

Alalakh and the Archaeological Landscape of Mukish: The Political Geography and Population of a Late Bronze Age Kingdom

JESSE CASANA

Department of Anthropology
Old Main 330
University of Arkansas
Fayetteville, AR 72701
jcasana@uark.edu

The cuneiform archives unearthed at Tell Atchana, the ancient city of Alalakh, are a rich source of information regarding the history, politics, and economy of the northern Levant during the Late Bronze Age. Analysis of regional archaeological survey data from the city's hinterland, the Amuq Valley of southern Turkey, now provides a good picture of the organization and distribution of settlement when the Alalakh archives were written. This study explores the intersections between these textual and regional settlement data. Results offer new insights regarding the historical geography of the Amuq region, the political landscape of Bronze Age polities in the Near East, and the relationship between site size and population density at ancient settlements.

INTRODUCTION

When Sir Leonard Woolley visited the Amuq Plain to begin planning a new excavation in the wake of his discoveries at Ur, he was struck by the vast number of archaeological sites in what was then a poorly known region of the Near East:

[T]he Amq [sic] plain is littered with mounds, something like two hundred in number, each of which represents an ancient town or village or military fortress; they are not all of one date, but all are early and very many of them, as is proved by potsherds lying on their surface, go back to prehistoric times. . . . (Woolley 1953: 20)

The extraordinary density of tell sites in the Amuq made it difficult for Woolley to select one to excavate, but he eventually settled on the large, low mound of Tell Atchana, "because it was of the right size and shape," and because he inferred it to be strategically located on a major route connecting the Mediterranean with Mesopotamia.¹ His excavations

at Atchana over subsequent years proved to be very successful, largely because in two occupational strata he unearthed palatial complexes that had been burned in violent conflagrations, one dating to the Middle Bronze Age (Level VII)² and the other to the beginning of the Late Bronze Age (Level IV) in the mid-15th century B.C. In both Levels VII and IV, he was fortunate to uncover archives of cuneiform texts, documenting a wealth of information regarding the

was sent to Woolley by the Secretary General of the French Department of Antiquities, shows that he was given permission to conduct test excavations at the three largest mounds in the southern Amuq Plain: Tell Salihyiah, Tell Atchana, and Bozhöyük. We must assume he did so, and found that Atchana was the only one without a major Iron Age occupation overlying the Middle and Late Bronze levels in which he was most interested. The letter was kindly brought to my attention by Amir Sumaka'i Fink.

² The precise calendrical date of the Level VII palace is still uncertain. It is tied to a long-standing debate regarding the chronology of the second millennium B.C. in both Mesopotamia and the Aegean, but the palace likely dates to between the 18th and 16th centuries. The Level IV palace can be more securely dated to the 15th century. For discussions of chronology, see Na'aman 1976; 1979; Collon 1977; Gates 1981; 1987; Gaál 1982; McClellan 1989; and Heinz 1992.

¹ Woolley does not discuss his method of selecting a site at which to excavate. A 1935 letter, now in the British Museum, that

social organization, economy, and politics of the city and its hinterland during the second millennium B.C. During that time, Tell Atchana was known as Alalakh and served as the seat of a minor dynasty of kings who ruled a region they called Mukish, probably the Bronze Age name for the Amuq Plain and surrounding areas. For most of its history, the kings of Alalakh were largely subservient to more powerful foreign rulers, first of Yamhad, then of Mittani, and finally of Hatti, yet they usually maintained a degree of autonomy within the region (Wiseman 1953; 1958; Woolley 1953; 1955; Klengel 1974; 1981; von Dassow 1997).

Around the same time that Woolley began his excavations at Tell Atchana, the density of ancient settlements in the Amuq Plain and the presumed richness of the region's archaeological heritage piqued the interest of a young Robert J. Braidwood, then a graduate student team member of the University of Chicago Oriental Institute's Syro-Hittite Expedition. The project, which ran from 1932 until 1937, was primarily dedicated to uncovering remains of the early Iron Age (Haines 1971; Braidwood and Braidwood 1960). While expedition leaders excavated massive exposures at Tell Ta'yinat, Tell Judaidah, and Çatal Höyük, Braidwood attempted to build a complete material culture sequence dating back to the earliest phases of human settlement and undertook what was arguably the first scientific archaeological survey in the Near East. He sought to map the locations of *all* the tell sites in the plain and to record the periods during which they were occupied—an effort that he published in the now classic volume, *Mounds in the Plain of Antioch* (1937).

Braidwood's survey of the Amuq Plain was groundbreaking in many regards; most previous surveys had sought only to find sites of particular periods or types (e.g., Mallowan 1936), and none had attempted to publish archaeological phase maps illustrating the changing density and distribution of settlement through time. But by modern standards, Braidwood's publication leaves much to be desired, providing scant information regarding site size and location, the environmental contexts of sites, his criteria for locating and dating sites, and other now-standard elements of survey publications. In 1995, the Oriental Institute resumed research in the region, initiating the Amuq Valley Regional Project (AVRP), an interdisciplinary effort that seeks to improve our understanding of the archaeological and environmental histories of this important region through a collaborative series of projects including settlement

survey, palaeoenvironmental studies, and targeted excavations (Yener 2005; Yener et al. 2000). One important result of the AVRP has been to refine our knowledge of settlement history in the Amuq region (Casana 2003a; 2007; Casana and Wilkinson 2005).

The availability of more accurate and detailed archaeological settlement data, combined with the rich historical evidence contained in the Alalakh archives, now offer an opportunity to explore the historical and political geography, demography, and social organization of the Amuq region in the Middle and Late Bronze Ages. Most past research regarding the Alalakh texts has investigated issues of social organization, political relationships, and the ancient economy without explicit reference to the archaeological evidence of the Amuq Valley's settled landscape (e.g., Wiseman 1953; 1954; 1958; von Dassow 1997; Liverani 1975; Schloen 2001; Dietrich and Loretz 1969; 1969–1970; 1970; Zeeb 2001; Gaál 1982–1984). The one notable attempt to marry historical and archaeological settlement data in the region was that of Magness-Gardiner (1994). This work, while conceptually innovative, did not have the advantage of our new survey data and also suffered from its exclusive treatment of the smaller and less informative archive from Level VII. The archaeological evidence for Late Bronze Age settlement in the Amuq Plain and the historical evidence provided by Tell Atchana's Level IV texts have great untapped potential to yield insights into the history and culture of the region. These texts enumerate the settlements over which the kings of Alalakh ruled, recording numbers of households at individual towns; the names, occupations, and social standings of their residents; the size of their land-holdings; and many other forms of demographic and economic data (Wiseman 1953; Dietrich and Loretz 1969; 1969–1970; 1970).

This study is offered as a first attempt to explore some of the many intersections between the archaeological settlement and historical records from the Amuq Valley in the Late Bronze Age. Following an overview of the geography and environment of the Amuq Valley and the historical context in which the Alalakh texts were written, I present the archaeological evidence for Middle and Late Bronze Age settlement in the region and the interpretive problems inherent to it. Then I turn to an analysis of the Alalakh Level IV texts, highlighting how they contribute to our understanding of the region's historical and political geography as well as the density and distribution of population in Mukish. My results suggest new ways to conceptualize the spatiality of Bronze

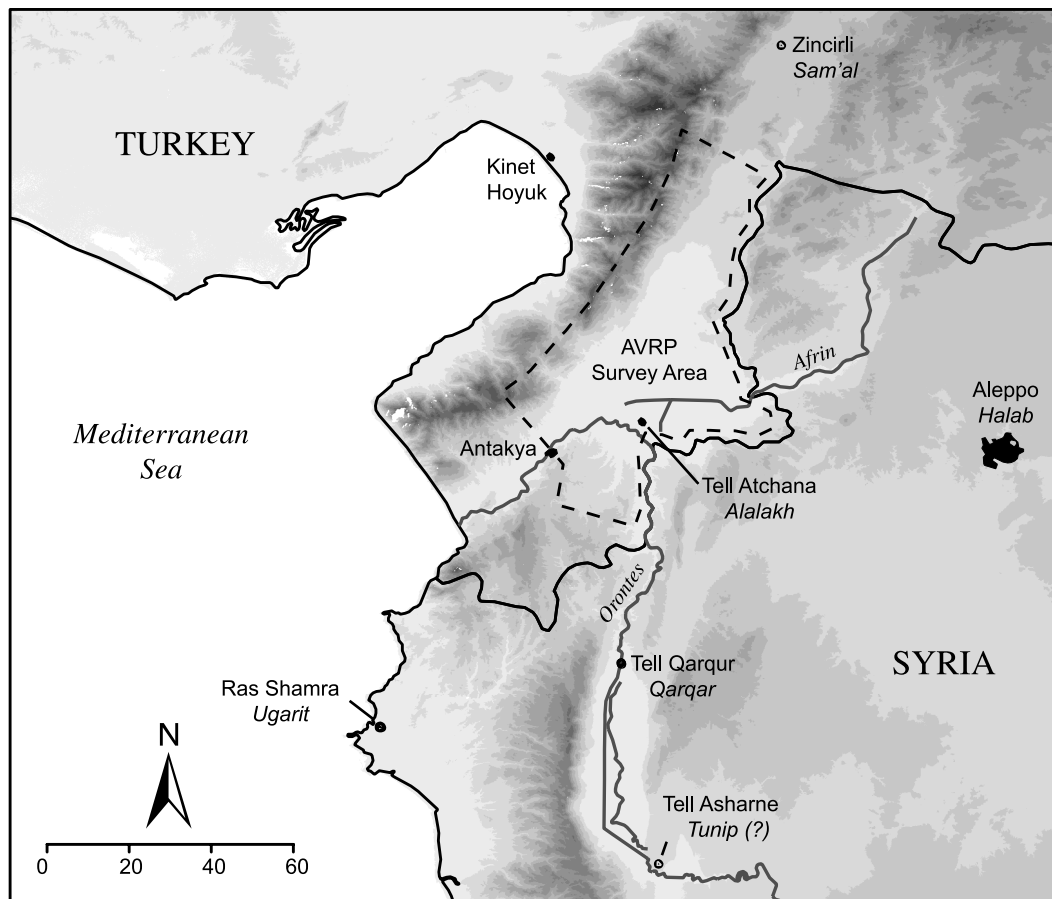


Fig. 1. Map of the Amuq Valley Regional Project (AVRP) survey area and major archaeological sites mentioned in the text (ancient place names in *italics*).

Age polities in the Near East and provide a new means of assessing the relationship between site size and population. I also hope that this study will make the primary archaeological and historical data more accessible to other scholars who may pursue the many other potential intersections between them.

THE AMUQ VALLEY AND TELL ATCHANA

The Amuq Plain, located today in the province of the Hatay in southern Turkey,³ measures approxi-

mately 30 × 40 km and is bounded by upland ranges on three sides, including the Amanus (*Nur*) Mountains to the west, the lower limestone hills of the Jebel al-Aqra and Jebel Zawihye to the south, and the basaltic Kurt Dağ range to the east (fig. 1). The Orontes (*Asi*) River flows into the Amuq from the south through a narrow valley, and exits the plain at the city of Antakya (ancient Antioch) at its southwestern corner. The Amuq has a very hospitable Mediterranean climate, receiving abundant winter and spring rainfall, and today is a rich agricultural region. However, until the Amuq Lake (Lake of Antioch) was drained in the 1960s–1970s, the plain was largely inundated by marshland and was thought to be the most mosquito-infested and malarial part of greater Syria (Weulersse 1940; Aswad 1971).

While there appears to have been only relatively minor variations in mean annual precipitation throughout much of the Levant during the later Holocene (Bar-Matthews, Ayalon, and Kaufman 1998), there

³ Following World War I, the Hatay was placed under the French Mandate authority. It briefly became an independent nation in 1938 and was annexed by Turkey in 1939. Because it was part of the Roman province of Syria, many historical works refer to the Hatay by that name, as in Glanville Downey's *A History of Antioch in Syria: From Seleucus to the Arab Conquest* (1961).

were nonetheless significant changes in the local environment. Most notably, it is likely that during the Middle and Late Bronze Ages, the Lake of Antioch either did not exist or was significantly smaller than it was during the early 20th century (Wilkinson 1997; 1999a; 2001; Casana and Wilkinson 2005; Casana 2003a). Woolley (1953) and Braidwood (1937) correctly inferred that the lake was a relatively recent feature, as numerous tells formed islands in the lake at the time of their work in the 1930s–1940s. Geomorphological investigations conducted over the past decade suggest that the lake did not form until the later first millennium B.C. (Wilkinson 1997; 1999a; Wilkinson, Friedman, and Stampfl 2001), perhaps related to extreme soil erosion and floodplain sedimentation in the post-Roman period (Casana 2008). During the Bronze Age, prior to the formation of the lake, the Amuq Plain would have been a very desirable locale for settlement. The Orontes and other rivers probably flowed in much the same areas that they do today, although studies in the area surrounding Tell Atchana indicate that at some time in the pre-Roman period, the Orontes flowed to the north and east of Atchana, as opposed to its position to the south and west today (Casana and Gansell 2005).

Tell Atchana is the largest second-millennium B.C. site in the Amuq region, covering approximately twice the area of the next largest contemporary sites (see below). Woolley began his excavations at Atchana in 1936 and continued through 1939, when his work was interrupted by World War II, and then returned to the site from 1946 to 1949 (Woolley 1955). His excavations concentrated on the northwestern portion of the site, where in large area exposures he and his team uncovered a long sequence of palaces, temples, and other monumental buildings, in addition to several private houses and other structures. Woolley divided the stratigraphy of the site into 18 archaeological phases, and while occasional cuneiform text fragments were discovered in many levels, Levels VII and IV produced by far the greatest number of texts.⁴ Palaces and other buildings of these two phases were burned in site-wide destructions, leading to much better preservation of texts, architecture, and other artifacts. The site has been buried by approximately 3 m of Orontes River sediments (Casana and Gansell 2005), but Woolley excavated to virgin soil below the site. He believed that Tell Atchana was occupied

from the beginning of the Bronze Age; however, all subsequent analysis of his finds show that the earliest levels he uncovered date to the beginning of the second millennium B.C.⁵

HISTORICAL CONTEXT OF THE ALALAKH TEXTS

The texts uncovered at Alalakh constitute the primary source of information regarding the political landscape of the Amuq region during the mid-second millennium B.C., yet they are complemented by a wide variety of other historical sources, such as contemporary Egyptian and Hittite texts (Klengel 1992: 84–99). During the earlier second millennium B.C., at the time when the texts from Level VII were written, the king of Alalakh was a vassal to the king of Yamhad, centered in Halab (Aleppo). The establishment of the dynasty that ruled Alalakh and its hinterland during the period of the Level VII texts is recounted in AT 1 and AT 456, which inform us of the installation of Yarim-Lim as king of Alalakh by his brother, Abban, king of Halab. Over the subsequent decades, Alalakh was ruled by descendants of Yarim-Lim until the destruction of the city and the burning of the palace, probably at the hand of the Hittite king Hattušili I who, in his annals, claims to have destroyed Alalakh (Klengel 1992: 80–83; Heinz 1992: 194–95; Wilhelm 1989: 10).

