driel 1998; de Maaijer 1998 - for the Mesopotamian agricultural land). All the same, scholarly opinion has not fully digested the general significance of the Mesopotamian data and their possible implications for other city-state societies.

Indeed, in relation to other city-states systems the question of the rates of urbanism has barely attracted the attention it deserves, and not always because of the paucity and inherent vagueness of the evidence; a focused formulation of the question itself is often absent. The most glaring lacuna existed with respect to the most intensively studied city-states system, that of the Greek *poleis*. It is increasingly clear that urbanization and, indeed, the formation of the Greek *polis* itself during the Archaic period, ca. 750-500 BC, was a protracted and gradual process (e.g. Starr 1977: 97-9; Snodgrass 1991; Morris 1991; Hansen 1993). But what rates of urbanism were reached by the Greek *poleis* by the Classical period remains a much confused subject. In some recent specialized works on this subject the question does not even occur (e.g. the otherwise excellent Rich and Wallace-Hadrill 1991). Some scholars who have referred to the question have assumed – either explicitly or implicitly - that the obvious dominance of food production and peasants in pre-industrial societies was directly expressed in very low rates of urbanism. Chester Starr (1986: 6-7, 13; though more cautiously in 1977: 41, 98-9, 104-5), for example, has drawn on eighteenth century census figures from the North American colonies and early United States, which show - as in other pre-industrial countries - that some eighty to ninety percent of the populace were farmers and lived in the countryside. He has assumed that the same applied to the Greek *poleis*. Victor Hanson (1995: 7, 446n.3, and *passim*; 1998: 42-9, 214-17) has made the same tacit, and sometimes explicit, assumption in his plea for a rediscovery of the rural Greeks. As already mentioned, this assumption has accorded well with the often-expressed doubt whether the Classical *polis* was a 'city-state' at all in terms of its urbanism. Historians have tended to prefer the concept of

‘citizen-state’, which of course it also was – indeed in close connection with its urbanism. Only in recent years has Hansen (1997; also 1993; 1996; 1998; 2000) deployed a formidable scholarly counter-argument, demonstrating – convincingly, in the present author’s opinion – that the Classical *polis* was indeed highly urban. As the Mesopotamian city-states’ estimated rates of urbanism suggest, the pre-industrial economic rationale may have been different than the one cited above, with implications also for the case of the Greek *poleis*.

Indeed, other scholars, aware that the Greek *poleis*’ rates of urbanism - and those of other city-states systems - were significantly higher than those implied by analogies with other pre-industrial societies, have made different assumptions. They have assumed that the city-state had an uncharacteristically specialized economy, with a large non-agricultural craft and trading sector. The city-state’s food deficit was supposedly covered by imports. Furthermore, relying on Max Weber’s distinction between ‘consumer’ and ‘producer’ cities (1958: 68-70), M. I. Finley (1973; 1981) has argued that the Greek *polis* was a net consumer, living on the labor of its close and more remote hinterland. However, rather than with the clusters of small and independent city-states, Weber’s category of the ‘consumer city’ best accords with the few metropolitan centers of large states and empires, from which large-scale tribute could be extracted. With respect to the Greeks, this only applied to Imperial Athens, which in the fifth century (but not earlier) drew much of its corn from imports (Garnsey 1985: 62-75; 1988: 89-164). All the same, although Attica was more densely populated than other parts of Greece, Athens-Attica was in fact, as we shall see, probably *less* urbanized in some significant respects than other *poleis*, which did not rely on imported food as Athens did. Athens was also exceptionally commercial in Greek terms, but as Finley has rightly emphasized, only very few (though historically high profile), heavily commercialized and particularly maritime city-states in pre-industrial times developed a truly specialized economy. To assume that this applied, for example, to the estimated 1200-1500 Greek *poleis*, the hundreds of city-states in medieval northern Italy, the thirty-odd Mesopotamian city-states (despite their much discussed long-distance trade: e.g. Algaze 1993; Van De Mieroop 1997), or the forty-fifty city-states in the pre-contact Valley of Mexico goes against the evidence and is belied by the simple realities of pre-industrial food production and transportation.

The problem that both the above mentioned - largely conflicting - conceptions of city-state urbanism have in effect tried to overcome is precisely how such clusters of urbanism prevailed in a pre-industrial world, where at least eighty to ninety percent of the population were *necessarily* food producers if society was to be able to feed itself. Both conceptions presupposed that the rural-urban *residential* split overlapped the agricultural-manufacturing *cum* non-productive *occupational* split (also e.g. Sharma 1991: 9, with respect to early historic India). However, as scholars of different city-states systems have long known, this was not the case. Peasants could and did reside within the city. Robin Osborne (1987), as well as Alison Burford (1993: 10, 56-64) and Hansen (2000: 159), while also offering no estimated breakages of city versus countryside dwellers in Classical Greece, point out the familiar but all too often forgotten fact that the former were themselves mostly peasants. As in early Mesopotamia, and most other city-states systems, these peasants, together with their animals, walked daily to work in their fields and farms, up to 5-10 km away (excellently in Morgan and Coulton 1997: 125-6).

If so, another question arises: why did the peasants give up dispersed rural residence and coalesce in urban settlements, through mixed processes of migration and conurbation (depending on the historical case)? All the city glitter could not

compensate for the crowded living conditions, bad hygiene, high prevalence of epidemic disease, and hours' walk to the fields, which were the inseparable aspects of urban life. As I shall argue here, the principal motive was defense, as has been variably recognized by scholars of various city-state civilizations, particularly early Mesopotamia. Following Adams and Nissen, scholars have widely attributed the rapid transformation of the Mesopotamian countryside and the coalescence of its inhabitants into the cities to the simultaneous development of more systematized, state, warfare (though see the lingering puzzlement in Redman 1978: 214-6, 220-43). Pre-colonial Africa is perhaps the most instructive laboratory in terms of the recent historicity of the evidence on the early city-state. Although they incorporated a substantial industrial sector, 'African cities and towns were basically agrarian. At least 70 percent of their male residents commuted regularly to outlying farms' (Hull 1976: xiv). While the Yoruba of western Nigeria were 'undoubtedly the most urban of all African peoples' in the pre-colonial period, their large cities were 'based upon farming rather than industrialization'. Historians of Africa have generally assumed that Africa was special in this, but in fact it was not. The reason for the paradox of peasants' urbanism was defensive coalescence. Historical records of the Yoruba, which become fuller in the nineteenth century, with the more permanent arrival of Europeans, tell of heavy raids by the mounted Fulani herdsmen from the north, as well as of endemic inter-city warfare. Similar, 'proto-historic' records and archaeological evidence in the form of extensive city fortifications stretches further back for centuries (Krapf-Askari 1969: esp. 3-7, 154-5; Smith 1969: 120-9; Hull 1976: 19-20; Connah 1987: 130-4; Peel 2000; citation from Bascon 1955: 446).

Let us return to the Classical Greeks. As always, the best documented case is Athens. According to Thucydides (2.14 and 2.16), most of the population of Attica had lived in the countryside before they were evacuated into Athens at the beginning of the Peloponnesian War (431 BC). Archaeological estimates support this (Finley 1975: 70-1; Morris 1987: 100; Osborne's important archaeological survey 1985 barely addresses the question directly). However, while Athens is the best documented Greek *polis*, it is also (together with the second best documented *polis* - Sparta) the most unusual one, a widely recognized fact which nonetheless regularly distorts our perspective on the ancient Greeks. As Thucydides specifically writes (2.15), life in the countryside was the characteristic of the Athenians more than of any other Greeks. This would seem to defy conventional logic, because Athens is rightly considered to have been more commercialized and industrial than the typical *polis* and, therefore, should have supposedly been more urban. However, one crucial aspect of Athens' uniqueness was that it possessed a vast territory in Classical Greek terms, encompassing as it did the whole region of Attica. This regional size of the Athenian *polis* meant that it was in any case not possible for its peasant population to live mostly in the city of Athens itself even had the peasants so desired (which they probably did not), because this would have meant an impossible distance from their fields. Most of them resided in the countryside (*khora*), in villages and towns (*komai*), some of which were walled. On the other hand, since Attica was a peninsular pocket whose only exposed land side, the north, was largely blocked by the city of Athens itself, Attica was virtually immune to threat, except for the large-scale Persian and Spartan invasions of the fifth century. The same circumstances did not apply to most other Greek *poleis*, whose territory was small and exposed, marked regional variation admitted.