During the years between the burning of the Level VII palace and the earliest texts of the Level IV archive, probably about a century, the political scene in the northern Levant changed significantly (von Dassow 1997: 11–19; Lauinger 2007: 4–11). Under Hattušili's successor, Muršili I, the Hittites conquered much of Syria, including Halab, and invaded Mesopotamia where they sacked Babylon. These incursions probably weakened the kingdom of Yamhad considerably but did not lead to full Hittite control of the region. Instead, Hittite advances into northern Syria were countered by the Hurrian kingdom of Mittani to the east, as well as by the Egyptians to the south. During the period between the writing of the Alalakh Level VII and Level IV texts, Halab seems to have become subservient to Mittani while still exerting control over the Amuq region. The political situation of Alalakh at the beginning of the time when

⁴ For recent analyses of the archaeological contexts of the Alalakh archives, see von Dassow 2005 for Level IV and Lauinger 2007 for Level VII.

⁵ Tell Atchana is exclusively Middle and Late Bronze Age in date, with the possible exception of a Late Chalcolithic (Amuq F) occupation found at the southeastern edge of the site in a modern canal that skirts the edge of the site (Wilkinson 1999a; 2000).

the Level IV texts were written is best known from a lengthy inscription found on a statue of Idrimi, king of Alalakh, uncovered in a later context at Tell Atchana and now in the British Museum (S. Smith 1949; Oller 1977). The inscription tells us that Idrimi, son of Ilim-ilimma, king of Halab, was forced to flee Halab for reasons that remain obscure. After hiding in Canaan, Idrimi raised an army of loyal followers from Mukish and other lands and established himself as king of Alalakh and ruler of Mukish. Some scholars have attributed the construction of the Level IV palace to Idrimi (e.g., Woolley 1955), although only a handful of texts refer to his reign.

The archive of the Level IV palace, with which this study is primarily concerned, covers a period of approximately 50 years, probably beginning in the second quarter of the 15th century B.C., but the vast majority of the texts date to the reign of Idrimi's son and successor, Niqmepa (Wiseman 1953; von Dassow 2005). A small number of texts date to the reign of Niqmepa's successor, Ilim-ilimma, during whose time the Level IV palace was burned, possibly prior to the destruction of the city by the Hittite king Šuppiluliuma in the mid-14th century.⁶ Noting that no texts recording "affairs of state or affairs of the royal family" were found postdating the reign of Niqmepa and that the archive seems incomplete in many respects, von Dassow (2005: 50–52) suggests that the bulk of the archive was moved from the palace during the reign of Ilim-ilimma, prior to its destruction.

Nonetheless, several hundred texts were discovered in the Alalakh archives of Level IV, and they include a rich record of the history, politics, and economy of the region in the 15th century B.C. (Hess 1988; Wiseman 1953; von Dassow 2005: 3–5). During this period, the king was referred to as "king of Alalakh" and "king of the land of Mukish," titles that Astour (1969: 384) notes are used interchangeably. For example, a treaty with the king of Tunip, probably Tell Asharne on the Middle Orontes (Klengel 1995; Fortin 2006), opens by describing Niqmepa as: ^mNiq-me-pa LUGAL ^{KUR}Mu-ki-iš-he^{KI} (AT 2:2),

while the same text closes with the title: ^mNiq-me-pa LUGAL ^{URU}A-la-la-ah^{KI} (AT 2:76). Throughout the period of time during which the texts of Level IV were written, the king of Alalakh was a vassal to the "Great King" of Mittani. The relationship between the king of Alalakh and his Mittanian overlord is well illustrated in texts such as AT 14, in which Sauš-tatar, the king of Mittani, arbitrates a dispute between Niqmepa of Alalakh and Sunaššura, king of the kingdom of Kizzuatna, located to the northwest of Alalakh, regarding ownership of a town. Similarly, in the treaty preserved in AT 2, both Niqmepa and the king of Tunip are sworn to be loyal to the king of Mittani, their mutual overlord.

After the destruction of Alalakh and the Hittite invasion of Syria in 1370 B.C., the fate of Alalakh and its kings is poorly known, but there is evidence that a Hittite governor was eventually installed (Niedorf 2002; Fink 2008: 211). Von Dassow (2005: 53) argues that Alalakh was abandoned as the capital and that the royal palace was moved elsewhere,⁷ a suggestion that may be supported by recent excavations at Tell Atchana which document a widespread abandonment of the southern portion of the site during its final phases of occupation (Yener, Schloen, and Fink 2004). Whether Alalakh remained the seat of the royal family or the preeminent city in the Amuq region after the mid-14th century B.C. remains uncertain, but occupation certainly persisted there through the end of the Late Bronze Age, around 1200–1150 B.C., when it was finally abandoned. The site was not re-occupied, save for small farmsteads in the Hellenistic and late Roman periods (Casana and Gansell 2005), until the modern village was established at the southern end of the site in late Ottoman times.

The archives of Level IV tell us a great deal about the social organization of Mukish, the population of towns and cities under Alalakh's control, the landholding and economic activities of residents, and many other pieces of information that contribute to our understanding of the regional settlement system during the 15th century B.C. The following sections first provide an overview of archaeological settlement data for the Amuq region during the Middle and Late Bronze Ages, and then turn to analyses of the intersections between these data and textual sources from Level IV at Tell Atchana.

⁶ Woolley (1955: 166, 395) and Wiseman (1953: 1) both argue that the Level IV palace was burned prior to Šuppiluliuma's conquest of the city because there are few texts dating to the reign of Niqmepa's successor Ilim-ilimma in the Level IV archive and no texts from the reign of Itūr-Addu, who was king of Mukish at the time of the Hittite conquest (Beckman 1999: no. 4). Fink (2008: 185–88) argues that the building described by Woolley as a Level III–II fort was actually a palace dating to Level IVB, and thus potentially the residence of later kings and/or the Hittite governor during the mid- to late 14th century B.C.

⁷ Although her evidence for it is meager, von Dassow asserts that the palace was moved to the *city* of Mukish (literally, ^{URU}Mukiš^{KI}), a toponym only rarely attested in the Alalakh texts (Niedorf 1998: 535).

ARCHAEOLOGICAL SETTLEMENT DATA

Evidence from regional archaeological surveys in the Amuq Plain has great potential to reveal the number, size, and locations of settlements relating to the Alalakh texts. Yet despite the fact that AVRP archaeological survey data are substantially better than those that were previously available for the region, determining which sites were occupied during the Middle and Late Bronze Ages and how large those settlements were poses several complex problems. During these periods, and indeed throughout the entire Bronze and Iron Ages, all settlement in the Amuq region was concentrated at highly nucleated, long-lived tell sites, nearly all of which continued to be occupied in the Iron Age and later (Casana and Wilkinson 2005; Casana 2007). In fact, only two Middle or Late Bronze Age sites have been identified by the AVRP that do not have major Iron Age and later occupations overlying them: one at Tell Atchana itself (AS 136)⁸ and the other at the small site of Tell Bahlilah (AS 133). Thus, when investigating settlement during the second millennium B.C., we are necessarily dealing with deeply buried occupational strata, rendering it nearly impossible to determine settlement size accurately. The burial of Middle and Late Bronze Age strata also serves to obfuscate evidence for these periods in surface artifact collections. For instance, at the large mound of Tell Salihyiyah (AS 129), the AVRP collected more than 1,500 diagnostic sherds, but about 90 percent of the collection dates to the Iron Age (Amuq N–O), the last major phases of settlement at the site. The Middle and Late Bronze Age occupations at the site are evidenced by less than 5 percent of the collection, and there is a similarly small quantity of Early Bronze Age material.

The problems generated by burial of second-millennium occupations are compounded by the fact that Middle and Late Bronze Age ceramics are generally more difficult to recognize and date than ceramics from other phases. For example, during the mid-third millennium (Amuq H–I), red-black burnished (Khirbet Kerak) ware constitutes as much as 60 percent of

the total assemblage (Braidwood and Braidwood 1960), and its bright colors and distinctive surface treatment make it easy to find and identify with relative certainty. In contrast, during the Late Bronze Age, 80–90 percent of the assemblage is dominated by plain, sand-tempered, pink-to-orange buff wares—the “standard wares” of Tell Afis (Ceccini and Mazzoni 1998). Moreover, the second-millennium ceramic sequence of the northern Levant is still rather poorly understood, and the available evidence suggests that most standard wares have a very long chronological range, appearing throughout the Middle and Late Bronze Ages and in some cases into the Iron Age I (Gates 2000; Swift 1958). Currently, the only reliable way to distinguish the Late Bronze Age (Amuq M) from earlier phases of the second millennium in an unstratified ceramic collection is through the presence of extremely rare imported or imitation Mycenaean, Cypriot, or Nuzi wares. The paucity of such types in the Amuq region is illustrated by an intensive surface collection at Tell Atchana that recovered over 3,500 diagnostic sherds but only 3 imported Late Bronze Age fragments (Casana and Gansell 2005). Despite the rarity of imported and fine painted wares in surface collections, many survey projects in the northern Levant have designated assemblages lacking these types as “Middle Bronze Age,” while labeling collections that include them as “Late Bronze Age” (e.g., Matthers 1981; Braidwood 1937). In the earlier years of the AVRP, we followed the same practice, leading investigators to the highly questionable conclusion that there were twice as many sites occupied in the Middle Bronze Age as there were in the Late Bronze Age (Verstraete and Wilkinson 2000).

While the identification of Middle and Late Bronze Age occupations in surface survey collections remains problematic, there is also a wide range in the size of surface collections from sites recorded by the AVRP, and therefore in the reliability and comparability of our dating evidence more generally. The rapid growth of modern towns and villages in the Amuq has obscured many tells, resulting in very small collections in some cases, as at Kiremithı (AS 41) and Muthöyük (AS 74), and none whatsoever in others, as at Çiloğlan Işkan (AS 24) and Yanık Tepe (AS 37). In other instances, modern intensive agriculture had obscured much of the mounds’ surfaces at the time the survey visited them, as at Çakaltepe (AS 113), and in other cases, dense grass cover made collection problematic or nearly impossible. Finally, many tells are situated in politically sensitive areas along the Syrian border, and others have had military

⁸ All sites recorded by the AVRP are given a sequential “AS” number, following the scheme originally established by Braidwood (1937). For complete information regarding sites discussed in the text, see Casana 2003b and Casana and Wilkinson 2005, downloadable at: <http://oi.uchicago.edu/research/pubs/catalog/oip/oip131.html>.

installations built on top of them, so that access has been blocked entirely and no collections have been made by the AVRP.

This suite of challenges—the burial of earlier occupations below later ones, the relative visibility of some ceramic phases compared with others, and the relative size and quality of survey collections—makes it difficult to answer the seemingly simple question, “Which sites were occupied during the Late Bronze Age?” Mustering all available data, it is nonetheless possible to provide a rough picture of Middle and Late Bronze Age settlement in the Amuq region. Figure 2 illustrates all sites where evidence of occupation during these phases has been documented by Braidwood or the AVRP, and table 1 ranks these sites into four categories of data quality:

1. an excavated Middle and/or Late Bronze Age occupation
2. a large collection of ceramics, including Middle and/or Late Bronze diagnostics
3. a collection that is clearly second millennium B.C. but lacks Middle and/or Late Bronze diagnostics
4. a small number (< 5) of second-millennium B.C. ceramics

Although he is not explicit in the meaning of his terms, Braidwood (1937) apparently utilized a similar scheme to denote the relative certainty of his periodizations, listing sites as “definitely” having occupation of a given period, versus “probably” or “possibly.” These assessments are indicated parenthetically in table 1 where his assessments differ from those of the AVRP, with a rank of 2 given to a definite statement, 3 to his use of “probably,” and 4 to his term “possibly.” A small number of additional large tell sites are indicated parenthetically on figure 2 to show where surface collection was impossible or impractical due to the presence of modern villages or dense surface cover but where Middle and/or Late Bronze Age occupation was likely.

Table 1 demonstrates that at the 19 sites with a data quality ranking of 1 or 2 where AVRP data are available, *both* Middle and Late Bronze occupations are attested. Only at sites with a smaller collection of second-millennium materials—that is, with a data quality of 3 or 4—is just one of the two periods represented, and these sites are nearly all designated as Middle Bronze Age, probably because of the tendency to assign them as such when lacking other Late Bronze Age diagnostics. Moreover, at an additional 18 sites, Braidwood reports having found Middle and/or Late Bronze Age material, but no evidence of

occupation in those periods is found in the AVRP collections. Because Braidwood was almost certainly working with larger, less depleted surface collections, it is likely that those periods are in fact present at the sites. Finally, at those 35 sites with a data quality ranking of 4, there is such a small quantity of Middle or Late Bronze Age material that little can be said regarding the size or duration of second-millennium B.C. settlement.

While somewhat inconclusive, figure 2 and table 1 illustrate several important facts. Firstly, all Middle or Late Bronze Age settlement in the Amuq region was at a limited number of tell sites. Although it is not possible at this point to determine precisely when or how long most of these sites were occupied, it is clear that nearly all of the 100 or so Bronze and Iron Age sites recorded in the Amuq were settled at some point during the second millennium B.C. The AVRP has documented hundreds of other non-tell sites, and none of these have produced evidence of settlement during the Bronze and Iron Ages (Casana 2003a; 2007; Casana and Wilkinson 2005). Secondly, because tells form such prominent landscape features, they are relatively easy to locate in archaeological surveys. Unlike most post-Iron Age and pre-Bronze Age sites, tell sites of the Bronze and Iron Ages can generally be recognized from a kilometer or more away, and many sites appear on topographic maps used by both Braidwood and the AVRP. Furthermore, CORONA imagery provided the AVRP with a powerful means of locating unknown sites and verifying the location of known sites (Casana 2003b; Casana and Wilkinson 2005; Casana and Cothren 2008). Whether large or small, tell sites appear with great clarity on CORONA satellite imagery, as illustrated in figure 3. Thus, the known set of tell sites in the Amuq region represents nearly all of the *possible* locations for Middle and Late Bronze Age settlement. While the dating of any individual tell is often uncertain, the distribution of tells represents a maximal view of settlement at any point during the Bronze or Iron Age and therefore a starting point in an analysis of the Middle and Late Bronze Age settlement system.

Figure 4 plots all tell sites in the Amuq Valley for which evidence of second-millennium B.C. settlement is found, according to their area and height. Area measurements should be understood as our best approximation of site size, based on a combination of examinations in the field and analysis of CORONA imagery. Of course, because so many Middle and Late Bronze Age occupations are buried and all are

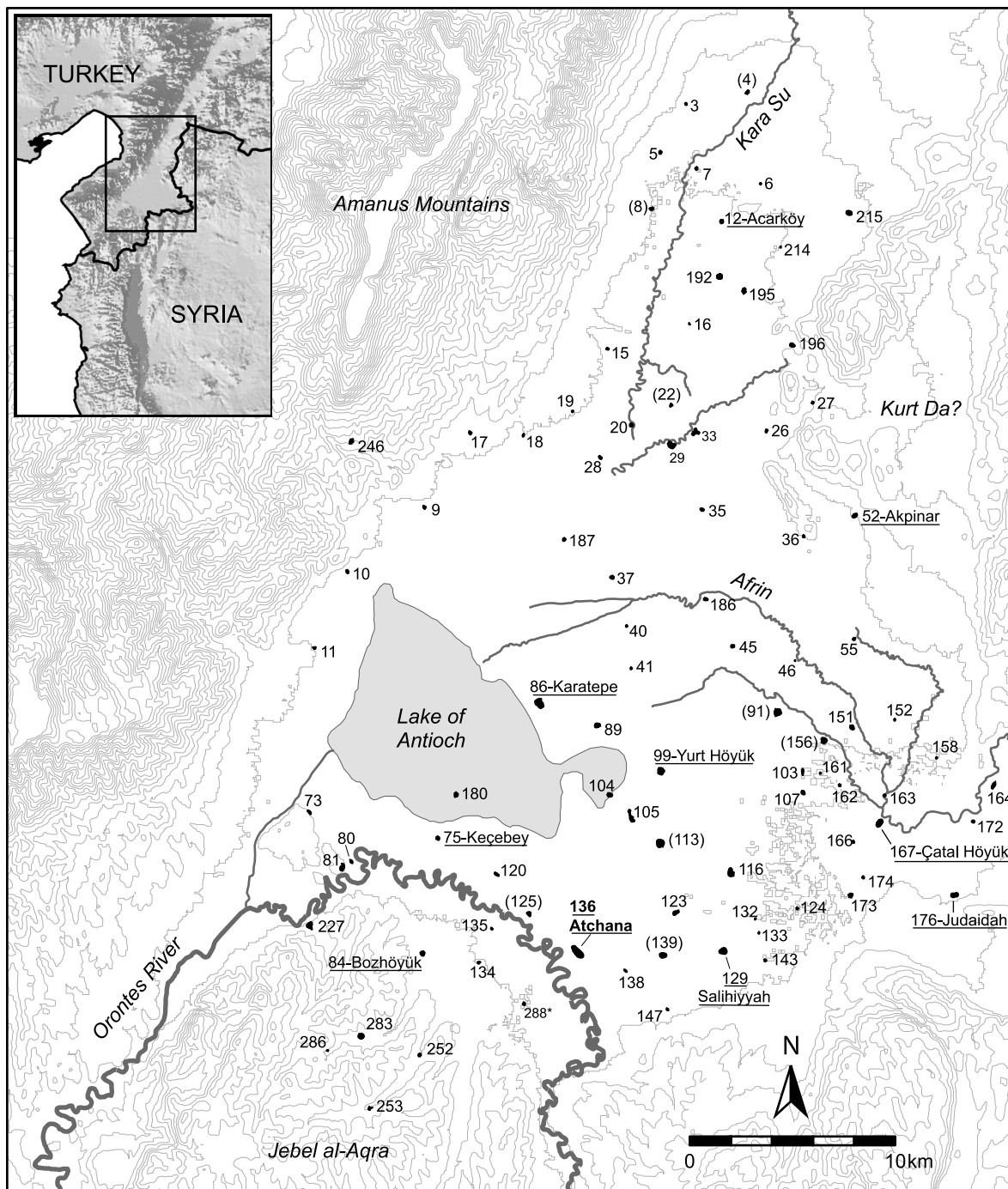


Fig. 2. Archaeological sites in the Amuq Valley where evidence of Middle and/or Late Bronze Age occupation has been recorded by the AVRP or Braidwood (1937). Site numbers follow Casana and Wilkinson (2005), where complete survey results have been published. Underlined named sites are the largest Bronze and Iron Age tells in the region. Site numbers shown parenthetically have not yet produced evidence for Middle/Late Bronze Age settlement, but were probably occupied during that period.

TABLE 1. All Sites in the Amuq Valley Where Evidence of Middle or Late Bronze Age Occupation Has Been Recorded

<i>Site</i>	<i>Name</i>	<i>Quality*</i>	<i>Date</i>	<i>Site</i>	<i>Name</i>	<i>Quality*</i>	<i>Date</i>
136	Tell Atchana	1	MBA-LBA	120	Tell Mirmiran (Tell Anbar)	3	LBA
167	Çatal Höyük	1	MBA-LBA	174	Tell Abdal	3	MBA
176	Tell al-Judaïdah	1	MBA-LBA	187	Hısrılık Tepesi (Hösürlük)	3	MBA
9	Dana Höyük	2	MBA-LBA	195	Atçı Tepe	3	MBA
11	Paşakoy	2	MBA-LBA	215	Sekizevler (Asgundur)	3	MBA
40	Baytarlı (Topraklı)	2	MBA-LBA	73	Çamurlu (Tell Jabur)	3 (2)	MBA
81	Yeşilova (Damalka al-Qibli)	(2)	MBA	75	Tell Keçebey	3 (2)	LBA
84	Bözhöyük	2	MBA-LBA	2	Boklukaya	(4)	MBA
86	Karatepe	2	MBA-LBA	7	Yusuflu	4	MBA
89	Boztepe	2	MBA-LBA	10	Baglama (Ain al-Samah)	4	MBA
133	Tell Bahlilah	2	MBA-LBA	12	Acarıköy (Halilağa Höyük)	4	MBA
134	Halak Tepe	2	MBA-LBA	15	Köyüncü (Tell Mahmutlu)	4	MBA
147	Tell Salem	(2)	MBA	19	Tell Karadurmuslu	4 (2)	MBA
150	Tell Saye (Tell Asir)	(2)	MBA	20	Ali Bey Höyüğü	(4)	MBA
162	Dağlağan	(2)	MBA	26	Ada Tepe (Tell Abu Sha'ir)	4	MBA
164	Tell Davutpaşa	(2)	MBA	27	Kırkhız Pinar (Baş Pınar)	4	MBA
172	Tell Qirmidah (Tell Kirmit)	(2)	MBA	28	Tell Maltah (Matta)	(4)	MBA
173	Ermeneia (Sha'ir Askar; Şabi)	2	MBA-LBA	29	Eşen Tepe (al-Kanisah)	(4)	MBA
180	Tell Hıjar	2	MBA-LBA	33	Fırka (Tell Fırğah)	(4)	MBA
186	Kemalağa Çiftliği	2	MBA-LBA	36	Tell Kizilkaya (Gavurköy)	4 (3)	MBA
214	Eskidegirmen Tepe	2	MBA-LBA	37	Yanık Tepe	(4)	LBA
252	Tarla Höyük	2	MBA-LBA	45	Killik (Tarābat 'Arab Ahmad)	(4)	MBA
253	(no name)	2	MBA-LBA	52	Akpınar Höyük	4 (2)	MBA
283	Tomsa Höyük	2	MBA-LBA	55	Tell Kurcaoglu	4 (2)	MBA
286	Zengin Tepe	2	MBA-LBA	80	Tell el-Rasm	4	MBA
3	Kirmithı Höyük	3	MBA	103	Tabārat Maştepe	4	MBA
5	Guzelçe	3	MBA	105	Tutlu Höyük	4	MBA
6	Yassiyurt	3	MBA	116	Büyük Avara	4	MBA
16	Çataltepe	(3)	LBA	124	Tell Keleş	4	MBA
17	Soğuksu Höyük	3	MBA	132	Tabarat Jalil	4	MBA
18	Guzel Höyük	(3)	LBA	135	Tulail al-Sharqi (Tell al-Sheikh)	(4)	LBA
28	Tell Maltah	3	MBA	143	Besarslan (Tell Hamda)	4	MBA
35	Balderan (Bokluca)	3	MBA	151	Kara Tash (Nejar Tepe)	4	MBA
41	Kiremitli	(3)	MBA	152	Ayrancı Doğu (Ayrancı Şarki)	(4)	LBA
46	Gökçeoglu	3	MBA	161	Kokarkuyu	4	MBA
99	Yurt Höyük	3	MBA	163	Tell Musharrafah (Müşrefe)	(4)	LBA
104	Tell al-Terzi	3	MBA	192	Abalakli (2)	4	MBA
107	Hurriyet (Tarābat Hurriyet)	3	MBA	196	Golbası Höyük	4	MBA
123	Sicanlı	3	MBA	216	Annepli Höyük	4	MBA
129	Tell Salihyyah	3	MBA	227	Tell Habash (Sultan Merkezi)	4	MBA
138	Tell Saluq	3	MBA	231	Ahmet Sahbaz Cifligi	4	MBA
158	Yazi Höyük	3	MBA	246	Çakalı Karakol	4	MBA
166	Putoğlu	3	MBA				

* Sites are ranked on a scale of 1 to 4 according to quality of the evidence for occupation (see main text). Braidwood's (1937) assessments are indicated parenthetically where they differ from the those of the AVRIP.

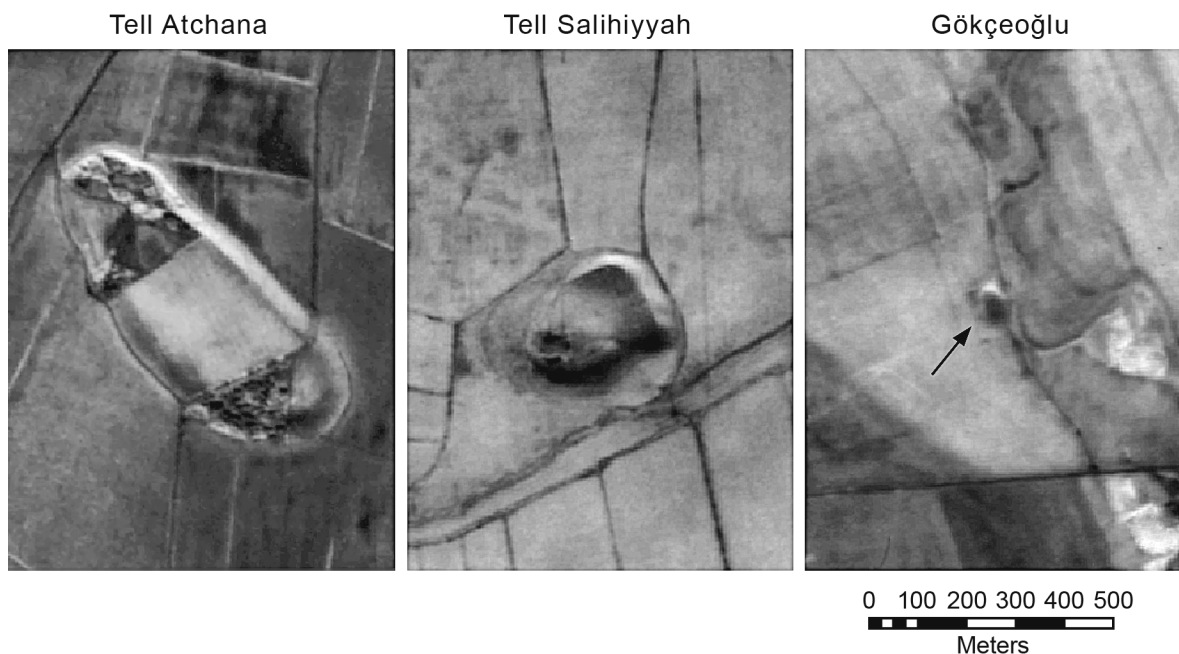


Fig. 3. CORONA satellite imagery illustrating Tell Atchana (AS 136), the largest Middle or Late Bronze Age site in the Amuq Valley; Tell Salihiyyah (AS 129), one of nine large fortified settlements; and Gökçeoğlu (AS 46), the smallest Bronze Age site in the region. Virtually all tell sites, regardless of size, appear with clarity on CORONA imagery.

found at multicomponent tells, these data provide only a maximum area of an individual site, not necessarily the site of the settlement at any point during its occupational history. The relative height of tell sites, on the other hand, may be understood as a proxy measure for the density of settlement, the duration of occupation, and the presence of monumental buildings and fortification walls at any individual site (Casana 2007; Wilkinson 2001). Perhaps unsurprisingly, Tell Atchana is by far the largest site in terms of area, covering nearly 20 ha. Even if we were to include the lower strata of the tell that likely lie below the modern floodplain (Woolley 1955; Casana and Gansell 2005), Tell Atchana is much lower than the largest sites in the region, which measure between 20 and 30 m high. However, unlike most other major tell sites in the Amuq region, Tell Atchana has no significant occupation in the third millennium B.C. or in the Iron Age, when settlement appears to have shifted to nearby Tell Ta'yinat (Harrison 2001; Batiuk, Harrison, and Pavlish 2005; Casana 2007).

Ranking just below Atchana in terms of area are nine very large sites, measuring between 4 and 10 ha and from 19 to 30 m high. These sites include the excavated mounds of Tell Judaidah (AS 176) and Çatal Höyük (AS 167), as well as Tell Salihiyyah (AS 129), Bozhöyük (AS 84), Yurt Höyük (AS 99), and others.

These sites are differentiated from smaller Bronze and Iron Age sites by their height more than by their area, perhaps an indication that they were fortified by city walls, possessed greater concentrations of population, and/or were home to monumental architecture, as has been documented at Çatal Höyük and Tell Judaidah (Haines 1971). Figure 2 illustrates the locations of these larger-than-average sites, showing that they are fairly evenly spaced throughout the Amuq Plain, lending further evidence that these settlements held a prominent social position in the past (Casana 2007). Because all of these sites have a significant Iron Age occupation overlying Middle and Late Bronze Age strata, the preserved settlement system we are describing may have been more characteristic of the first than second millennium. However, the overall stability of the settlement system throughout the Bronze and Iron Ages, coupled with the excavations showing that both Çatal Höyük and Tell Judaidah were major fortified centers throughout these periods, suggests that the largest towns of the Amuq region probably remained at the same group of sites (Casana 2003b; 2007; Casana and Wilkinson 2005).