Unfortunately, knowledge about *poleis* other than Athens is greatly inferior. The relevant literary evidence has been scrutinized by scholars (Hansen 1997 is the

best). One scrap of evidence relates to Plataea in Boeotia. Lying only seventy stadia (13.5 km) away from its arch-rival, Thebes, it was attacked by surprise by the latter at the beginning of the Peloponnesian War. Consequently, according to Thucydides (2.5), some Plataeans and some property (*kataskeue*) were caught out in the fields (*agrois*). It seems clear from the account that the majority of the peasant population of this typical-size *polis* (which incorporated about one thousand adult male citizens) lived within the city, from which they walked to tend their fields, only a few kilometers away. Contrary to Victor Hanson's interpretation (1998: 46), both the text and context suggest a relatively small number of people staying out in the fields rather than permanently living in farmsteads. For, as Hansen (1997: 27-8) has calculated, if the majority of Plataea's tiny, mostly peasant, population did not live in the 'city', what city was there that can fit Thucydides's description of Plataea as a walled urban residential place and the excavated walled site of some 10 hectares?

In attempting to demonstrate the centrality of the *polis*' rural population, Hanson also cites Brasidas's surprise attack, during the Peloponnesian War, on the rural population residing outside Amphipolis on the Thracian coast (Thucydides 4.102-4). However, not only did Amphipolis lie on the margins of mainland Greece; the city's environs constituted a naturally protected 'island', 'as the Strymon [River] flows round it on both sides'. Only Brasidas's capture of the bridge made possible his incursion. Indeed, from the fact that Thucydides finds it necessary to mention specifically that part of the people of Amphipolis lived dispersed in the countryside, one can actually infer that this was not the norm in other *poleis*.

Another piece of evidence on the subject (Xenophon, *Hellenica*, V.ii.6-8) relates to Mantinea, after the city fell before Sparta and its allies in 385 BC. According to the peace terms imposed by Sparta, 'the wall was torn down and Mantinea was divided into four separate villages, just as the people had dwelt in ancient times.' Xenophon writes that after the initial shock the landholders in fact found this arrangement convenient, for they could now reside close to their farms. All the same, once Mantinea regained its independence in 371 BC, urban coalescence, the *sine quo non* of self-defense by an independent *polis*, was resumed (VI.v.3-5).

Despite problems of definition, sampling, and interpretation (e.g. Osborne 1996; Morgan and Coulton 1997), the archaeological settlement surveys conducted in various areas of Greece are the principal means for generating new and highly significant information on the question of the rates of urbanism. Several surveys have been conducted so far, in addition to Osborne's survey of Attica mentioned earlier. The Melos survey seems to offer no population breakage of rural versus urban residents (Cherry and Cherry and Wagstaff 1982). The Kea survey (Cherry, Davis, and Manzourani 1991: 279-81, 337-8) has suggested that at least 75 percent of the population, if not more, lived in the urban settlement. According to the southern Argolid survey (Jameson, Runnels, and van Andel 1994: 548-53, 561-3), close to 60 percent of the population in the mid-fourth century BC lived in 'urban' settlements, while an estimated 36 percent lived in villages and some 5 percent lived in farmsteads. The estimated figures for the Archaic period are similar. The ongoing archaeological settlement survey of Boeotia barely addresses the question directly. But the authors cursorily estimate that about one third of the population of Boeotia lived in 'cities', and the percentage of the urban population rises to about 40 if the satellite 'towns' are added. The other 60 percent consisted of 'rural population' (Bintliff and Snodgrass 1985: 143; Snodgrass 1990). As we have already seen with respect to Attica, the seemingly paradoxical conclusion of all this is that the smaller the *poleis* the more urban they tended to be (cf. Morgan and Coulton 1997: 125-6).

The formula for the Greek *polis*' urbanism - which generally applies to other city-states systems as well - would thus appear to be as follows: as a rule, at least 40 percent, often the majority, and in small *poleis* the large majority, of the Classical *polis*' populace lived in nucleated urban centres; and most of these urban dwellers were peasants. Indeed, I agree with Hansen that, contrary to a frequently expressed opinion in the scholarly literature, city-states were exactly what their name implied, that is, highly urban. And as this article argues, they were so decisively and unusually urban because of the security threat posed by the presence of *other* city-states only a few kilometers away. To be sure, archaeologists have long associated the nucleation of settlement with defense. Still, with the exception of early Mesopotamia, the full implications of this relationship for the evolution of city-states do not seem to have sunk in. It is this relationship which accounts, for example, for the highly conspicuous but hardly noted fact that city-states nearly always appeared in a *cluster*. It was in interaction and co-evolution within an inter-polity system - rather than in isolation - that city-states emerged, including those of the proverbially 'pristine', earliest, civilization: Mesopotamia. (Renfrew 1975: 32 amply stresses warfare as a central aspect of system interaction in the 'early state module', but in my view he still underestimates its central role in the formation of city-states.) Relative small size was the key to their peculiar configuration: space was divided between small antagonistic political units, which meant *both* high threat level from close-by neighbors and the ability of peasants to find refuge by living in the city while working outside it, only a few kilometers away. It is not surprising that scholars have regularly encountered problems with the concepts of 'city' and even 'urbanism' as applied to these often miniscule 'town'-polities, which could be more adequately described as densely- and centrally nucleated petty-polities - as opposed to rural-society petty-polities (mine in manuscript). Hansen too (2000: 25) runs into the usual impasse when attempting to make out the difference between city and town in this context.

Where some super city-states emerged by winning control over whole regions - absorbing neighboring communities in the process, including formerly independent city-states - the defensive imperative was somewhat relaxed, though much of the populace continued to live in defended towns within the much expanded territory of the new regional polity. This was the process which took place, for example, in Athens-Attica, and to some degree probably in Thebes-dominated Boeotia. It also seems to have applied to the larger medieval Italian communes, such as Florence and Milan, as these city-states expanded into regional territorial states during the thirteenth to fifteenth centuries, each incorporating tens of formerly independent city-states in Tuscany and Lombardy, respectively. Finally, where the defensive motive barely existed at all, as in the kingdom of Egypt, which had been unified on a grand scale very early in the development of civilization in the Nile Valley and which was largely sheltered by geography, the peasants continued to live in the countryside and around un-walled market towns, whereas cities were few and functioned as 'consumptive' metropolitan administrative and religious centers. It is probably no coincidence that Egyptologists such as Trigger (1972; 1985; also 1993: 10-11) and Hassan (1993) come closest to the ideas developed in this article (see also O'Connor 1972; 1993). It is mainly in the factor of defense rather than in the size of the industrial and trading sector that the differences between the rates of urbanism of Egypt and Mesopotamia lay. As Hansen (2000: 610) has suggested, city-states systems emerged where urbanization preceded large-scale political unification. But, indeed, otherwise inexplicable massive urban nucleation only occurred *because* no large-scale political unification had taken place.

Viewed from another angle, this is also the factor which largely accounts for the much-noted ‘uniqueness’ of the medieval European communes. Unlike other city-states systems, the medieval communes expanded politically from the city nucleus out. While never lacking an agricultural sector (Weber 1958: 70-72) and constantly absorbing people from the countryside as they grew, they only extended their rule over that countryside (*contado*) and its peasant population as their power increased. The main cause of this ‘*Sonderweg*’ was that the medieval communes emerged within a space already dominated by large, albeit segmentary and weak, feudal, state systems and territorial magnates, rather than in a non-state environment, like most of the other city-states systems described here. While the weakness of central power was a necessary condition for the growth of city-states in feudal Europe, the existence of that power nonetheless variably limited both the span of the communes’ territorial control and the degree of their autonomy, particularly where state and magnatic power was relatively stronger – as, for example, in Flanders and Germany, as against Italy (cf. Epstein 2000). This developmental history explains why the artisan guilds and boroughs played a more dominant role in the medieval communes. The communes’ later expansion beyond their walls (roughly during the thirteen century) consolidated their political and economic control over what had always served as their agricultural hinterland. Here as well, estimated breakages of the agricultural versus artisan and trading populations barely exist. However, as in other city-states systems, the large majority of the populace of these expanded city and countryside communes appears to have consisted of peasants. Nevertheless, politically the peasant populace was only partly incorporated, in an inferior and subservient status, and the social and political gulf between them and the artisans and merchants never closed (e.g. Nicholas 1997: 117-25, 177, 253-5). Because of this special formative history and as the peasants continued to count less, a larger than usual part of the peasants went on living outside the city and the city walls, exposed to the ravaging of raiding and war (largely one and the same thing). Thus, it would appear that after their expansion to control their rural environment, the communes were politically and occupationally more, while residentially less, urban than most other city-states systems.