The smallest second-millennium sites in the region generally measure between about 1 and 5 ha and are from 1 to 15 m in height. The lowest of these

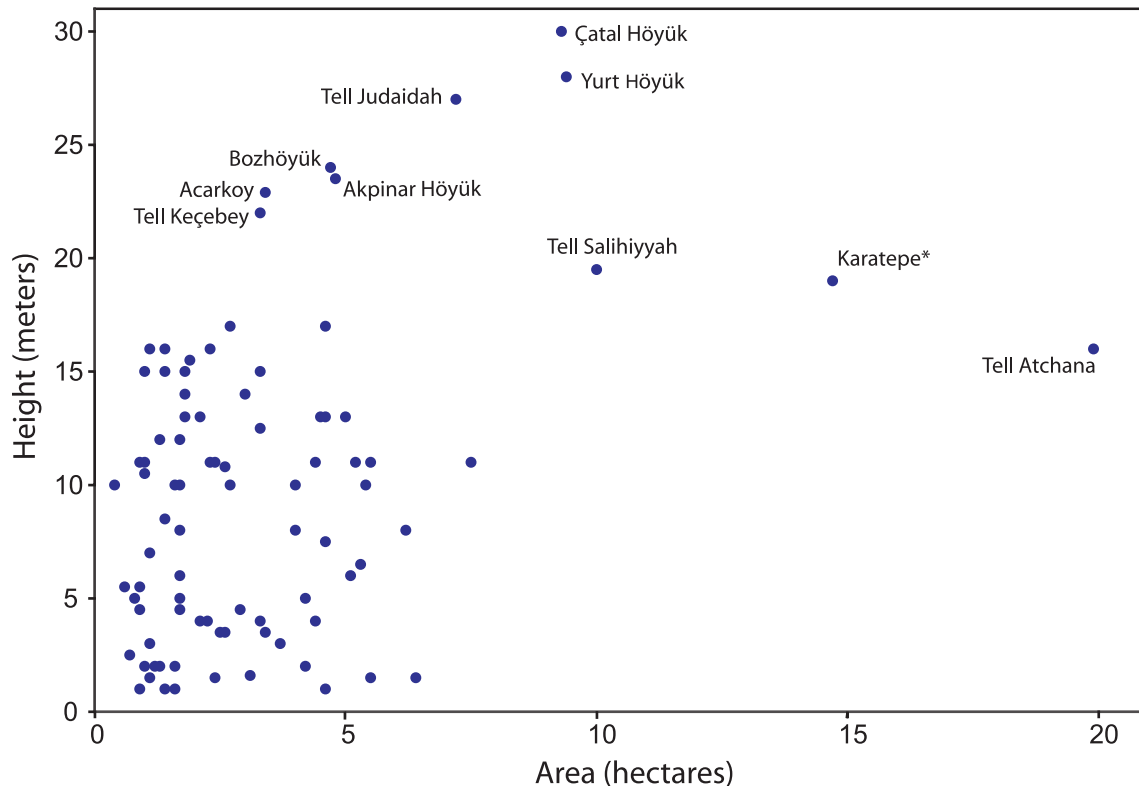


Fig. 4. Area versus height plot of Middle and Late Bronze Age sites recorded by the AVR. Tell Atchana is by far the largest in terms of area, but nine other sites (labeled) are distinctly taller and generally larger than most other sites. * Karatepe (AS 86) is a very large site, but its measured area is exaggerated by the presence of later settlement and recent agricultural earth-moving.

mounds are often found in areas of active sedimentation, such as Tell Hajar (AS 180), located in the former bed of the Lake of Antioch, or Saçaklı (AS 125), situated on the Orontes River floodplain. In both of these areas, as much as 4 m of sediments have built up since the Roman period, partially burying sites (Wilkinson 1999a; 2001; Casana and Wilkinson 2005; Casana 2008). Other sites, such as Tabārat Maṣ-tepe (AS 103) and Tulail al-Sharqi (AS 135), have been heavily damaged by bulldozing, skewing height measurements downward. These small sites were the towns and villages in which the bulk of the population appears to have lived during the Middle and Late Bronze Ages. It is noteworthy that there are virtually no second-millennium sites smaller than about 1 ha in area, unlike during the Roman and Late Roman periods (150 B.C.–A.D. 650), when small farmsteads proliferated in large numbers throughout the landscape. Instead, even the smallest settlements during the Bronze Age were nucleated villages. Magness-

Gardiner (1994) correctly inferred this fact from Braidwood's (1937) survey data and made the astute observation that no evidence exists for the small royal farms discussed by Liverani (1975; 1988), Hel-tzer (1976; 1982), and others. AVR. survey data lend further support to Magness-Gardiner's argument. Scores of smaller sites, both predating and postdating the era of tell-based settlement in the Bronze and Iron Ages, have been recorded by the AVR, but none have been found dating to between the early third and mid-first millennia B.C.

HISTORICAL AND POLITICAL GEOGRAPHY

The territory over which the kings known from the texts of Alalakh Level IV held suzerainty has been a subject of some dispute among ancient historians. Most scholars have understood that the land of Mukish was coterminous with the region that Idrimi

and his successors ruled from Alalakh, and that Mukish was primarily centered in the Amuq Plain but probably also included the Afrin Valley to the east, the Kara Su Valley to the north, perhaps as far as Islahiye, and the Orontes Valley from Antakya to the Mediterranean (e.g., Liverani 1988: 559; Serangeli 1978; Klengel 1992: 87–88). M. C. Astour (1963; 1969; 1975; 1988; 1989), whose seminal studies of Bronze Age toponymy in the northern Levant offer the most detailed exploration of these issues to date, generally agrees regarding the boundaries of Mukish proper (e.g., Astour 1969: 386–87), although he offers a substantially different perspective on the geographic extent of the king of Alalakh's rule. Astour argues that while Idrimi moved the seat of kingship from Halab to Alalakh, he and his successors maintained control over a vast territory that encompassed much of the former kingdom of Yamhad, including the city of Halab (Aleppo) and the neighboring lands of Nii and Nuhašše (Astour 1969). The land of Nii is usually thought to have been somewhere in the lower Orontes River Valley,⁹ while the land of Nuhašše probably encompassed a large but fairly desolate region extending from the Orontes Valley far to the east, perhaps all the way to the Euphrates River (Liverani 1988: 559; Astour 1969). The issue is critical to this study, because if the king of Alalakh was ruler of only those towns within Mukish, then the Level IV texts must refer to sites primarily within the Amuq Plain and immediately adjacent areas, but if Astour is correct, then the texts may refer to settlements spread over a vast area.

Astour's analyses rely heavily on an effort to trace the evolution of toponyms from as early as the third

millennium B.C. through the Bronze and Iron Ages, Classical, and Islamic periods. His evidence for the subservience of Halab, Nii, and Nuhašše to the king of Alalakh is based primarily on his identification of place names known from the Alalakh Level IV archives with modern towns or sites located east of Aleppo (e.g., Abina, Qadume, and Irkilli) and even as far as the Euphrates River (e.g., Arazig) (Astour 1989). He also points toward numerous historical texts that could be interpreted as supporting evidence, such as the Idrimi inscription in which residents of these lands are said to have been supportive of Idrimi's claim to the throne of Alalakh. Similarly, AT 101 records the return of a fugitive to the city of Urume—an act witnessed by an official from Halab, whom Astour (1989: 62) believes must have been subordinate to Niqmepa. Few scholars have adopted Astour's position, arguing that most other texts can be interpreted differently than Astour did. Oller (1977) notes the fantastic and epic nature of the Idrimi inscription, while von Dassow (1997: 39, n. 72) suggests that AT 101 is better understood as the return of a fugitive to Halab, being witnessed by an official from that city, rather than as the subservience of the official to the king of Alalakh. Moreover, both Hittite and Ugaritic texts refer to the kings of Halab, Nii, and Nuhašše during this period, leading nearly all scholars to disagree with Astour regarding the geographic extent of Idrimi and Niqmepa's territory (e.g., Klengel 1992: 88; Liverani 1990: 483, 542; Wilhelm 1989: 25; Oller 1977: 186).

Astour's efforts to track place names through the millennia, the starting point for most of his analyses, have also come under considerable fire. Na'aman (1974) suggests that while the continuity of a Semitic population in southern Palestine might make such identifications possible, the more complex history of ethnic and linguistic change in northern Syria makes it unlikely for toponyms to survive. Van Soldt's (2005) recent compilation of several studies of toponyms from Ugarit is also very skeptical of many of Astour's identifications. As at Alalakh, Astour (1970; 1979; 1981) reconstructed the 13th-century kingdom of Ugarit as extending far into the Syrian desert and encompassing a much larger region than is thought to have been the case by other scholars. Van Soldt (2005: 1–4, 51–71) offers a very different reconstruction of Ugarit's territory, showing that it was probably restricted to a small area along the Syrian coast, extending inland to the crest of the Jebel Anasriyah, but not farther east. While

⁹ The apparent proximity of Nii to Tunip, now generally identified with Tell Asharne (Klengel 1995; Fortin 2006) and to the land of Amurru, encompassing the coastal plain of modern Tarsus and probably the Homs gap, has led scholars to place Nii somewhere in the Orontes Valley. The Egyptian inscription from Gebel Barkal, which mentions the "Sea of Nii," led many to believe that the land of Nii should be in the Ghab Basin. However, if Tunip is indeed located at Tell Asharne, rather than at Hama or another site farther south, it severely restricts the potential areas for the land of Nii in the same basin. An alternative possibility would be to place Nii in the Rouj Basin, where a large lake probably existed during the second millennium B.C. If this is the case, then the major site of Tell el-Kerkh may be the city of Nii itself. The placement of Nii in the Rouj Basin would also help explain the border dispute between Alalakh and Tunip recorded in AT 2, as the territories of the two kingdoms may have abutted one another somewhere in the lower Orontes Valley.

Astour argues vehemently against his critics,¹⁰ few scholars have been persuaded by the reliability of his toponymic identifications and even less by his claim for greatly enlarged territories controlled by Alalakh or Ugarit.

Evidence provided by the archaeological survey in the Amuq Plain offers an opportunity to look at these problems in a new light. To date, most studies of the historical geography and toponymy of the northern Levant during the Bronze Age have, like Astour, focused on linguistic analyses of place names, with relatively little reference to archaeological settlement data (e.g., Niedorf 1998; Zeeb 1998). The emerging picture of settlement trends in the Bronze and Iron Ages not only in the Amuq, but in many adjacent regions including the Ghab (Graff 2006) and Rouj Basins (Iwasaki and Tsuneki 2003) of western Syria, the Jabul Plain east of Aleppo (Schwartz et al. 2000), the Plain of Marash in southern Turkey (Carter, Bozkurt, and Campbell 1995), and the Middle Orontes River Valley near Homs, Syria (Philip et al. 2002; 2005), offers a tremendous opportunity for a renewed analysis of the historical geography of the northern Levant in general. Results of the AVRP survey permit several observations regarding the historical and political geography of the region, particularly in regard to conclusions reached by Astour and other scholars who worked without the benefit of these data.

More than 220 place names appear in the texts of Alalakh IV, and while some of them are well-known but distant cities such as Ugarit (Ras Shamra), Halab (modern Aleppo), and Tunip (probably Tell Asharne [Klengel 1995; Fortin 2006]), the large majority, possessing the determinative URU, are the towns and villages that were under the dominion of the king of Alalakh. Given the wide agreement that the Amuq Plain and adjacent parts of the lower Orontes and Afrin Valleys constituted the core of the kingdom of Mukish, if not the entire region subservient to the king of Alalakh, these town names likely refer to many of the Late Bronze Age settlements in the Amuq region. Niedorf's (1998) comprehensive study of the toponyms found in all the published Level IV texts serves as a guide to determine which towns were

likely under the rule of Alalakh. Table 2 provides a list of 168 towns that appear in the so-called census lists,¹¹ a group of texts found predominantly in the Level IV "fortress" building at Tell Atchana. The census lists, originally published by Wiseman (1953), were divided by Dietrich and Loretz (1969; 1969–1970; 1970) in their more complete publication of the texts into several main genres: texts that record lists of adult men, those that list numbers of households, those that detail areas of landholding (usually vineyards), and those that list numbers of troops. Table 2 lists only those place names that are named in texts tabulating numbers of people or households, as well as those towns in which records of agricultural land and vineyards were made.¹² In both cases, it is certain that the king of Alalakh maintained some degree of administrative authority, as he clearly had both the ability and need to make detailed tabulations of population and landholdings in specific towns. To arrive at the most conservative estimate of the total number of towns over which the king of Alalakh ruled, I have excluded from table 2 place names known from administrative lists where the relationship of the town to the king is ambiguous, such as towns mentioned in troop rosters, which often record foreign mercenaries, or lists of material goods, which may record gifts, tribute, or captured booty.

Quite a number of the place names in table 2 are discussed by Astour (1963; 1969; 1989), but only a handful of his identifications lie within the Amuq Plain, and many of these are probably incorrect. For example, one important site that Astour locates in the Amuq is Kullante, which he associates with the Iron Age city of Kunulua, well known as the capital of the kingdom of Patina/Uñqi which was centered in the Amuq region. Astour follows Forrer (1920) in identifying Kunulua with Çatal Höyük (AS 167), one of the larger sites in the region. This conclusion is based on the fact that the site is located north of the Afrin River, and in the itinerary of Ashurnasirpal II's ninth campaign, the king claims to have crossed the Afrin

¹⁰ Astour (1989: 60), in response to Na'aman (1974), offers a feisty retort: "My conclusion, drawn from an extensive study of these data, was vehemently attacked by Na'aman, an author who is not known for his achievements in the field of Syro-Palestinian toponymy and historical topography and whose very arguments attest to his insufficient acquaintance with the basics of these disciplines."

¹¹ While some scholars have preferred to restrict the term "census list" to those texts recording overtly demographic data, others have used it more broadly, as I do here, to refer to any of the texts that provide a systematic counting of people or things.

¹² Transliterations of toponyms follow Niedorf (1998). His detailed analysis provides a guide to the specific occurrence of all toponyms found in the Alalakh IV texts. Towns that I include in the list appear in texts corresponding to Niedorf's categories 4.1.1–3, 5–6 and 4.3.1–3.

TABLE 2. Town Names (168) That Appear in Census Lists and Lists of Agricultural Holdings of Alalakh IV Texts

A-(-)-ni	Hazuta	Nupa(nni)	Ummu
Akubija	Hušre	Nur(u)manaše	Unika
Alabbi	Hutammana	Pahiliš	Unnuba
Alaware	Hutamme	Pagatala	Upalale
Alime	Ibirija	Berašena	Ura
Alipšuhe	Indawe	Piltu	Urešše
Allathe	Irkille	Bittaluwe	Urri(ja)
Aldabitku	Irtu	Pumete	Uruhu-
Altube	Izu-	Sirimeni	Ušhalatija
Aluzte/Alutte	Jarabik	Šanaza	Ušuwe
Ama'e	Jazule	Šannē	Utallu
Amaršagge	Jathapa	Šarkuhe	Utapninuš(-)
Ammija	Kallazu	Šata'e	Uwanta
Annaše	Katume	Ša'uraše	Wahe
Annašte	Gazhawwe	Šeniruwanaše	Walima(ē)
Anzidu	Gazte	Šeršwnina	Zahe
Abe	Kazzuwe	Ši-(-)-zi(-)	Za'it(i)
Abina	Kenta	Šija(-)	Zagana
Arennaše	Ki(ē)	Šikib/wite	Zakkija
Aribenaše	Gidge	Šilapazire	Zalakki(ja)
Arijante	Gugatija	Šilušummašu	Zalatar
Armat(te)	Kulante	Šimere	Zalhe
Armazuwe	Kumlija	Šina'e	Zallarišena
Arnika	Kumterala	Šinuhena	Zapuhulē
Arnuše	Kumuni	Šituraše	Zarma
Arra	Kurē	Šu'e	Za'uti
Aruri(ja)	Lage	Šula(-)-ja	Zazallaše
Arzawe	Lazze	Šuraše	Zikirile
Ašgu-	Lulub/wi(ja)	Tahše	Zila(ja)
Aštate	Lupa(nni)	Tāja(ē)	Zimerima
Atalahaše	Marmarug(e)	Ta(j)ime(we)	Zi'uraše
Ata/eni	Mihe-	Tappa-	Zizara
Atarhe	Mukiš	Tabbarni	Zizzur(a)
A'ušuni	Musina	Tapkanni	Zuharuwe
Azazuwe	Mušunnē	Tarmana	Zukurrē
Azu	Mutu'e	Teta'e	Zulute
Ejarrašša	Narē'a	Tiliše	Zunla
Ekuddamma	Nazze	Tuhul(e)	Zūre
Halhaluhe	Niara(-)	Tuptube	Zusē
Halulaše	Nihe	Uhenaše	Zuwe
Hanē	Nirabe	Uhhija	Zuzula
Haziluhe	Nuhiwe	Ulla	

Note: Transliterations follow Niedorf (1998).

(Apre) River and then to have proceeded to conquer Kunulua. However, most scholars now agree that Kunulua should be identified with Tell Ta'yinat (AS 126; e.g., Harrison 2001; Hawkins 1995). Certainly, Tell Ta'yinat is by far the largest Iron Age settlement in the Amuq region, nearly four times the size of other tells (Casana 2007), and excavations in the 1930s uncovered palaces, monumental gateways, and

numerous fragments of Luwian inscriptions, lending credence to its identification with Kunulua (Haines 1971; Harrison 2001). However, archaeological evidence demonstrates that Tell Ta'yinat was not occupied during the Middle and Late Bronze Ages, but rather that settlement seems to have shifted from Ta'yinat in the Early Bronze Age, to Tell Atchana only a few hundred meters away during the Middle–

Late Bronze Age, and then back to Ta'yinat in the Iron Age (Casana 2007; Casana and Gansell 2005; Harrison 2001; Verstraete and Wilkinson 2000). Thus, either the identification of Kunulua with Tell Ta'yinat is incorrect, or more likely, the association between Kunulua and the Alalakhian town of Kullante is false.

Archaeological evidence shows that other toponyms that Astour locates within the Amuq are almost certainly incorrect. For example, he confidently identifies the Alalakhian town of Zakki, also known from Thutmose III's North Syrian town list as Tuka (t-k-⟨3⟩), with the classical town of Sochoi. Roman Sochoi has been identified variously with either modern Ceylanlı/Gündüzlü (AS 287) or with Darb es-Sak/Beyazid-I Bestami/Trabzon (AS 346) (Dussaud 1927; Perdrizet and Fossey 1897). Ceylanlı is a major Hellenistic, Roman, and Late Roman town, with well-preserved architectural ruins, a tomb complex, and a small hilltop temple (Casana 2003a), while Darb es-Sak is a Crusader-period castle, reused as a fortress in the Ottoman period. Neither site has any archaeological evidence of pre-Hellenistic occupation. Moreover, the very scant record of any Bronze or Iron Age settlement in any upland areas of the northern Levant would make these sites very unlikely candidates for Zakki, despite any toponymic similarities.

Similarly, Astour associates the town of Uniga, one of the historically best known towns under the dominion of Alalakh, with the modern town and archaeological site of Muratpaşa (AS 25), which Classical scholars have long identified as Roman Onchai (Dussaud 1927). However, in abundant surface collections by both the AVRP and Braidwood (1937), there is no evidence whatsoever of pre-Roman settlement (Casana and Wilkinson 2005). This particular site was occupied in the Roman, Late Roman, and Early Islamic periods, and continues to be occupied today, but the relatively shallow accumulation of archaeological strata supports the conclusion drawn from surface collections that the site was not occupied during the Bronze and Iron Ages. Yet if the apparent homophony among classical Onchai, Neo-Assyrian Unigâ, and Late Bronze Age/Alalakhian Uniga is actually a result of the survival of a toponym, then it is possible that the Roman town took its name from a nearby tell site, a tradition quite common in the Islamic and modern periods. There are very few sites in the immediate vicinity of Muratpaşa that show evidence of Bronze Age settle-

ment, but one possibility might be the large mound of Eşen Tepe/Tell al-Kanisah (AS 29). Measuring about 10 ha in area and rising some 10 m above the floodplain, it is one of the larger sites in the region but is covered by a substantial Roman and Late Roman town, obscuring most earlier phases of occupation and rendering it difficult to assess the size of the town in the Late Bronze Age or to ascertain if indeed it was even settled at that time.

The above cases illustrate a problem that is likely quite pervasive in Astour's work on Bronze and Iron Age place names. The northern Levant experienced a radical transformation in settlement organization during the later first millennium B.C., as many of the long-lived tell sites were abandoned and an entirely new network of towns and cities was established across the region (Casana 2003a; 2007; Wilkinson, Ur, and Casana 2004). It is beyond dispute that in some cases settlement was continuous from the Bronze Age through the Roman, Islamic, and modern periods, as at Aleppo/Halab, for example. In other cases, toponyms have likely persisted across this "great divide," as at Tell Qarqur/Qarqar in the Ghab Basin (Dornemann 2003). But the sharp break in settlement history between the Iron Age II and the Hellenistic or Early Roman period makes it likely that even if toponyms survived from the third to the later first millennium, many of them may have been forgotten by the Roman period. This is almost certainly what accounts for the small number of site names from Bronze Age settlements in the Amuq that can be confidently identified with Alalakhian toponyms on purely linguistic grounds, compared with the abundance from the Roman period and later.

Even in the small number of cases where toponymic continuity from the Late Bronze Age seems to exist, there are reasons to doubt Astour's identifications. For example, Astour (1963: 237) locates the Alalakhian toponym of Maštabi with the modern village of Mastaba/Mastepe. Archaeological survey has identified two nearby sites with the same name, both yielding evidence of Late Bronze Age settlement: Tabārat Maštepe (AS 103) and Tell Masstepe/Mastepe (AS 156).¹³ Astour followed Wiseman's (1953)

¹³ The site Braidwood recorded as Tabārat Maštepe (AS 103) was incorrectly identified by the AVRP on its initial visit to the region in 1996, although subsequent analyses clarified the uncertainty (Casana and Wilkinson 2005: 221, 233).

reading of the cuneiform that appears in AT 131: 7, ^{URU} *Maš-ta-bi*, but Dietrich and Loretz (1969–1970: 59–60) offer a different reading of ^{LÚ} DUG.QA.BUR, i.e., not even a toponym, and their reading is followed by Niedorf (1998). Even if Wiseman's reading is correct, there is no clear indication that the town was within the kingdom of Alalakh. Similarly, Astour (1963: 231) originally identified the town of Marmaru/Marmaruge, known from several texts, with the modern village of Mirmiran on the north side of the Orontes River in the Amuq Plain. He subsequently retracted this identification, instead placing the town somewhere along the Euphrates River, because a town named ^{URU} *Mur-mu-ri-ga* is known to have surrendered to the Hittites during their 1353 B.C. Syrian campaign and to have become a base of operations against Carchemish (Astour 1969: 405; Güterbock 1956: 92). Yet in AT 185, ^{URU} *Mar-ma-ru-uk* appears alongside many well-known Alalakhian towns in a census list recording numbers of households at 31 towns. This seeming contradiction may simply be evidence that there were at least two Late Bronze Age towns with similar names, one of which was indeed located in the kingdom of Mukish and the other far to the east. Archaeological survey by both Braidwood and the AVRP recorded a tell site near the modern village of Mirmiran in the Amuq Plain, Tell Mirmiran/Tell Anbar (AS 120), and both surveys found evidence of Late Bronze Age occupation, suggesting that Astour's original identification may have been correct.

While the above cases cast a specter of doubt over much of Astour's work, the availability of archaeological survey data concerning the actual distribution of Late Bronze Age settlement offers the possibility for new toponymic identifications. For example, the Alalakhian town of Zalhe is mentioned numerous times in the texts, and it appears to have been a relatively large and significant town, yet Astour could find no likely location preserved in modern place names. The site of Tell Salihyiah (AS 129), located in the southern Amuq Plain to the east of Tell Atchana, is one of the large secondary tells in the region and was clearly a fortified city since at least the Iron Age, as evidenced by the characteristic gullying that takes place around gateways on such sites (fig. 3). The similarity in the two place names, Zalhe and Salihyiah, suggests that the name of the site may have been preserved, and further analysis of both texts and names of archaeological sites (as opposed to modern

villages) would undoubtedly yield numerous other possible identifications.

In addition, it is sometimes possible to associate archaeological sites with ancient toponyms on the basis of the sites' size, location, and occupational histories when ancient texts provide clues as to their location. The Neo-Assyrian annals of Shalmeneser III's first campaign through the northern Levant provide many geographic details of the region. In the year 858 B.C., he first attacked Sam'al (modern Zincirli) and then headed south through the Amuq, where he claims to have crossed the Arantu River (modern Orontes) and captured Alimuš, the "fortified city of Sapalulume" (Sapalulume was king of Pattina, the name for the Amuq region during the ninth century B.C.) (Grayson 1996). Alimuš is probably the same city known in the Alalakh texts as Alime, one of the apparently larger and better documented settlements under the dominion of Alalakh during the Late Bronze Age (Astour 1963). Following his victory at Alimuš, Shalmeneser III proceeded to the Mediterranean coast, presumably down the Orontes River Valley, and washed his weapons in the "upper sea" before returning eastward via Mount Amanus. Alimuš is thus likely located on the south side of the Orontes River somewhere within the southern Amuq Plain. Bozhöyük/Tell Uzunarab (AS 84) is the only site that has been recorded in this area that was clearly a fortified town during the Iron Age. The prominent mound, measuring 4.7 ha in size and rising more than 23 m above the floodplain, is located at the southern edge of the Amuq Plain, bordering on the hill country of the Jebel al-Aqra, and has a well-documented sequence of occupation from at least the early third millennium through the Iron Age II. Contrary to speculation by both Hawkins (1995) and Harrison (2001) that Alimuš is located somewhere in the vicinity of Antakya, there are no other archaeological sites in the region that are strong candidates for Alimuš. Unlike sites of many other periods and morphologies, major Iron Age citadels form easily recognizable and durable features in the archaeological landscape, and thus it is unlikely that any such sites have been either unrecorded by surveys of the region or obscured by subsequent anthropogenic or geomorphic processes.

If the king of Alalakh's territory included only the land of Mukish, then the 168+ other towns known to have been under his dominion should correspond to the many other tell sites in the Amuq Plain. Yet ar-

chaeological survey evidence discussed above shows that there are only 19 sites providing unambiguous evidence of Late Bronze Age occupation. There are an additional 72 tell sites with some evidence of settlement in the second millennium B.C., and perhaps 10 to 12 other sites where we might reasonably expect such occupations to have been present but which are not evident in survey collections. However, even if we were to assume that *all* of these sites were in fact occupied during the Late Bronze Age, there are still not enough to equal those known from the extant Alalakh texts. In addition, half of the 168 towns in table 2 are attested only once, suggesting that there are probably many other towns whose names do not appear in the archive, and therefore that the total number of towns ruled by Alalakh during the Late Bronze Age could have been considerably larger.

In areas such as the Afrin Valley and the Orontes River delta, which are outside the boundaries of the AVR P survey area but which were probably within the land of Mukish, there are few viable locations for these “missing” towns. Because tell sites form such conspicuous landscape features, surveys tend to find few Bronze Age sites that are not already known. There is almost no evidence of Bronze or Iron Age settlement in upland areas like the Amanus Mountains to the west or the Kurt Dağ range to the east.¹⁴ In the coastal plain of the Mediterranean, there is also relatively little evidence for Bronze Age settlement outside of a few significant port sites such as Kinet Höyük (Gates 1999; 2000). Even in the rich coastal plain of the Orontes River delta, recent surveys conducted in coordination with the AVR P found only two small sites predating the Hellenistic period, at Sabouniye and al-Mina (Pamir 2005). To the south of the Amuq Plain, recent survey in the Jebel al-Aqra recorded six sites with evidence of Middle–Late Bronze Age occupation (Casana 2003a; 2007), and the spatial distribution of these sites—located exclusively on valley floors at fairly regular intervals—suggests there may be as many more that are still unrecorded. Analysis of CORONA satellite imagery in the Orontes Valley to the south of the

Amuq shows that this area has no more than five tell sites that are likely to have been occupied in the Bronze or Iron Age, while areas farther south in the Ghab Basin were probably within the kingdom of Tunip (Klengel 1995; Fortin 2006). Finally, to the east of the Amuq, in the Afrin River Valley, Braidwood’s (1937) survey recorded 11 additional sites with Bronze Age occupation.¹⁵ Therefore, even if the coastal plain, from the Orontes delta north as far as Kinet Höyük, as well as the Afrin and Orontes River Valleys, were within the area controlled by Alalakh, it would add only 30 to 40 Late Bronze Age sites to those already within the AVR P survey area.