To be sure, in other evolving city-states systems as well, city-coalescence gave impetus to increasing craft and trade specialization by creating a concentrated market nucleus. That is, in emergent city-states, more than in any other form of urbanization, defense functioned as a ‘prime mover’ in a process that brought into play other, interrelated and mutually-reinforcing, factors. City-states generally evolved around a defended chiefly/cultic/refuge center, which in a self-reinforcing process became the site of the local market and attracted ever-larger population. Our knowledge of the growth of the Greek city-states, for example, from the eighth century BC on, is sparse in the extreme. In most cases, however, the *poleis* seem to have emerged around a defended enclosure – sometimes the seat of a paramount chief – which served both as a refuge stronghold for the populace and their livestock and as the location of a growing and increasingly centralized sacred site of shrines and temples, which it defended (Lawrence 1979: 112, 132-3; Snodgrass 1980: 31-3, 154-7; Fine 1983: 48-51; Donlan and Thomas 1993: 67-8. Polignac 1995 may suggest a complementary rather than contradictory process). The word itself for a city in Greek – *polis* – was derived from an Indo-European designation for a fortified enclosure (Sanskrit *pur*, Lithuanian *pilis*: Mallory 1989: 120), around which the city-state had grown and which in Classical times was known because of its often elevated location as Acropolis or Upper-City. The Hittite Hattusa (Klengel 1990: 46-7) and other Bronze Age Anatolian fortified centers, the Palatin and Capitol hills in Rome, and the Gallic

*oppida* are some instances of the same pattern of city growth around a chiefly/royal seat *cum* cultic center *cum* refuge stronghold. Other designations for a city, such as the Slavic *gorod* and the Germanic *burgh*, carry the same meaning of a fortified enclosure, around which the future city formed. The medieval city-states which were beginning to grow substantially in Italy, Germany, and Flanders from about the tenth century AD, emerged around castles or fortified monasteries/bishop seats that served as their point of refuge, some of them relying on old Roman fortifications (*castra*). Their pioneering historian Henri Pirenne (1952; 1963) has stressed the centrality of this element in their formation, which constituted the basis for their subsequent commercial development. As Pirenne (1952: 57-8) has sensed and students of African urbanism suggest (Hull 1976: xvii, 23-4), the Zulu *kraal* of herdsmen and peasants represented a similar sort of defended chiefly and religious enclosure and nascent commercial center. Archaic references to the Sumerian city of Uruk customarily describe it as ‘Uruk-the-(sheep)-enclosure’, which has continuously raised questions among translators, who have found it difficult to see how this phrase could relate to the historic city’s splendor. A recent translator (Kovacs 1985: I.10 and note) is typical in writing: ‘I prefer to translate the notion of a sage refuge for the weak as “Uruk-Haven”’. However, the literal meaning may very well have been the original one.

The early Mesopotamian case raises a cardinal point. It used to be widely believed and is still occasionally maintained that some of the nascent urban centers were fundamentally religious and economic, evolving around a temple complex, with no apparent defensive function. The principal example of the nascent religious-economic center is considered to be the early Mesopotamian city-states, which are archaeologically known to have evolved in the late fourth and early third millennia BC around the temple sites that had grown during the Ubaid period. The title of the Sumerian kings in some cities, *en* and *ensi*, literally ‘priest who laid the foundation (of a temple)’, testifies to their paramount religious role until the Early Dynastic period, which supposedly brought about intensified warfare. However, in the words of one scholar (Gadd: 121): ‘it is probable that the inhabitants were not less pugnacious in earlier times, of which little is known’ (for a ‘pacifist’ view see Stein 1994). For example, the excavated villages of Tell es-Sawwan and Choga Mami from about 6000-4500 BC were both heavily fortified (Oates 1973: 147-81, esp. 168-9), and an excavated cylinder seal from the proto-historic Uruk period shows bound captives and smitten enemies (Postgate 1994a: 24-5; also Van de Mierop 1997: 33-4). The damage done to the early urban centers by extensive subsequent construction over several millennia makes the archaeological markers for prehistoric warfare – in any case a notoriously difficult subject (Vencl 1984; Keeley 1996; Gat 2000) - even more ambiguous with respect to early Mesopotamia.

Analogies with other supposedly ‘priestly’ polities can help, and no case carries a more resounding moral than that of the Maya. Before the Maya’s hieroglyphic script was deciphered from the 1950s, it had been generally assumed that theirs had been a peaceful priestly society. However, once the Maya texts could be read, it has been revealed that while high priesthood was indeed one of the major roles of the Maya kings, they were also the military leaders in endemic warfare that took place among the various city-state polities. As David Webster (1976), explicating the general theoretical significance of the Maya evidence, suggests, the kings were *simultaneously* secular, military, and religious leaders. Cahokia on the Mississippi is another prime example, for while being the most advanced polity in temperate North America, it only emerged as a nascent state from the eleventh to the fourteenth centuries AD (Emerson 1997). Thus, since the Mississippi culture had no time to

evolve further before the arrival of the Europeans, no later layers of civilization were built on its sites, which uniquely preserve their nascent state form. The center of the Cahokia polity, around which a city of tens of thousands grew, was a large ceremonial plaza and seat of the polity's ruler. A log palisade has been excavated around the plaza and its huge earth mounds. Enclosure walls could, of course, serve many possible purposes, but the function of parapet walks on, and tower-bastions in, the wall leaves little room for ambiguity. The bastions were evenly erected every twenty meters, gates were elaborately protected, and, last but not least, plenty of arrowheads have been found around the wall (Panketat 1994: esp. 91-2; relying on Iseminger et al. 1990). Cahokia's seat of power was a defensive enclosure that was experiencing attacks.

Thus, defense was central to the formation of would-be city-states' nuclei, intertwined as this element was with political, religious, and economic factors. Pirenne and Weber, Hansen (1997: 55-7) for Greece, and, in effect, Nicholas, and Hull and Gutkind (1963: 9-15) with respect to Africa - all rightly stress mixed functions in city emergence. It must be realized, however, that political fragmentation and, hence, defense was the underlying force of the whole process, in the absence of which dense clusters of nucleated urbanity such as were characteristic of city-states systems simply did not appear in pre-industrial, largely agricultural, society.

### **Puzzles of Early City-State Fortifications**

Pre-Columbian America brings us to the vexed question of early city-state fortifications – or their elusiveness - that has been the cause of considerable confusion. The principal reason why before the deciphering of the Maya script scholars believed in the pacific nature of these polities was the apparent absence of city walls around them and the initial inconspicuousness of other sorts of fortifications. On the whole, urban centers throughout pre-Columbian America seemed to have lacked circuit city walls on a scale that even remotely resembled the familiar Old World pattern, although the evidence not only from the Maya but also during European contact, most prominently in the case of central Mexico, clearly shows that the local city-states were regularly at war with one another. This apparent difference between the New and Old Worlds has remained a puzzle.

In reality, however, there was little difference between the two worlds, for the pattern *everywhere* was that city fortifications evolved gradually, in step with urban evolution, with the familiar circuit stone walls only taking shape after centuries of evolution. Our knowledge of later developments in the Old World distorts perception of the evolutionary course that had led to them. In the case of early Mesopotamia, for example, scholars tend to closely associate the pre- and proto-historical emergence of cities during the Uruk to Early Dynastic periods with the construction of circuit city walls. However, in early Mesopotamia too the very large circumference of the enclosed area indicates that the walls were only erected after substantial initial city evolution had taken place. Several centuries are a considerable time even in pre- and proto-history and around 3000 BC. The renowned Uruk city walls, erected in the Early Dynastic period, are nine kilometers long, encompassing an area of four hundred ha, with an estimated population of 40,000 at the minimum (Nissen 1972; Postgate 1994a: 74-5, 80; Redman 1978: 255, 264-5). This had already been a highly developed city by any standard. In the Indus civilization as well, the massive city walls familiar from the second half of the third millennium BC (Mature Indus Civilization), which encompassed large, highly populated, and remarkably well-planned urban spaces, indicate a late construction, after considerable formative urban

development had already taken place. In smaller sites, only the acropolis was fortified, whereas the surrounding lower city remained un-walled, strongly suggesting the initial stages of development in all urban fortifications (Kenoyer 1997: 56-62; Allchin and Allchin 1993: 133-4, 146, 150, 157, 162, 171-6; Possehl 1998: 269-72, presenting the evidence for warfare but curiously forgetting fortifications). A thousand years after the collapse of the Indus civilization, as urbanism gradually revived in Early Historic India from the sixth century BC, a clear sequence of evolution is discernable from towns and earthen, mud, and timber fortifications to regularly laid out cities surrounded by walls, some made of stone (Ghosh 1973: 51, 61-7; Allchin et al. 1995: 62, 70, 106-11, 134-6, 142-6, 202, 222-6; Erdosy 1988: 109, 113-4). In western Nigeria, the excavated fortifications of the Yoruba cities reveal several concentric lines, erected in step with the cities' growth. All the same, even the Yoruban Ife's earliest circuit fortifications, which have a circumference of more than five kilometers, indicate the pre-existence of a large coalesced site by the time of their construction. In Benin City, the circuit fortifications, consisting of a massive earthen bank and ditch, have a circumference of 11.6 kilometers. A trend from ditches and stockades to earthen ramparts and, then, more solid walls is universally discernable (Ajay and Smith 1964: 23-8; Smith 1969: 22, 125-6; Connah 1987: 131-6; 2000; Hull 1976: 41).