The apparent disconnect between the relatively small number of Late Bronze Age sites within the Amuq region and the large number of towns under the dominion of Alalakh presents an interpretive problem. These data could be viewed as support for Astour’s (1969; 1989) proposition that Alalakh was the center of a very large kingdom during the 15th century, extending all the way to the Euphrates River. Yet, as discussed above, there is little other evidence for such a conclusion and many reasons to doubt it. We could alternatively argue that that *every* tell site in the entire region was occupied during the Late Bronze Age, despite the very low archaeological visibility of these settlements, and that many others have been lost below sedimentation by the Orontes and other rivers. Geomorphological investigations show, however, that sedimentation across the Amuq Plain was not homogeneous and therefore that some small sites, if they existed, should be preserved. Some areas, including the Orontes River floodplain and the alluvial fans that fringe the Amanus Mountains, have aggraded by as much as 6 m in the post-Roman period, while other areas, such as the central Amuq Plain near Çakaltepe, have remained largely stable since at least the early Holocene (Wilkinson 1999a; Casana and Wilkinson 2005; Casana 2008). The Çakaltepe area and other zones of low sedimentation therefore provide a glimpse of a settled landscape largely unaffected by geomorphic processes. While there are many small sites of Neolithic and Chalcolithic date in these areas, as well as small Hellenistic and later sites, there are no small, flat sites of the Bronze or Iron Ages. Rather, settlement

¹⁴ Only one site was recorded by the AVR P in the Amanus, at Çakalı Karakol (AS 246), compared with nearly 100 later-period sites. This particular settlement was located on the Beylan Pass, one of the primary upland passes connecting the Amuq to the Mediterranean.

¹⁵ When Braidwood undertook his survey, the Amuq region was under the French Mandate authority. Today, the Afrin River Valley is in Syria, while the Amuq Valley is in Turkey.

in these periods in areas of low sedimentation is, like everywhere else in the region, confined to large tells that are not easily buried or lost, suggesting that the larger record of Bronze Age settlement is relatively complete.

Perhaps the most parsimonious reconciliation between archaeological and historical data would be to conclude that the political landscape of the Late Bronze Age was more spatially fragmented than has often been recognized. A. T. Smith (2003: 115–35) argues persuasively that most ancient states did not have the same conceptions of territoriality that we do, and that to impose our own models, which intimately link the state to a physical space within the landscape, is at best anachronistic. Liverani (1990; 2001: 46–56) offers a similar analysis of Late Bronze Age conceptions of borders, suggesting that polities, great or small, were not defined territorially. He argues instead that ownership of cities or land was about control of resources and revenue; it was about demarcating to whom towns and villages would send tribute, taxes, or labor. Territory was not constitutive of political entities as it is for a modern nation state, but rather the towns and lands of a kingdom were simply possessions of the king, from which revenue was extracted. Liverani maintains that Late Bronze Age settlements were essentially oases, and that in the absence of maps, the “boundary is not viewed as a geometrical line delimiting surfaces, but rather as a watershed of inhabited sites facing one or another catchment area, centered on one or another royal palace” (Liverani 2001: 53). Even in very densely occupied areas, such as the rich Orontes River Valley between Mukish and Tunip, the boundary was probably discontinuous, with various towns aligned with one polity or the other. In sparsely occupied mountains and deserts, ownership, in the sense that we understand it, was largely irrelevant.

The fact that polities of the second millennium B.C. could be spatially fragmented is difficult to dispute in light of documentary evidence showing that kingdoms held lands far from their capital cities. We could look, for example, to the Middle Bronze Age “Affair of Alahtum,” known from about two dozen texts, mostly letters, discovered at the site of Mari on the Euphrates River (Durand 2002). This case revolves around a series of complex negotiations by palace officials regarding the transfer of ownership of the city of Alahtum, probably Alalakh, from Hammurabi, the king of Yamhad, to Zimri-Lim, the king of Mari.

While many aspects of this particular incident remain difficult to reconstruct, it nonetheless shows that it was not problematic for the king of Mari to control towns and territory that were essentially islands far from his traditional kingdom. Durand (2002: 59–60, 66) argues that Zimri-Lim was particularly keen to acquire a town like Alalakh that could provide more reliable supplies of oil, wine, and timber than could be produced on the arid banks of the Euphrates. Later, Alalakh seems to have ended up back under the control of the king of Yamhad, as attested in two texts from Alalakh Level VII, AT 1 and AT 456 (Wiseman 1958). These texts record an incident in which Abban, king of Yamhad, gave Alalakh and its territory to his brother Yarim-Lim, who was formerly the ruler of Irridi, a city in eastern Syria. Residents of Irridi had revolted against Abban, who responded by destroying the city. To compensate Yarim-Lim for having left Irridi in ruins, Abban gave him Alalakh. A similar practice of buying and selling entire towns, even among lower-level elites, is evidenced in the Level VII texts from Alalakh and seems to have been quite widespread.¹⁶ These exchanges and negotiations show that second-millennium B.C. polities must have been spatially fragmented, and that there may have even been perceived advantages to geographically diversified holdings.

Exchanges of towns among elites, which appear to have been quite common during the Middle Bronze Age, are less frequently attested during the Late Bronze Age, but it is likely that kingdoms of the later second millennium B.C. were nonetheless similarly fragmented. Throughout the period, virtually all the petty kings of northern Syria were in a constant state of negotiation regarding their relationships with more powerful, distant rulers of Egypt, Hatti, Mitanni, and elsewhere. Likewise, the Alalakh texts and other archives from the region make it clear that smaller communities also had fairly complex relationships with regional power brokers—shifting their allegiances, playing one king off another, or maintaining (even if secret) connections to various regional polities. It is undoubtedly such ambiguity in the shape of the political landscape that inspired attempts to resolve ownership of contested towns, as

¹⁶ Texts such as AT 52, 53, 54, and 55 record transactions in which the king of Alalakh purchased entire towns from individuals. Other texts, such as AT 56 and 57, record the exchange of towns between lower-level elites.

evidenced in texts such as AT 14 (discussed above), in which the king of Mittani mediated a dispute between his vassal kings in Alalakh and Kizzuatna regarding ownership of a town called Alawari. Astour (1963: 236; 1989: 53) assumed that Alawari was on the border between the two kingdoms, yet there is no reason that it necessarily was.¹⁷ The conflict between the kings of Alalakh and Kizzuatna was not about fixing a border, but rather was about ownership of a community and its resources, which could have been located anywhere.

While the possibility for scattered islands of possession cautions against an assumption that conflict regarding ownership of towns was restricted to border areas between kingdoms, there are nonetheless numerous cases in which disputes over boundaries do seem to have taken place. A concern for well-defined borders between Late Bronze Age polities is perhaps best evidenced by numerous treaties found at the Hittite capital of Hattušša/Boğazköy, such as a bronze tablet that records an agreement between the Hittite king Tudhaliyah IV and Kurunta, king of Tarhuntašša (Otten 1988; Hess 1994: 125–27). Treaties like the bronze tablet provide detailed descriptions of the lands under the control of the Hittite king, carefully demarcating them from neighboring kingdoms using lists of towns, rivers, and mountains. It is possible that these texts reflect a more overt concern for territorial control by Hittite kings than was common in earlier periods or other regions, perhaps helping to explain a remarkable series of fortified strongholds recently documented in the Paphlagonia region of Turkey (Glatz and Matthews 2005). There, a string of forts seems to have been established to defend Hittite lands from raids by the feared Kashka peoples to the north.

Similar treaty texts have been found at Ugarit regarding both its northern border with Mukish and its southern border with the kingdom of Siyannou. Two copies of one treaty, written during the reign of the Hittite king Šuppiluliuma after his conquest of northern Syria in the 14th century B.C., cede towns formerly held by Alalakh to Ugarit,¹⁸ and four texts from the reign of Muršili II, Šuppiluliuma's succe-

sor, reaffirm the treaty.¹⁹ Šuppiluliuma had defeated a coalition of kings from Mukish, Nuhašše, and Nii, while Niqmad, king of Ugarit, had remained loyal to the Hittites and was therefore rewarded with the towns (Astour 1969; Hess 1994: 128–30; Dietrich and Loretz 1964–1966). While these texts are fragmentary, they provide a list of more than 50 towns, mountains, and bodies of water that formerly belonged to the king of Alalakh but were transferred to Niqmad. Nougayrol (1956: 10–15) interprets this listing of place names as a series forming a line, proceeding from east to west, and thus constituting a formal border between the two states.²⁰ Astour (1969: 399–404), however, argues that the treaties contain a more or less random listing of place names, but which are nonetheless concentrated in the border zone between the two kingdoms.²¹ Three other texts from Ugarit similarly demarcate ownership of towns and territory between Ugarit and its southern neighbor, Siyannou, in the densely occupied coastal plains.²² Hess (1994: 129–30) suggests that the language employed in these texts supports the interpretation that they describe real, continuous borders, evident in the use of the Akkadian terms *a-du* and *qa-du* appearing between toponyms as a preposition meaning “up to” or “as far as,” as in “*a-di me^{MEŠ} hu-un-du-ra-ši*” (RS 17.62, lines 2–3), translated, “as far as the waters of Hunduraši.” The use of such terminology may thus imply that these texts are actually describing a line, in which place names simply serve as points of reference along it.

It is difficult to reconcile the seemingly contradictory facts that kingdoms were spatially fragmented but sometimes had demarcated boundaries between them. The resolution may simply be that while monarchs could possess distant towns in faraway lands,

¹⁹ Texts include RS 17.237, RS 17.62, RS 17.339A, and RS 17.366 (Nougayrol 1956: 63–70).

²⁰ Nougayrol (1956: 10–15) had only two points of reference for the list: the “waters of Hunduraši” which appears near the beginning of the list, and the town of Himulli “in the midst of the sea” which closes the list. He associated Hunduraši with the swamps in the Rouj Basin and Himulli with the island of Pigeon off the Syrian coast, north of Ras el-Basit.

²¹ Although, as discussed above, van Soldt (2005: 51–71) remains skeptical of many of Astour's geographic identifications, the basis for his argument in this case.

²² Texts include fragmentary RS 17.368, RS 17.335 + 379 + 381 + 235, and a text describing a dispute between Siyannou and Ugarit regarding ownership of several towns (Nougayrol 1956: 71–75).

¹⁷ Astour (1963: 236) associates Alawari with classical Aliaria, near modern İslahiye in Turkey. We should maintain skepticism of this identification for the same reasons as those discussed above.

¹⁸ Texts include RS 17.340 and RS 17.369A (Nougayrol 1956: 48–52).

they also maintained a sense of ownership to a core region nearby their palaces. It may not have been ideologically impossible for a foreign king to have owned a town in the southern Amuq Valley, but it would almost certainly have been a source of irritation and perhaps even embarrassment to the king of Alalakh. In this way, Late Bronze Age states of the northern Levant could be seen as maintaining a general regional hegemony, but one that was not strictly territorial.

What the notion of a non- or weakly territorial polity means for how we map Late Bronze Age kingdoms is still unclear. When it comes time to produce maps, even Liverani depicts them, whether great kingdoms (Liverani 2001: x–xi) or petty states (Liverani 1988: 559), as territorially contiguous. One of the key reasons that Astour (1969; 1989) argued for a mega-Mukish was that he found evidence of toponyms within administrative lists at Alalakh that he identified with towns located far to the east of the Amuq, and at least some of these identifications are hard to reject. For example, he identified the Alalakhian town of Nirabu, known from a census list to have been under the control of Alalakh, with an archaeological site of the same name, located 6 km south-east of Aleppo (Astour 1989: 60). Aramaic funerary stelae from the seventh century B.C. that were found at the site identify it as *Nrb*, and Neo-Babylonian tablets unearthed there mention the name Niribu. Astour uses evidence like this to assert that if the king of Alalakh ruled towns near or even to the east of Halab, then he must also have ruled Halab itself—betraying an implicit belief that the borders of the kingdom of Alalakh were territorially contiguous.

While nearly all scholars reject the idea of a mega-Mukish, conceiving of the political landscape in a less monolithic sense allows us to accept a few of Astour's far-flung but more demonstrable toponymic identifications like Nirabu. It may also help to explain the larger number of town names found in the Alalakh texts than can be identified in the archaeological record. We can safely argue that most—though not necessarily all—of the towns of Mukish were the possessions of the king of Alalakh, but that he also likely had holdings elsewhere. Thus, the many towns known from the Alalakh archives to have been under the control of the king (listed in table 2) were probably primarily within the Amuq region, although some may have been elsewhere. Future efforts to map Late Bronze Age polities might connect texts with the

settlement record to produce a more network-driven model of their relationships, as advocated in recent work of M. Smith (2005; 2007).

POPULATION AND SOCIETY

The better understanding of Middle and Late Bronze Age settlement in the Amuq region, combined with the identification of at least some Bronze and Iron Age toponyms, offers an opportunity to explore patterns of population density and distribution within the kingdom of Alalakh. Most palaeodemographic reconstructions in the ancient Near East rely on an assessment of the total occupied area of settlement, either at specific sites or across regions, and then calculate total population based on an estimate of the number of people per hectare. However, studies of population density within settlements of the ancient Near East show little consensus regarding the most appropriate figures to employ. Ethnographic and historical studies of Iraq (Kramer 1980) and Egypt (Hassan 1981) have suggested densities of around 100–250 persons/hectare, while estimates from ancient Mesopotamian textual sources (Postgate 1994) and Roman–Late Roman Palestine (Broshi 1979) have suggested considerably higher figures, from 248 to 1,205 persons/hectare. Several scholars working in the Bronze Age southern Levant have argued for population densities of 200–270 persons/hectare (Broshi and Gophna 1984; Shiloh 1980; Marfoe 1980), while Akkermans (1993) has estimated much lower figures of 15–75 persons/hectare for late Neolithic settlements in eastern Syria. Wilkinson (1994; 1999b) maintains that it is best to use a likely range of densities, and he has generally employed a figure of 100–200 persons/hectare in his analyses, following the work of Adams (1965: 123) and Adams and Nissen (1972: 29–30). The radical differences in the organization of settlements from various periods that have been found in the Amuq region and elsewhere (Casana 2007; Wilkinson, Ur, and Casana 2004) indicate that there is probably not a universal number of persons/hectare that can be applied across time and space. Nonetheless, regional archaeological survey data provide virtually the only source for demographic reconstructions of ancient polities, and such analyses require us to employ some estimate of population density. In most cases, the bases for estimates are rather weak, relying exclusively on ethnographic, archaeological, or historical data sets.