The Greek *poleis* appear to have had no circuit walls until the sixth century BC in Ionia and southern Italy and until the fifth century on mainland Greece, after centuries of urban growth (Winter 1971: esp. 54-5, 60, 101; Lawrence 1979: 113-4; Snodgrass 1991: 6-10). Athens, for example, the largest Greek *polis*, was evacuated without resistance by its population and burnt down by the Persians in 480 because it still had only the Acropolis walls and possibly the beginnings of further fortifications encompassing a larger public area around the center (Winter 1971: 61-4). It only acquired its celebrated circuit walls after the Persian War and despite Spartan objection to the novelty. Only by the time of the Peloponnesian War had most Greek city-states erected circuit walls, with the un-walled Sparta remaining as an exception and reminder of earlier times. As late as the second half of the fourth century BC, Aristotle, writing that 'a citadel (or *acropolis*) is suitable to oligarchies and monarchies; a level plain suits the character of democracy', still found it meaningful to discuss the question whether it was good or not for a *polis* to have a fortification wall (*Politics*, VII.11.5-12 1330b-1331a). The emergent Italic city-states of the same period followed a similar pattern (Holloway 1994: 91-102; Cornell 1995: 198-202, 320, 331; 2000: 217-9; Smith, 1996: 152-4). For instance, excavations show that Rome's circuit stone wall was only built after the sacking of the city in 390~387 by the Gauls, whose armed band would not have been able to take the city if it had been fully fortified. Only particularly exposed stretches of the city's perimeter appear to have been protected by discontinuous ditches and earth works (*ager*). And the Roman population took refuge in the Capitol Hill, where some sort of fortifications probably augmented the natural stronghold. Similarly, in the medieval city-states a larger civic center encompassing the market and main public buildings was fortified beyond the original stronghold in many nascent cities only in the eleventh century. The residential suburb (*faubourg*, *suburbium*, *portus*) which continued to grow as an adjunct to the fortified core was only defended, if at all, by elementary timber and earthen fortifications (Pirenne 1952: 141-3). Full circuit stone walls only began to be built around the medieval city-states toward the end of that century and mostly in the twelfth, after some two centuries of city evolution (Pirenne 1952: 177-8; 1963: esp. 4,

37; Verhulst 1999: 70-117; Nicholas 1997: 92-5, 184; Hyde 1973: 74 and plates 1a and b; Griffiths 1981: 87-8; Sznura 1991: 403-18; Benevolo 1993: 34-6, 44-6, 50).

Finally, returning to pre-Columbian America, there as well fortifications evolved in step with urban evolution, including the gradual emergence over the centuries of circuit walls. Further excavations of the Maya sites have brought to light a sequence that eluded earlier researchers. The most ancient finds, first regarded as drainage systems, have been firmly identified as formidable earth fortifications. In Los Naranjos an earthwork system composed of ditch and embankments, approximately 1300 m long, stretching from a swamp to a lake, defended the approaches to the main site as early as 800-400 BC. A second system, more than double in length, was apparently erected around 400-550 AD, during the Classic. In the Preclassic site of Mirador a six hundred meters long wall has been discovered. At Tikal, an earth and rubble system, composed of a ditch, parapet, and gates, defended the approaches to the site from the north, stretching from swamp to swamp for 9.5 km. It was built 4.5 km away from Tikal's Great Plaza and four hours walk from its nearest large neighbor Uaxactun. The system is believed to have evolved from the Early Classic and reached its zenith in the Middle Classic. The Edzna 'citadel' was surrounded by a water-filled moat even before the Classic. Becan is the first large-scale site presently known to have been completely surrounded by a ditch and parapet from as early as the Pre- or Early Classic (100-450 AD). The ditch was 1.9 km in circumference with an average width of 16 m and depth of 5.3 m. The parapet behind it was 5 m high. Other fortified sites from various phases of the Classic have been identified, though many have not yet been excavated. By the Late- and Postclassic, circuit walls evolved around many sites, particularly in the northern lowland. While some of these fortified sites were no more than central ceremonial/civic/refuge enclosures, others encompassed a much wider urban center. Mayapan was the latest and largest, with a 9 km long outer wall, encompassing 4.2 square km, and an inner (earlier?) wall around its ceremonial-civic center. In Tulum and Ichpaatun the walls were squarely laid out and made of stone. In some sites stone walls were topped by timber stockades. Fortifications everywhere relied extensively on the natural defenses of heights, swamps, and sea. In the Postclassic Maya highland, steep slopes provided the basis for formidable discontinuous defenses at the approaches to urban sites (Webster 1976; 1977; 1978; Puleston and Callender 1967; Adams, 1991: 161-2).

In central Mexico, the giant Teotihuacan dominated the entire region during the Classic. As the city reached its apogee, it had massive but no circuit walls, some of which 5 meters high and 3.5 meters wide at the base. According to Millon (1973: 39-40), the stretches of the city's circumference that were not defended by walls were protected by a maze of canals, flooded areas, and cactus vegetation, while the sheer size of the building compounds within the city would have functioned as 'natural fortresses'. In any case, during its heyday Teotihuacan apparently had few serious rivals. Only after the city's destruction ca. 650 AD was the system becoming far more competitive, as a multiplicity of antagonistic city-states was emerging in Late- and Postclassic central Mexico. Some of the leading urban centers in this system had a fortified acropolis, while others, such as Xochicalco and Cacaxtla, were evolving circuit defensive systems, which usually relied on strong natural defenses. In Xochicalco, for example, the central hilltop religious-civic enclosure was surrounded by a wall, whereas the larger perimeter of the hill was defended by a discontinuous system of ramparts and ditches that closed the gaps between steep slopes. Some cities possessed circuit walls at the time the Spanish arrived, while in others - like the Aztec capital Tenochtitlan, lying in the middle of a lake - a strong natural location was

reinforced by man-made constructions. In the Valley of Oaxaca from the late Preclassic and during the Classic (Periods I-III; roughly first half of the first millennium AD), Monte Alban was defended by kilometers-long, discontinuous, fortification walls that augmented the site's strong hilltop position (Amillas 1951: 77-86; Hirth 1989; Diehl and Berlo 1989; Blanton 1978: 52-4, 75-6; Hassig 1992: 35-6, 41, 68, 100-9, 150; Lind 2000: 572). To conclude our discussion so far, it would appear that only the misleading perspective of absolute chronology - where that of relative cultural evolution would be far more appropriate - creates the optical illusion that pre-Columbian America was fundamentally different from the Old World.