However, the census lists from Tell Atchana provide a variety of demographic data from settlements within the kingdom of Alalakh, and our ability to relate at least some towns mentioned in the texts to actual archaeological sites offers a unique opportunity for an analysis of population density and distribution.

The most useful census lists for demographic reconstruction are those that record lists of individuals or households in towns within the kingdom of Alalakh, but they are by no means a straightforward demographic data set. Some record only certain social categories, others record all categories, and others make no mention of these categories. The wide variety in form, and apparently in the purpose of the texts, makes using them as a demographic data set problematic, because we cannot be sure whether texts were intended to be a complete listing of all the men or households within individual towns or if they record only a subset of them. An earlier attempt by Serangeli (1978) to estimate the total population of Mukish suffered from this very problem, as discussed by von Dassow (1997: 61–66) in her detailed study of the census lists.

Many difficulties in utilizing the census lists for demographic or other purposes stem from ongoing controversy regarding the meaning of various social categories into which households (*É*) or individuals were often divided. The categories included the *maryannena*, *ehelena*, or *šabē name*, with the latter group, sometimes further subcategorized as either *hupšena* or *haniahkena*.²³ I have reproduced one census list, AT 132 (SSAU II.8), which records individual men who are resident in one town, as an illustration of how these social categories are indicated in many census lists and of the difficulties inherent in their interpretation:

(1) ^{uru} [K]al-la-zu ERÍN ^{meš} na-me

(2) ^m Ma-zi-ia DUMU *Mi-šu-ri*

(3-21) (personal names, occasional occupations or patronymics)

(22) DUMU^{meš} *e-hé-el-e-na*

(23-26) (personal names)

(27) DUMU^{meš} *ma-ri-ia-né-na*

(28-30) (personal names)

(31) ŠU.NIGIN 20 ERÍN ^{meš} na-me

4 DUMU^{meš} *e-hé-el-e-na*

(32) 3 DUMU^{meš} *ma-ri-ia-né-na*

(33) ŠU.NIGIN 27

Translation:

Town of Kallazu. The *šabē name*:

Mr. Maziya, son of Mishuri

Mr. X (son of Y) (occupation)

The *ehelena*:

Mr. X (son of Y) (occupation)

The *maryannena*:

Mr. X (son of Y) (occupation)

Total: 20 *šabē name*, 4 *ehelena*,

3 *maryannena*

Total: 27

On its surface, the text records a number of men who are resident in Kallazu, subdivided according to social category, but it is unclear whether the text lists all residents or only a portion of them. Are the men heads of households, men of fighting age, men who owe royal service, or something else entirely? Interpretation of these texts thus rests on how we understand these social categories—*maryannena*, *ehelena*, and *šabē name*—which is in turn closely tied to a long-standing debate regarding social organization in the northern Levant during the Bronze Age more generally. Following the work of Diakonoff (1982), Liverani (1975; 1988) has interpreted these terms within a Marxist framework, describing a “two-sector” model of Bronze Age social organization. He argues that society was divided between “men of the king,” who were tied to the land and received all goods and services through a redistributive system managed by the king’s household, and poor but free peasants who lived in village communities. He interprets the *maryannena* and *ehelena* as the “men of the king”—that is, palace dependents who worked royal estates—while the *šabē name* were “free men,” who were generally poor peasants but who held and worked their own land. His ideas have strongly influenced scholarship regarding social organization at Alalakh and the Bronze Age Near East more broadly (e.g., Gaál 1988; 1982–1984; Heltzer 1982; 1976). Based on an analysis of their relative wealth, their relationship to the king, their occupation, and other aspects, von Dassow (1997) departs from the orthodox two-sector model and instead argues that the

²³ There are both Hurrian and Akkadian terms for each group, other than the *maryannena* (Dietrich and Loretz 1969–1970: 79–93).

terms used to classify residents of Mukish denote a strict hierarchy of social classes, with *maryannena* at the top and *ṣābē name* at the bottom.

More recently, a number of scholars have advanced a Weberian model of social structure in the Bronze Age Near East, describing a society in which land rights and systems of production and exchange were organized hierarchically along real or fictive kinship lines (Schloen 2001; Steinkeller 1996; 1999; Renger 1995). Schloen (2001: 302–6) maintains that neither Liverani's nor von Dassow's interpretations are consistent with the Alalakh texts. For example, the texts show that people of all social categories lived cheek-by-jowl in settlements of all sizes, such that there is no evidence for the spatial bipartition of population posited by Liverani (e.g., 1989: 127–29). Similarly, Schloen argues that there is no consistent patterning of occupational specialization or wealth among the various groups, as is asserted by von Dassow.²⁴ According to Schloen's model, landownership, labor, and production were organized primarily through membership in extended patrimonial households. The social categories known from Alalakh texts are thus specifically related to landholding status, in turn tied to service obligations: *haniahhena* were landless persons, *hupšena* were landholders who owed royal service, *ehelena* were landholders who had been specifically exempted from royal service, and the *maryannena* were an elite group of wealthy charioteers, with special political status.

Regardless of how we interpret the meaning of the social categories, some demographic reconstruction is possible. Serangeli (1978) found that the percentage of any particular social category within individual settlements corresponds broadly to the total percentage of these categories in Mukish as a whole (Serangeli 1978; Schloen 2001: 302–4). That is, across all census lists that record social categories, whether of individuals or households, *ṣābē name* account for 70–80 percent of the population, *ehelena* about 15–20 percent, and *maryannena* 5–10 percent. These proportions are roughly the same at any single settlement recorded in the lists, whether a large city or a small village. While von Dassow (1997: 61–66) outlines many reasons to be skeptical of Serangeli's (1978) analysis, the population distribution across social categories remains a valuable contribution.

Furthermore, if Schloen's interpretation of the census lists is correct, then it is likely that texts that record individuals, rather than households, are in fact simply recording the heads of extended patrimonial households as a proxy for the same thing.²⁵ Further support for this conclusion can be found in many texts published by Dietrich and Loretz (1970), which begin with a heading, "households of the *maryannena*" or other social classes, and then provide a list of individual men.

The fact that not all texts record all social classes complicates their application as demographic sources, because it is often impossible to know what category is being recorded or what percentage of the total population it represents. Von Dassow (1997: 62–64) points to several cases involving the rare instances when towns appear in more than one text where there are apparent discrepancies between the number of households or of men. All of her examples, however, come from comparisons between lists that compile all categories of household at individual settlements and other types of texts, such as lists of men or partial lists of households, and the purpose of the latter is generally unclear. The more circumscribed approach taken here, relying only on complete or nearly complete lists of households, offers a better means of estimating population at Alalakhian towns. Texts that record all or most social categories probably do in fact represent a tally of the total number of households within those settlements because, following Schloen's (2001) interpretation of social categories, the purpose of the lists would likely have been to tabulate who owes service or tribute to the king. By restricting our analysis to these more complete lists, we can generate a general picture of population density during the later second millennium B.C.

By far the largest settlement known in the Alalakh census lists is Tuhul, in which there were 179 households (AT 189; SSAU IV.8). It is likely that Tuhul, a town mentioned fairly frequently in the Alalakh texts, can be equated with one of the larger Late Bronze Age sites in the Amuq Plain: Çatal Höyük (9.3 ha), Yurt Höyük (9.4 ha), or Tell Salihyiah (10 ha).²⁶ Even if Tuhul was located beyond the borders of Mukish, the town is unlikely to have been significantly larger than 10 ha, as few Bronze Age

²⁴ With the exception that the *haniahhena* are always poor, and the *maryannena* always wealthy.

²⁵ Contrary to Serangeli's (1978) argument that there should be two adult males per household recorded in census lists.

²⁶ If Tell Salihyiah is not the ancient town of Zalhe, a possibility mentioned above.

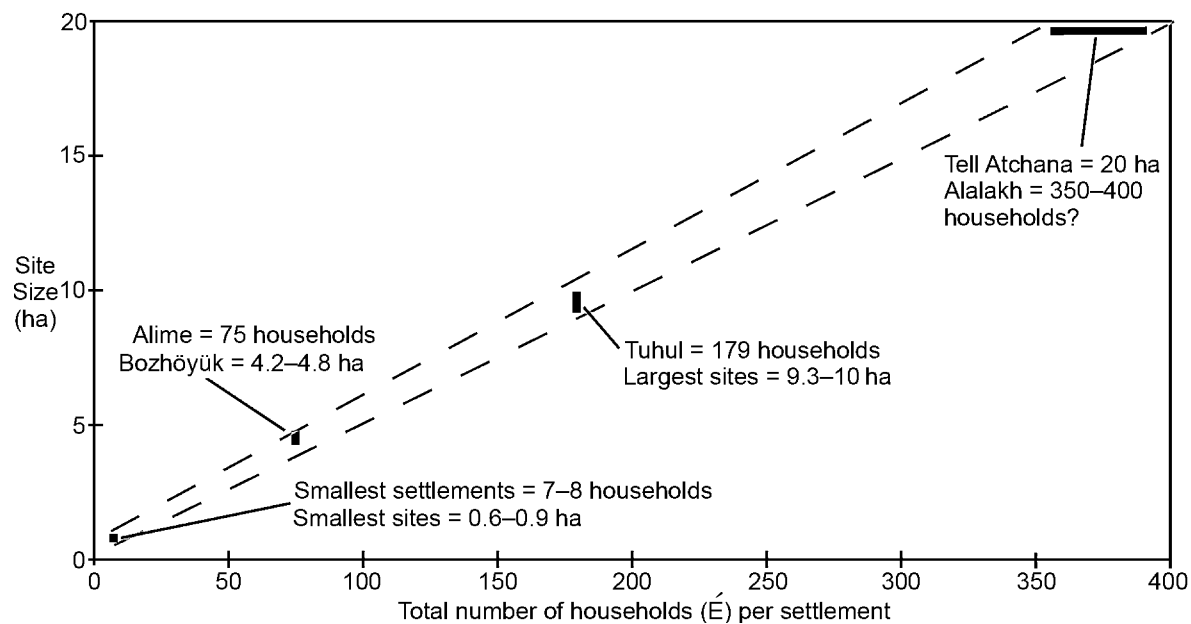


Fig. 5. Comparison between site size and the number of households per settlement as recorded in the Alalakh census lists. Dashed lines represent the approximately linear relationship between these variables.

tells in the northern Levant exceed this size. Fortunately, another complete census list providing data regarding all social categories is also preserved for the town of Alime (AT 131/SSAU II: 1), which, as discussed above, was probably located at the site of Bozhöyük (AS 84). Bozhöyük measures somewhere between 4.2 and 4.8 ha, depending on whether measurements are made from the base or at the top of the tell.

Finally, several texts give an indication of the number of households found within the smallest settlements in Mukish. One text that proclaims to list the “towns of the king,” literally, “URU.DIDLI.HÁ ša LUG[AL . . .]” (AT 186/SSAU IV.20: line 1),²⁷ provides numbers for the *hupšu/hupšena*, the *hani-ahu/haniahhena*, and the *šuzubu/ehelena*²⁸ within 13 individually named settlements. Because the three largest social groups are included in the list, we can assume that these numbers represent 90–100 percent of the population. Among the enumerated towns are three with very small populations: Musina and Kenta with only seven households each, and Zabue with

eight. While it may never be possible to relate these small settlements to specific archaeological sites, the archaeological survey data discussed above gives us a good picture of the smallest sites that were occupied during the Late Bronze Age where these towns may have been located. A large number of sites in the Amuq where Middle and/or Late Bronze Age settlement has been documented are approximately 1 ha in area, with the smallest being Gökçeoğlu (AS 46) at 0.6 ha, Tabarat Jalil (AS 132) at 0.7 ha, Eskideğirmen Tepe (AS 214) at 0.8 ha, and Çataltepe (AS 16) at 0.9 ha.

Thus, we can generate a rough idea of the relationship between site size and population density and test whether a linear relationship exists between these two variables for small, medium, and large settlements in the Amuq. Figure 5 presents a graph plotting site size against the total number of households for (1) Tuhul, equated with one of the three largest sites in the region, (2) Alime, equated with Bozhöyük, and (3) a range of the smallest settlements known in the Alalakh texts and the smallest Bronze Age sites recorded in the Amuq Valley. Of course, this analysis depends on an assumption that the largest and smallest sites in terms of area can be equated with the largest and smallest settlements in terms of number of households, which may not necessarily have been the

²⁷ Or alternatively read as “towns which the king. . . .”

²⁸ *Šuzubu* is the Akkadian equivalent of the Hurrian term *ehelena* (von Dassow 1997: 335–40).

TABLE 3. Population Density Estimates, Late Bronze Age Mukish

<i>Settlement rank</i>	<i>Site size</i>	<i># households</i>	<i>Population</i>	<i>Persons/ha</i>
Small settlements	0.6–0.9 ha	7–8	42–80	47–133
Alime/Bozhöyük	4.2–4.8 ha	75	450–750	107–178
Large settlements	9.3–10 ha	179	1074–1790	107–192

case. Furthermore, it is impossible to control for the fact that the site sizes reported herein may be exaggerated by larger, overlying Iron Age settlement found at most sites. Notwithstanding these potential problems, comparison of these two variables provides one means of evaluating our assumptions regarding the relationship between site size and population density.

Results suggest that there may indeed be a broadly linear relationship between site size and the number of households within settlements. If these households were in fact the residences of extended patrimonial, patrilocal families, as has been generally argued (Schloen 2001), we can make rough estimates of actual population within these settlements. Estimates of family size in historic and ancient contexts are complex, taking into account mortality and fertility rates, as well as marriage and residence patterns, but a large body of research regarding ancient Mediterranean communities provides a general guide (e.g., Burch 1972; Saller 1994; Bagnall and Frier 1994; Schloen 2001: 115–33). Most estimates concur that ancient Mediterranean extended patrimonial families probably had between 6 and 10 residents, inclusive of slaves, dependent kin such as widows or orphans, and other distant relatives (Schloen 2001: 115–33; Garr 1987; Heltzer 1976). If these estimates are correct, we can calculate population density in Late Bronze Age Mukish as shown in table 3.