All this, however, only makes the puzzle more general: if, as argued earlier, the main motive for the coalescence of the countryside population and nucleation of settlement that characterized the growth of city-states was defense – in the Old World as well as in America - why were they not fully surrounded by continuous circuit walls from the start? Indeed, what defensive use was there in settlement aggregation in the absence of such walls? Underlying this puzzle are the generally unfamiliar patterns of pre- and proto-state warfare which stand in variance to our historically-shaped concepts of war. For pre- and proto-state warfare mainly consisted of raids, carried out by war parties (Turney-High 1948; Otterbein 1970; Keeley 1996; Gat 1999). Lives and property in scattered countryside settlements were mostly at risk. With increasing sedentism ever since the Mesolithic, nucleated village communities often fortified their settlements with palisades and ditches (Rowlands 1972; also Keeley; Gat 2000). Stone towers in the countryside were also widespread as a defensive measure in the Mediterranean, including the Greek world (Lawrence 1979: 187-97; Osborne 1987: 63-7; Cherry, Davis, and Mantzourani 1991: 285-98). However, by coalescing around a central stronghold, people could not only find refuge in time of emergency for life and some valuable movable possessions – chiefly livestock; they also ceased to present small, isolated, and highly vulnerable targets for raiders. As with herd animals, schools of fish, and flocks of birds, there was increased safety in numbers. On top of all defensive works, cities-towns were protected by *size*. Substantial settlements could not be quickly eliminated in a surprise night raid. Their inhabitants would have comprised a considerable force and would have had time to wake up and resist. Indeed, taking on a city meant direct fighting of the most severe, sustained, and dangerous sort: from house to house, with every building top potentially serving as a minor stronghold. This was precisely the sort of fighting that 'voluntary' pre- and proto-state warriors tended to avoid.

This is not mere speculation; the evidence from both Archaic Greece and late pre-contact Mexico (as well as from pre-colonial Africa and medieval Europe) supports it. Warfare for the Archaic Greek city-states meant ravaging raiding of the countryside or, if the enemy came out to defend his fields and orchards, a fierce but short face-to-face encounter. The encounter ended either in the attackers' withdrawal, as seems to have happened in most cases, or, if it was the defenders who withdrew, in a resumption of ravaging. Tellingly, the cities themselves appear to have been rarely attacked. Experts on Greek warfare have recognized that occupying another city-state by force was simply beyond the capability of a seventh or sixth century BC *polis*. Generally, however, this fact has been ascribed to rudimentary siege-craft before the late fifth century BC and to the short staying power of the citizen militia, both factors being valid for most of the fifth century; curiously, the fact that the *poleis* of the Archaic period still had no circuit walls has somehow not sunk in. Victor Hanson, for example, seems to be entirely unaware of this paradox in his otherwise admirable interpretation of hoplite warfare, which mainly deals with the early Classical period

(1989; 1995: esp. 145, 251-2; 1998: 8). Hanson does, however, stress the prominence of the raid in the Classical period (1995: 143-4), and it was undoubtedly even more central during the Archaic period (cf. Osborne 1987: 138-41, 145), as it continued to be in the non-*polis* parts of Greece. Josia Ober (1991: esp 186) comes closer but still fails to factor in the absence of circuit city-walls during the Archaic period.

But, indeed, if such walls were absent, why were Archaic *poleis* not regularly conquered? Again, with the actual elements of this puzzle remaining imperfectly recognized, the question itself simply did not present itself in all its starkness. The phalanx hoplite warriors are justly celebrated for their unique bravery in accepting and withstanding face-to-face encounters. However, they regularly did so on a level plain and equal terms, while avoiding attack on enemy forces which held superior positions, for example on elevated ground. Evidently, they all the more recoiled from unequal out-and-out urban street fighting. It will be noted that even after the crushing Theban victory of Leuctra in 371 BC, in a period in which sieges had already become more common, the Thebans and their allies, having invaded the Peloponnese and Laconia, recoiled on two different occasions from an attack on the still un-walled Sparta for precisely these reasons (Xenophon, *Hellenica*, VI.v.27-31, VII.v.11-14). Rather than the routinely evoked notions of 'ritualized' warfare and customary restraint, it was an aversion to the dangers that such an attack involved - in conjunction with the weakness of coercive central command and of organizational stamina in the early city-state - that accounted for the inherent indecisiveness of Greek warfare; there was very little restraint and much viciousness and cruelty in early Greek (or Mesoamerican) inter-city-state warfare (e.g. Pritchett 1991: 203ff).

Among the Maya, aristocratic-led raids (and aristocratic single combats) were the principal form of warfare, making it inherently indecisive and protracted for most of Maya history. Cities were rarely occupied until very late in the evolution of the Maya polities (Webster 1977: 357-9; also 1998 and 1999; Hassig 1992: 74-5; Schele and Freidel 1990; Schele and Mathews 1991: 245-8; Freidel 1986: 93-108). And despite the reputed viciousness of Aztec warfare, large-scale ravaging raids, rather than the indecisive battles of the 'flowery wars', served as the principal means for achieving enemy compliance. Weaker victims gave in to the pressure, and, as the Aztec hegemonic empire and armies grew, their enemies' cities and central cultic-civic strongholds became more vulnerable to storming or to the threat of it. All the same, only recently have scholars begun to come to terms with the highly conspicuous fact that despite some seventy years of rivalry the Aztecs never managed actually to conquer the city of their implacable arch-rival, Tlaxcalla, and its allies in the Valley of Puebla, which were protected by natural defenses, supplemented by border fortifications and refuge strongholds, yet possessed no circuit city walls (Barry 1983; Hassig 1988: 105-9, 129-30, 254-6; 1999: 378-80). Nor, for that matter, did Sparta ever manage to conquer its own main protagonist since the Archaic period, Argos. Among the Yoruba as well, of western Nigeria, inter-city warfare mostly consisted of raids and skirmishes (Smith 1969: 126-7), as it also did among the communes of medieval Europe.

In the exceptional case of the worse coming to the worst and the enemy forcing its way into the early city, the city's population would withdraw to the central ceremonial-civic stronghold. If this was a hilltop enclosure (or a small peninsula), its natural defenses would be augmented by the simplest forms of fortifications, such as ditches, and earth, timber, and (often uncut and free standing) stone ramparts, which everywhere served as the most readily available and most easily handled materials. Regularly-laid brick and stone construction only became more widespread later, or in

environments where stone or clay mud were plentiful while wood and even earth were scarce. Even in those regions, such as Mesopotamia and, to a lesser degree, the Maya lowland, where a flatter topography dictated that the ceremonial-civic centers would not possess the natural protection of commanding height, they still served as refuge strongholds, as the Mesoamerican evidence at any rate extensively shows. The monumental buildings themselves constituted the last line of defense, and they were further surrounded and connected by permanent or hastily improvised ditches and ramparts. In the prehistoric Andean civilizations of South America as well, the widespread prevalence of hilltop refuge strongholds and citadels in the mountain polities and of fortified urban ceremonial-civic centers in the coastal plain tell the same story (Haas, Pozorski, and Pozorski 1987: esp. Chs. 5-7; also, Parsons and Hastings 1988: 152, 204-17). Indeed, it was the capturing and destruction by fire of the city-state's refuge-cultic stronghold that everywhere - in both the Old and New Worlds (e.g. Millon 1988: 149 for Teotihuacan) - signified supreme victory, not only symbolically, as some scholars have assumed, but also practically, for it was the main and last point of resistance for the city's elite and population. All in all, a sequence in the evolution of city fortifications is discernable more or less world-wide (Japan is another instructive example): there was evolution from earth, rubble, and timber construction, through 'intermediate forms' such as the *morus gallicus* of the *oppida* which added stone facing, to brick and stone, and finally to pure stone; in parallel, there was evolution from defended central enclosures, often through somewhat larger fortified civic centers, to full circuit walls (Weber 1958: 75-80, is insightful on this as well).

What then were the factors that fueled this evolutionary sequence and brought the familiar brick and stone city circuit walls into being? Again a broad interrelated process was at work, tied up with the consolidation of mass urban society/polity. The larger and more organized and resource-rich the city-states had grown to be and the more capable they had become of long-term, sustained, military effort in enemy territory (which in Greece, for example, only happened in the fifth century BC), the more were they capable of undertaking attacks on cities, and indeed of holding them after they had been occupied. At the same time, however, the very same factors that had enhanced offensive capability and threat had also increased defensive capability. Capability and necessity grew together. For example, money payment to recruits for protracted campaigning away from home - a crucial offensive upgrade - was introduced in Greece, Rome, and the medieval Italian city-states alike at roughly the same time that circuit city walls were erected. Taxes to pay for both were more or less simultaneously imposed: during the Peloponnesian War in Greece (Pritchett 1974: Ch. I), in 406 BC in Rome (Cornell 1995: 187-8), and from the twelfth and mostly during the thirteenth century AD in medieval Europe (Hyde 1973: 182-4; Jones 1997: 385-6; Waley 1968: 94-6; Nicholas 1997: 255-8; Contamine 1984: 91). Kilometers-long circuit brick and stone city walls now made their appearance where only ditches and earth and timber palisades, or stone citadels at most, had existed. This was a massive construction, necessitating both investment and political coordination. A growth in state power, integrating earlier, loose, agricultural *cum* nascent urban kin-tribal society, was reciprocally both a cause and result of all these interrelated processes.

In the Mesopotamian epic tradition, the erection of Uruk's circuit city walls was associated with the reign of a more powerful king, Gilgamesh (sometime between 2700-2500 BC), whose authority rested on broader popular support and whose power grew as a result of his resistance to the hegemonic rule of another powerful city-state

king, Agga of Kish (Kovacs 1985: i.10 and 17-22; George 1999: 143-8; Pritchard 1969: 44-7). The growth in offensive, defensive, and political power was intertwined and self-reinforcing. In western Africa 'the first set of walls in Kano were begun by Sarki (king) Gijinmasu (ca. 1095-1134) and completed by his son.... In about 1440 Eware the Great, ruler of the Benin kingdom, constructed high walls and deep protective trenches around Benin city' (Hull 1976: 40).

Among the Maya as well, more elaborate defenses, including stone circuit walls, evolved during the Late- and Postclassic together with the growth of larger city-state polities, mercenary service, more systematic state warfare, and wars of conquest (Webster 1977; Schele and Freidel 1990; Freidel 1986). In both Ionia and Magna Graecia, the advanced peripheries of the Greek world, city fortifications came in the sixth century with the new autocratic power of the tyrants (again resting on popular support) and the threat of great powers' professional armies: the Lydian and Persian in the East and the Carthaginian in the West. The rise in state power did not, however, always and necessarily take autocratic form. By the time Athens acquired its circuit walls, the work of a popular tyrant, Peisistratus, had been followed by a democratic reformer, Cleisthenes, who substituted a territorial political organization for the earlier kin-based structure of the Athenian polity. Similarly, although archaeology does not support Roman traditions that the city's walls were erected by King Servius Tullius in the mid-sixth century BC, it is interesting to note that it was to the same king that the reorganization of the Roman state from kin to territorial basis, as well as the institution of the legion army, were ascribed. Probably, as scholars tend to believe (Cornell 1995: 173-196), a series of political and military reforms over two centuries of Roman state formation during the monarchy and early republic were compressed by later Roman traditions and ascribed to the proto-historical king, who may have launched the initial steps. In the medieval communes, the expulsion of the local archbishop/prince and the establishment of the commune as an organized self-governing civic community coincided with the erection of circuit walls in the twelfth century.

### **Conclusion**

The thrust of this article is theoretical, aiming as it does to synthesize often familiar materials and observations into a comprehensive explanation of a major enigma. Why city-states existed in a pre-industrial society, where some eighty to ninety percent of the population, at least, were necessarily engaged in food production, is a mystery, which scholars have seldom addressed or even recognized. City-states neither had low rates of urbanism, nor, as a rule, relied heavily on imported food, as some scholars have assumed. An unusually large part, often the majority, and sometimes the large majority, of the city-state's populace lived in nucleated urban settlements: mostly in the 'city' itself and partly in its dependent 'towns'. And even if in some city-states, particularly those with a developed maritime economy, urbanism did result in a more specialized craft and trade sector, this alone - in view of the realities of food production and transportation - cannot account for their high rates of urbanism, nor for the high rates of the scores and hundreds of 'ordinary' city-states. Most of the city-states' populace consisted of peasants who lived in the city and walked to work their land outside it, in the city's near vicinity. Indeed, rather than massive industrial and commercial concentration which only existed in a few, high-profile, historical cases, it was defensive coalescence that mostly accounts for the fact that city-states generally appeared in clusters of tens and hundreds and that, as if paradoxically, smaller city-state's size correlated better with higher rates of urbanism. It is therefore not

surprising that students of city-states have regularly encountered problems in applying the concepts of 'city' and even 'urbanism' - usually associated with very large size and with economic complexity - to these often miniscule 'town'-polities. The view that the concept of city-state is a misnomer has gained popularity for this reason. Yet, although the concept may indeed be somewhat misleading in this respect, it remains a perfectly valid shorthand if what is meant by urbanism in this context is properly understood. City-states should be more adequately described as densely- and centrally nucleated petty-polities. They emerged where large-scale territorial unification did not take place early in political evolution, and the peasant population of petty-polities coalesced to seek protection against raids from neighboring such polities. A central refuge/cultic/chiefly enclosure, sometimes supplemented by more extensive ditches and earth and timber works at strategically and topographically exposed directions, as well as the sheer size of the nucleated settlement provided defense against raiding hosts. Over time, both offensive and defensive capability developed in step with organizational and coercive state power. It took centuries of early urban evolution until continuous circuit walls replaced more limited fortifications, while earth and timber gave way to brick and stone.

### References

- Adams, Richard. 1991. *Prehistoric Mesoamerica*. Rev. edn., Norman: U. of Oklahoma Press.
- Adams, Robert McC. 1972. 'Patterns of Urbanization in Early Southern Mesopotamia'. In *Man, Settlement, and Urbanism*, ed. P. Ucko, R. Tringham, and G. Dimbleby. Cambridge Mass.: Schenkman, 735-49.
- 1981. *Heartland of Cities*. Chicago: U. of Chicago Press.
- and Hans Nissen. 1972. *The Uruk Countryside*. Chicago: U. of Chicago Press.
- Aerts, Erik, and Horst Klengel (eds.). 1990. *The Town as Regional Economic Centre in the Ancient Near East*. Leuven: Leuven UP.
- Ajay, J. and Robert Smith. 1964. *Yoruba Warfare in the Nineteenth Century*. Cambridge: Cambridge UP.
- Allchin, Bridget and Raymond Allchin. 1993. *The Rise of Civilization in India and Pakistan*. Cambridge: Cambridge UP.
- Allchin, F. R. with contributions by G. Erdosy, R. Coningham, D. Chakrabarti, and B. Allchin. 1995. *The Archaeology of Early Historic South Asia: The Emergence of Cities and States*. Cambridge: Cambridge UP.
- Algaze, Guillermo. 1993. *The Uruk World System*. Chicago: U. of Chicago Press.
- Amillas, Pedro. 1951. Mesoamerican Fortifications. *Antiquity* 25:77-86.
- Barry, Isaac. 1983. The Aztec "Flowery War": A Geopolitical Explanation. *Journal of Anthropological Research* 39:415-32.
- Bascon, W. 1955. Urbanization among the Yoruba. *The American Journal of Sociology* 60:446-54.
- Benevolo, Leonardo. 1993. *The European City*. Oxford: Blackwell.
- Bintliff, J. and A. Snodgrass. 1985. The Cambridge Bradford Boeotian Expedition: the First Four Years. *Journal of Field Archaeology* 12: 123-61.
- Blanton, Richard. 1978. *Monte Alban*. New York: Academic Press.
- Burford, Alison. 1993. *Land and Labor in the Greek World*. Baltimore: Johns Hopkins UP.
- Burke, Peter. 1986. 'City-States'. In *States in History*, ed. John Hall. Oxford: Basil Blackwell.
- Cherry, John, and Malcolm Wagstaff. 1982. Chs. 2, 11 and 19 in *An Island Polity: The Archaeology of Exploitation in Melos*, ed. Colin Renfrew and Malcolm Wagstaff. Cambridge: Cambridge UP.
- Cherry, J., J. Davis, and E. Manziourani. 1991. *Landscape Archaeology as Long-Term History: Northern Keos in the Cycladic Islands from Earliest Settlement until Modern Times*. Los Angeles: *Monumenta Archaeologica* 16.
- Connah, Graham. 1987. *African Civilization: Precolonial Cities and States in Tropical Africa: An Archaeological Perspective*. Cambridge: Cambridge UP.
- 2000. 'African City Walls: A Neglected Source?'. In *Africa's Urban Past*, eds. D. Anderson and R. Rathbone. London: Currey and Heinemann, 36-51.
- Contamine, Philippe. 1984. *War in the Middle Ages*. Oxford: Blackwell.
- Cornell, T. G. 1995. *The Beginnings of Rome: Italy and Rome from the Bronze Age to the Punic Wars (c. 1000-264)*. London: Routledge.
- 2000. 'The City-States in Latium'. In Hansen, 209-28.
- Diehl, R. and J. Berlo. 1989. *Mesoamerica after the Decline of Teotihuacan*. Washington DC: Dumbarton.
- Donlan, Walter and Carol Thomas. 1993. The Village Community of Ancient Greece: Neolithic, Bronze and Dark Ages. *Studi Micenei ed Egeo-Anatolici* 31:61-9.

- Emerson, Thomas. 1997. *Cahokia and the Archaeology of Power*. Tuscaloosa: U. of Alabama Press.
- Epstein, Stephan. 2000. 'The Rise and Fall of Italian City-States'. In Hansen, 277-94.
- Erdosy, George. 1988. *Urbanization in Early Historic India*. Oxford: BAR.
- Feinman, Gary, and Joyce Marcus (eds.). 1998. 'Introduction'. *Archaic States*, ed. G. Feinman and J. Marcus. Santa Fe, NM: School of American Research.
- Fine, John. 1983. *The Ancient Greeks*. Cambridge Mass.: Harvard UP.
- Finley, M. I. 1973. 'Town and Country'. In his *The Ancient Economy*. Berkeley: U. of California Press, 123-149.
- 1975. *The Ancient Greeks*. London: Penguin.
- 1981. 'The Ancient City: From Fustel de Coulanges to Max Weber'. In his *Economy and Society in Ancient Greece*. London: Chatto, 3-23.
- Freidel, David. 1986. 'Maya Warfare: An Example of Peer Polity Interaction'. In *Peer Polity Interaction and Socio-Political Change*, ed. C. Renfrew and J. Cherry. Cambridge: Cambridge UP, 93-108.
- Gadd, C. J. 1971. 'The Cities of Babylonia'. In *The Cambridge Ancient History*. Cambridge: Cambridge UP, 3<sup>rd</sup> edn., vol. i., Part 2, 93-144.
- Garmsey, Peter. 1985. 'Grain for Athens'. In *Crux*, ed. P. Cartledge and F. Harvey. Exeter: Imprint Academic, 62-75.
- 1988. *Famine and Food Supply in the Graeco-Roman World*. Cambridge: Cambridge UP.
- Gat, Azar. 1999. The Pattern of Fighting in Simple, Small-Scale, Prestate Societies. *Journal of Anthropological Research* 55:563-83.
- 2000. The Causes and Origins of "Primitive Warfare", Reply to Ferguson. *Anthropological Quarterly* 73:165-8.
- George, Andrew. 1999. *The Epic of Gilgamesh*. London: Penguin.
- Ghosh, A. 1973. *The City in Early Historical India*. Silma: Indian Institute of Advanced Study.
- Griffeth, Robert and Carol Thomas (eds.). 1981. *The City-State in Five Cultures*. Santa Barbara, Ca.: ABC-Clio.
- Griffiths, Gordon. 1981. 'The Italian City-States'. In Griffeth and Thomas, 71-108.
- Gutkind, Peter. 1963. *The Royal Capital of Buganda*. The Hague: Mouton.
- Haas, J., S. Pozorski, and T. Pozorski (eds.). 1987. *The Origins and Development of the Andean State*. Cambridge: Cambridge UP.
- Hansen, Mogens. 1993. 'The Polis as Citizen-State'. In *The Ancient Greek City-State*, ed. Mogens Hansen. ACPC 1. Copenhagen: The Royal Danish Academy, 7-29.
- 1996. 'The Copenhagen Inventory of Poleis'. In *Introduction to an Inventory of Polis*, ed. Mogens Hansen. ACPC 3. Copenhagen: The Royal Danish Academy, 7-72.
- 1997. 'The Polis as an Urban Centre. The Literary and Epigraphical Evidence'. In *The Polis as an Urban Centre and as a Political Community*, ed. Mogens Hansen. ACPC 4. Copenhagen: The Royal Danish Academy, 9-86.
- (ed.). 1998. *Polis and City-State: An Ancient Concept and its Modern Equivalent*. ACPC 5. Copenhagen: The Royal Danish Academy.
- (ed.). 2000. *A Comparative Study of Thirty City-State Cultures*. Copenhagen: The Royal Danish Academy.
- Hanson, Victor. 1989. *The Western Way of Warfare: Infantry Battle in Classical Greece*. New York: Alfred Knopf.
- 1995. *The Other Greeks: The Family Farm and the Agrarian Roots of Western Civilization*. New York: Free Press.

- 1998. *Warfare and Agriculture in Classical Greece*. Rev. edn. Berkeley: University of California Press.
- Hassan, Fekri. 1993. 'Town and Village in Ancient Egypt: Ecology, Society and Urbanization'. In *The Archaeology of Africa: Food, Metals and Towns*, ed. T. Shaw, P. Sinclair, B. Andah, and A. Okpoko. London: Routledge, 551-69.
- Hassig, Ross. 1988. *Aztec Warfare*. Norman: U. of Oklahoma Press.
- 1992. *War and Society in Ancient Mesoamerica*. Berkeley: U. of California Press.
- 1999. 'The Aztec World'. In *War and Society in the Ancient and Medieval World*, ed. K. Raaflaub and N. Rosenstein. Cambridge Mass.: Harvard UP, 361-87.
- Hirth, Kenneth. 1989. 'Militarism and Social Organization at Xochicalco, Morelos'. In *Mesoamerica after the Decline of Teotihuacan*, ed. R. Diehl and J. Berlo. Washington DC: Dumbarton, 69-81.
- Holloway, R. Ross. 1994. *The Archaeology of Early Rome and Latium*. London: Routledge.
- Hull, Richard. 1976. *African Cities and Towns before the European Conquest*. New York: Norton.
- Hyde, J. K. 1973. *Society and Politics in Medieval Italy: The Evolution of Civil Life 1000-1350*. London: Macmillan.
- Iseminger, William et al. (eds.). 1990. *The Archaeology of the Cahokia Palisade: The East Palisade Investigations*. Springfield: Illinois Historic Preservation Agency.
- Jameson, Michael, Curtis Runnels, and Tjeerd van Andel. 1994. *A Greek Countryside: The Southern Argolid From Prehistory to the Present Day*. Stanford: Stanford UP.
- Jones, Philip. 1997. *The Italian City-State 500-1300: From Commune to Signoria*. Oxford: Oxford UP.
- Keeley, Lawrence. 1996. *War before Civilization*. New York: Oxford UP.
- Kenoyer, Jonathan. 1997. 'Early City-States in South Asia'. In *The Archaeology of City-States*, ed. D. Nichols and T. Charlton. Washington DC: Smithsonian, 51-70.
- Klengel, Horst. 1990. 'Hattusa: Residence and Cult Centre'. In Aerts and Klengel, 45-55.
- Kovacs, M. (tr.). 1985. *Epic of Gilgamesh*. Stanford: Stanford UP.
- Krapf-Askari, Eva. 1969. *Yoruba Towns and Cities*. Oxford: Oxford UP.
- Lawrence, A. W. 1979. *Greek Aims in Fortification*. Oxford: Oxford UP.
- Lind, Michael. 2000. 'Mixtec City-States and Mixtec City-State Culture'. In Hansen, 567-80.
- Liverani, M. 1996. Reconstructing the Rural Landscape of the Ancient Near East. *Journal of the Economic and Social History of the Orient* 39:1-41.
- Mallory, J. P. 1989. *In Search of the Indo-Europeans*. London: Thames and Hudson.
- Millon, Rene. 1973. *The Teotihuacan Map*. Vol. 1, Part One, *Text*. Austin, U. of Texas Press.
- 1988. 'The Last Years of Teotihuacan'. In *The Collapse of Ancient Civilizations*, eds. N. Yoffee and G. Cowgill. Tucson: U. of Arizona, 102-64.
- Morgan, Catherine and James Coulton. 1997. 'The *Polis* as a Physical Entity'. In *The Polis as an Urban Centre and as a Political Community*, ed. Mogens Hansen. ACPC 4. Copenhagen: The Royal Danish Academy, 87-144.
- Morris, Ian. 1987. *Burial and Ancient Society: The Rise of the Greek City-State*. Cambridge: Cambridge UP.
- 1991. 'The Early Polis as City and State'. In Rich and Wallace-Hadrill, 25-58.

- Nicholas, David. 1997. *The Growth of the Medieval City: From Late Antiquity to the Early Fourteenth Century*. London: Longman.
- Nichols, D. and T. Charlton (eds.). 1997. *The Archaeology of City-States: Cross-Cultural Approaches*. Washington DC: Smithsonian.
- Nissen, Hans. 1972. 'The City Wall of Uruk'. In *Man, Settlement, and Urbanism*, ed. P. Ucko, R. Tringham, and G. Dimbleby. Cambridge Mass.: Schenkman, 793-8.
- 1988. *The Early History of the Ancient Near East 9000-2000 BC*. Chicago: U. of Chicago Press.
- Oates, Joan. 1973. The Background and Development of Early Farming Communities in Mesopotamia and the Zagros. *Proceedings of the Prehistoric Society* 39:147-81.
- Ober, Josia. 1991. 'Hoplites and Obstacles'. In *Hoplites: the Classical Greek Battle Experience*, ed. Victor Hanson. New York: Routledge, 173-196.
- O'Connor, David. 1972. 'The Geography of Settlement in Ancient Egypt'. In *Man, Settlement, and Urbanism*, ed. P. Ucko, R. Tringham, and G. Dimbleby. Cambridge Mass.: Schenkman, 681-98.
- 1993. 'Urbanism in Bronze Age Egypt and Northeast Africa'. In *The Archaeology of Africa: Food, Metals and Towns*, ed. T. Shaw, P. Sinclair, B. Andah, and A. Okpoko. London: Routledge, 570-86.
- Osborne, Robin. 1985. *The Discovery of Ancient Attika*. Cambridge: Cambridge UP.
- 1987. *Classical Landscape with Figures: The Ancient Greek City and Its Countryside*. London: George Philip.
- 1996. Survey and Greek Society. *American Journal of Archaeology* 100:165-9.
- Otterbein, Keith. 1970. *The Evolution of War: A Cross-Cultural Study*. New Haven, Conn.: HRAF Press.
- Panketat, Timothy. 1994. *The Ascent of Chiefs: Cahokia and Mississippian Politics in Native North America*. Tuscaloosa: U. of Alabama Press.
- Parsons, Jeffrey and Charles Hastings. 1988. 'The Late Intermediate Period'. In *Peruvian Prehistory*, ed. R. Keating. Cambridge: Cambridge UP, 190-230.
- Peel, J. 2000. 'Yoruba as a City-State Culture'. In Hansen, 507-18.
- Pirenne, Henri. 1952. *Medieval Cities*. Princeton: Princeton UP.
- 1963. *Early Democracies in the Low Countries: Urban Society and Political Conflict in the Middle Ages and the Renaissance*. New York: Harper.
- Polignac, Franc,ois de. 1995. *Cults, Territory and the Origins of the Greek City-State*. Chicago: U. of Chicago Press.
- Possehl, Gregory. 1998. 'Sociocultural Complexity Without the State: The Indus Civilization'. In *Archaic States*, ed. Gary Feinman and Joyce Marcus. Santa Fe, NM: School of American Research, 261-92.
- Postgate, J. N. 1994a. *Early Mesopotamia*, London: Routledge.
- 1994b. How Many Sumerians per Hectare? – Probing the Anatomy of an Early City. *Cambridge Archaeological Journal* 4:47-65.
- Pritchard, J. (ed.). 1969. 'Gilgamesh and Agga', tr. S. Kramer. In *Ancient Near Eastern Texts*. Princeton: Princeton UP, 44-47.
- Pritchett, W. Kendrick. 1974, 1991. *The Greek State at War*. University of California Press, Vols. 1 and 5.
- Puleston, Dennis and Donald Callender. 1967. Defensive Earthworks at Tikal. *Expedition* 9(3):40-48.
- Redman, Charles. 1978. *The Rise of Civilization: From Early Farmers to Urban Society in the Ancient Near East*. San Francisco: Freeman.

- Renfrew, Colin. 1975. 'Trade as Action at a Distance: Questions of Integration and Communication'. In *Ancient Civilization and Trade*, ed. J. Sabloff and C. Lamberg-Karlovsky. Albuquerque: U. of NM Press, 3-60.
- Rich, John and Andrew Wallace-Hadrill (eds.). 1991. *City and Country in the Ancient World*. London: Routledge.
- Rowlands, M. 1972. 'Defence: a Factor in the Organization of Settlements'. In *Man, Settlement and Urbanism*, eds. P. Ucko, R. Tringham, and G. Dimbleby. Cambridge Mass.: Schenkman, 447-62.
- Schele, Linda and David Freidel. 1990. *A Forest of Kings*. New York: William Morrow.
- and Peter Mathews. 1991. 'Royal Visits and Other Intersite Relationships among the Classic Maya'. In *Classic Maya Political History*, ed. P. Culbert. New York: Cambridge UP, 226-52.
- Sharma, R. S. 1991. 'Urbanism in Early Historic India'. In *The City in Indian History: Urban Demography, Society, and Politics*, ed. I. Banga. Delhi: Manohar, 9-18.
- Smith, Christopher. 1996. *Early Rome and Latium: Economy and Society c. 1000 to 500 BC*. Oxford: Oxford UP.
- Smith, Robert. 1969. *Kingdoms of the Yoruba*. London: Methuen.
- Snodgrass, Anthony. 1980. *Archaic Greece*. Berkeley: U. of California Press.
- 1990. 'Survey Archaeology and the Rural Landscape of the Greek City'. In *The Greek City: From Homer to Alexander*, ed. O. Murray and S. Price. Oxford: Oxford UP, 113-36.
- 1991. 'Archaeology and the Study of the Greek City'. In Rich and Wallace-Hadrill, 1-24.
- Starr, Chester. 1977. *The Economic and Social Growth of Early Greece 800-500 BC*. New York: Oxford UP.
- 1986. *Individual and Community: The Rise of the Polis 800-500 BC*. New York: Oxford UP.
- Stein, Gil. 1994. 'Economy, Ritual, and Power in Ubaid Mesopotamia'. In *Chiefdoms and Early States in the Near East*, ed. G. Stein and M. Rothman. Madison, Wisconsin: Prehistory Press, 35-46.
- Sznura, Franek. 1991. 'Civic Urbanism in Medieval Florence'. In *City-States in Classical Antiquity and Medieval Italy*, ed. A. Molho, K. Raaflaub, and J. Emlen. Stuttgart: Franz Steiner, 403-18.
- Trigger, Bruce. 1972. 'Determinants of Urban Growth in Pre-Industrial Societies'. In *Man, Settlement, and Urbanism*, ed. P. Ucko, R. Tringham, and G. Dimbleby. Cambridge Mass.: Schenkman, 575-99.
- 1985. 'The Evolution of Pre-Industrial Cities: A Multilinear Perspective'. In *Melanges offerts a Jean Vercouter*, ed. By Francis Geus. Paris: CNRS, 343-53.
- 1993. *Early Civilizations: Ancient Egypt in Context*. Cairo: The American U.
- Turney-High, H. 1948. *Primitive Warfare*. Columbia: University of South Carolina Press.
- Van De Mierop, Marc. 1997. *The Ancient Mesopotamian City*. Oxford: Oxford UP.
- Vencl, S. 1984. 'War and Warfare in Archaeology'. *Journal of Anthropological Archaeology* 3:116-32.
- Verhulst, Adriaan. 1999. *The Rise of Cities in North-West Europe*. Cambridge: Cambridge UP.
- Waley, Daniel. 1968. 'The Army of the Florentine Republic, from the Twelfth to the Fourteenth Century'. In *Florentine Studies*, ed. N. Rubinstein. London: Faber.
- Weber, Max. 1958. *The City*. New York: The Free Press.

- Webster, David. 1976. On Theocracies. *American Anthropologist* 78:812-28.
- 1976. Lowland Maya Fortifications. *Proceedings of the American Philosophical Society* 120:361-71.
- 1977. 'Warfare and the Evolution of Maya Civilization'. In *The Origins of Maya Civilization*, ed. R. Adams. Albuquerque NM, U. of New Mexico, 335-71.
- Three Walled Sites of the Northern Maya Lowlands. *Journal of Field Archaeology* 5:375-90.
- 1998. 'Status Rivalry Warfare: Some Maya-Polynesian Comparisons'. In *Archaic States*, ed. G. Feinman and J. Marcus. Santa Fe, NM: School of American Research, 311-52.
- 2000. 'Ancient Maya Warfare'. In *War and Society in the Ancient and Medieval Worlds*, ed. K. Raaflaub and N. Rosenstein. Cambridge Mass.: Harvard UP, 333-60.
- Wilson, David. 1997. 'Early State Formation on the North Coast of Peru: A Critique of the City-State Model'. In Nichols and Charlton, 229-44.
- Winter, F. E. 1971. *Greek Fortifications*. London: Routledge.
- Yoffee, Norman. 1995. Political Economy in Early Mesopotamian States. *Annual Review of Anthropology* 24:281-311.