The resultant figures for population density are remarkably consistent with estimates of 100–200 persons/hectare employed by Wilkinson (1994; 1999) and Adams (1981: 69) for Bronze Age Near Eastern towns. The data also indicate that small settlements may have had somewhat lower population densities than large towns, which makes sense given that larger towns were constrained within fortification walls and probably more likely to have had multistory buildings. Certainly, the fact that the vast majority of Late Bronze Age sites in the Amuq Valley have deeply stratified Iron Age and later occupations obscuring earlier Bronze Age strata makes our estimates of site size during the Late Bronze Age approximate at best. But this same problem exists for all estimates

of site size based on regional surface survey data. In the future, the integration of deep, three-dimensional geophysical surveys with regional archaeological projects may help resolve these issues by actually documenting the number and organization of houses at individual sites during discreet archaeological phases (Casana, Hermann, and Fogel 2008).

Finally, the apparently linear relationship between site size and population makes it tempting to extend the model to suggest the total number of households found at other sites, such as at Tell Atchana. As discussed above, Tell Atchana is the largest Late Bronze Age settlement in the Amuq region, measuring just under 20 ha in area. Extrapolating along the linear trend in terms of number of households, we might estimate a total population of 350–400 households, or between 2,100 and 4,000 people. This estimate, however, does not take into account the substantial area of the site that was devoted to monumental public buildings (Woolley 1955), the likelihood that lower portions of the site have been buried below Orontes River sediments, or that the site may have been partially eroded by movement of the river (Casana and Gansell 2005). Furthermore, recent excavations at Tell Atchana suggest that at least in the post-Hittite conquest period, at the end of the Late Bronze Age, much of the site lay uninhabited (Yener, Schloen, and Fink 2004). The same dynamism in local settlement histories and in the preservation of individual archaeological sites must be factored into estimates of ancient populations. Results presented herein nonetheless provide a better estimate of the population at Tell Atchana and other Late Bronze Age settlements in the Amuq region than has previously been possible, as in work by Serangeli (1978) and Garr (1987). These data also offer one of the first cross-checks for estimates of the relationship between site size and population in the ancient Near East. Finally, the very low numbers of total population, even at the largest settlements during the Late Bronze Age, highlight the quite modest size of ancient Near East communities, especially as compared with later periods. For example, by Late Roman times, the city of Antioch,

located just a few kilometers downriver from Alalakh, had a population of at least several hundred thousand (Downey 1961). Such dramatic differences in population must be taken into account when we consider issues ranging from the integration of the productive economy to the impact of ancient communities on their environment.

CONCLUSIONS

This study has sought to compare archaeological survey data for settlement in the Amuq Valley during the Late Bronze Age with historical information derived from the cuneiform archives from Tell Atchana. Analysis of survey data from the Amuq region illustrates that while documenting the size and duration of occupation at any individual site during the second millennium B.C. remains challenging, all settlement throughout the Bronze and Iron Ages was confined to a limited number of long-lived, nucleated tells. The distribution of these tells therefore provides a maximal picture of settlement in the Amuq region during the Middle and Late Bronze Ages, and analysis shows a hierarchical ranking of sites in terms of total size.

Comparing these data to textual sources regarding the historical geography of the Amuq region, I have made several possible toponymic identifications for settlements named in the Alalakh texts. I have also demonstrated where Astour (1963; 1969) was likely incorrect in his identification of many ancient Alalakhian towns. While most toponyms still cannot be firmly related to actual archaeological sites, the total number of towns that appear to have been under the dominion of Alalakh during the Late Bronze Age is

greater than the total number of archaeological sites that could have been occupied during that period. The disconnect between these historical and archaeological data may be explained by a recognition, advocated by Liverani (1990; 2001), A. T. Smith (2003), and others (e.g., M. Smith 2005; 2007), that territory was not constitutive of political power during the Bronze Age and that the spatial configuration of ancient Near Eastern polities may have been substantially more complex than modern notions of the territorial state allow.

Finally, I have relied on the census lists from Alalakh Level IV to illustrate the population of individual settlements within Mukish. The identification of Alime, a large town whose population was recorded in a census list, with the site of Bozhöyük enables an estimation of population density at one settlement. By comparing this settlement with census lists and archaeological survey evidence for the largest and smallest sites within the Amuq region, I have produced a graph showing an approximately linear relationship between site size and population density.

All of these results highlight the extraordinary but largely unexplored potential for studies that explicitly link text-based analyses with regional archaeological settlement data. Certainly, the value of fully integrating analysis of cuneiform texts with archaeological data is now well demonstrated (e.g., Gates 1988; Zettler 1996), but most past research has been exclusively site-based in scope. Perhaps because of its coarse chronological resolution, regional archaeological survey data has rarely been subjected to analyses linking it to historical texts, but the findings of this paper show the enormous possibilities for such research in the northern Levant and beyond.

ACKNOWLEDGMENTS

Archaeological settlement data on which much of this study is based are derived largely from fieldwork conducted as part of the Oriental Institute's Amuq Valley Regional Project (AVRP), under the auspices of the Directorate General of Monuments and Museums, Turkey, and the director of the Antakya Archaeological Museum. Fieldwork was generously funded during the 2001–2002 seasons through grants from the National Geographic Society, the American Research Institute in Turkey, and the University of Chicago. I also wish to thank Gil Stein, director of the Oriental Institute, for his support of the project, Aslihan Yener, director of investigations at Tell Atchana, as well as our colleagues at Mustafa Kemal University in Antakya, Turkey. Remote

sensing and mapping were made possible through facilities at the University of Arkansas Center for Advanced Spatial Technologies (CAST) and previously at the University of Chicago's Center for Archaeology of the Middle Eastern Landscape (CAMEL). This paper grew out of issues addressed in my dissertation, a project that would not have been possible without the support and guidance of Tony Wilkinson, director of the Amuq Valley survey and my main dissertation supervisor. I must also thank Jacob Lauinger and Magnus Widell for advice and assistance with textual analyses, as well as Glenn Schwartz, Amir Sumaka'i Fink, and Sabrina Billings for commentary on early drafts of this paper.

REFERENCES

- Adams, R. McC.
 1965 *Land behind Baghdad: A History of Settlement on the Diyala Plains*. Chicago: University of Chicago.
 1981 *Heartland of Cities: Surveys of Ancient Settlement and Land Use on the Central Floodplain of the Euphrates*. Chicago: University of Chicago.
- Adams, R. McC., and Nissen, H. J.
 1972 *The Uruk Countryside: The Natural Setting of Urban Societies*. Chicago: University of Chicago.
- Akkermans, P. M. M. G.
 1993 *Villages in the Steppe: Later Neolithic Settlement and Subsistence in the Balikh Valley, Northern Syria*. Archaeological Series 5. Ann Arbor: International Monographs in Prehistory.
- Astour, M. C.
 1963 Place-Names from the Kingdom of Alalah in the North Syrian List of Thutmose III: A Study in Historical Topography. *Journal of Near Eastern Studies* 22: 220–41.
 1969 The Partition of the Confederacy of Mukiš-Nuḥašše-Nii by Šuppiluliuma. A Study in the Political Geography of the Amarna Age. *Orientalia* 38: 381–414.
 1970 Maḥadu, the Harbor of Ugarit. *Journal of the Economic and Social History of the Orient* 13: 113–27.
 1975 Continuité et changement dans la toponymie de la Syrie du Nord. Pp. 117–41 in *La Toponymie Antique: Actes du Colloque de Strasbourg, 12–14 juin 1975*. Travaux du Centre de recherche sur le Proche-Orient et la Grèce antiques 4. Leiden: Brill.
 1979 The Kingdom of Siyannu-Usnatu. *Ugarit-Forschungen* 11: 13–28.
 1981 Les frontières et les districts du royaume d'Ugarit. *Ugarit-Forschungen* 13: 1–12.
 1988 Toponymy of Ebla and Ethnohistory of Northern Syria: A Preliminary Survey. *Journal of the American Oriental Society* 108: 545–55.
 1989 *Hittite History and Absolute Chronology of the Bronze Age*. Studies in Mediterranean Archaeology and Literature 73. Partille: Åström.
- Aswad, B. C.
 1971 *Property Control and Social Strategies in Settlers in a Middle Eastern Plain*. Museum of Anthropology, Anthropological Papers 44. Ann Arbor: University of Michigan.
- Bagnall, R. S., and Frier, B. W.
 1994 *The Demography of Roman Egypt*. Cambridge Studies in Population, Economy, and Society in Past Time 23. Cambridge: Cambridge University.
- Bar-Matthews, M.; Ayalon, A.; and Kaufman, A.
 1998 Middle to Late Holocene (6,500-Year Period) Palaeoclimate in the Eastern Mediterranean Region from Stable Isotopic Composition of Speleothems from Soreq Cave, Israel. Pp. 203–14 in *Water, Environment and Society in Times of Climatic Change*, eds. A. S. Issar and N. Brown. Dordrecht: Kluwer Academic.
- Batiuk, S.; Harrison, T. P.; and Pavlish, L.
 2005 The Ta'yinat Survey, 1999–2002. Pp. 171–92 in *The Amuq Valley Regional Projects, Vol. 1: Surveys in the Plain of Antioch and Orontes Delta, Turkey, 1995–2002*, ed. K. A. Yener. Oriental Institute Publications 131. Chicago: Oriental Institute of the University of Chicago.
- Beckman, G.
 1999 *Hittite Diplomatic Texts*. 2nd ed. Writings from the Ancient World 7. Atlanta: Scholars.
- Braidwood, R. J.
 1937 *Mounds in the Plain of Antioch: An Archaeological Survey*. Oriental Institute Publications 48. Chicago: University of Chicago.
- Braidwood, R. J., and Braidwood, L. S.
 1960 *Excavations in the Plain of Antioch, Vol. 1: The Earlier Assemblages, Phases A–J*. Oriental Institute Publications 61. Chicago: Oriental Institute.
- Broshi, M.
 1979 The Population of Western Palestine in the Roman–Byzantine Period. *Bulletin of the American Schools of Oriental Research* 236: 1–10.
- Broshi, M., and Gophna, R.
 1984 The Settlement and Population of Palestine during the Early Bronze Age II–III. *Bulletin of the American Schools of Oriental Research* 253: 41–53.
- Burch, T. K.
 1972 Some Demographic Determinants of Average Household Size: An Analytic Approach. Pp. 91–102 in *Household and Family in Past Time*, ed. P. Laslett. New York: Cambridge University.
- Carter, E.; Bozkurt, H.; and Campbell, S.
 1995 Report on Archaeological Work at Domuz Tepe and Environs in 1995. *Kazi Sonuçları Toplantısı* 18: 133–42.
- Casana, J.
 2003a From Alalakh to Antioch: Settlement, Land Use, and Environmental Change in the Amuq Valley of Southern Turkey. Ph.D. dissertation, University of Chicago.

- 2003b The Archaeological Landscape of Late Roman Antioch. Pp. 102–25 in *Culture and Society in Later Roman Antioch: Papers from a Colloquium, London, 15th December 2001*, eds. I. Sandwell and J. A. R. Hoskinson. Oxford: Oxbow.
- 2007 Structural Transformations in Settlement Systems of the Northern Levant. *American Journal of Archaeology* 111: 195–221.
- 2008 Mediterranean Valleys Revisited: Linking Soil Erosion, Land Use, and Climate Variability in the Northern Levant. *Geomorphology* 101: 429–42.
- Casana, J., and Cothren, J.
2008 Stereo Analysis, DEM Extraction and Orthorectification of CORONA Satellite Imagery: Archaeological Applications from the Near East. *Antiquity* 82: 732–49.
- Casana, J., and Gansell, A. R.
2005 Surface Ceramics, Off-site Survey, and Floodplain Development at Tell Atchana (Alalakh). Pp. 153–69 in *The Amuq Valley Regional Projects*, Vol. 1: *Surveys in the Plain of Antioch and Orontes Delta, Turkey, 1995–2002*, ed. K. A. Yener. Oriental Institute Publications 131. Chicago: Oriental Institute of the University of Chicago.
- Casana, J.; Herrmann, J. T.; and Fogel, A.
2008 Deep Subsurface Geophysical Prospection at Tell Qarqur, Syria. *Archaeological Prospection* 15: 207–25.
- Casana, J., and Wilkinson, T. J.
2005 Settlement and Landscapes in the Amuq Region. Pp. 25–65, 203–80 in *The Amuq Valley Regional Projects*, Vol. 1: *Surveys in the Plain of Antioch and Orontes Delta, Turkey, 1995–2002*, ed. K. A. Yener. Oriental Institute Publications 131. Chicago: Oriental Institute of the University of Chicago.
- Ceccini, S. M., and Mazzoni, S., eds.
1998 *Tell Afis (Siria): Scavi sull'acropoli 1988–1992*. Tell Afis 1. Pisa: Edizioni ETS.
- Collon, D.
1977 A New Look at the Chronology of Alalakh Level VII: A Rejoinder. *Anatolian Studies* 27: 127–31.
- Diakonoff, I.
1982 The Structure of Near Eastern Society before the Middle of the Second Millennium B.C. *Oikumene* 3: 7–10.
- Dietrich, M., and Loretz, O.
1964– Der Vertrag zwischen Šuppiluliuma und Niq-
1966 mandu: Eine philologische und kulturhistorische Studie. *Welt des Orients* 3: 206–45.
1969 Die soziale Struktur von Alalah und Ugarit (V): Die Weingärten des Gebietes von Alalah im 15. Jahrhundert. *Ugarit-Forschungen* 1: 37–64.
- 1969– Die soziale Struktur von Alalah und Ugarit (II):
1970 Die sozialen Gruppen *ḥupše-namê, ḥaniaḥḥe-ekû, eḫele-šūzubu*, und *marjanne* nach Texten aus Alalah IV. *Welt des Orients* 5: 57–93.
1970 Die soziale Struktur von Alalah und Ugarit (IV): Die É=bitu-Listen aus Alalah IV als Quelle für die Erforschung der gesellschaftlichen Schichtung von Alalah im 15. Jh.v.Chr. *Zeitschrift für Assyriologie und vorderasiatische Archäologie* 60: 88–123.
- Dornemann, R. H.
2003 Seven Seasons of American Schools of Oriental Research Excavations at Tell Qarqur, Syria, 1993–1999. Pp. 1–141 in *Preliminary Excavation Reports and Other Archaeological Excavations: Tell Qarqur, Iron I Sites in the North-Central Highlands of Palestine*, ed. N. Lapp. Annual of the American Schools of Oriental Research 56. Boston: American Schools of Oriental Research.
- Downey, G.
1961 *A History of Antioch in Syria: From Seleucus to the Arab Conquest*. Princeton: Princeton University.
- Durand, J. M.
2002 *Le Culte d'Addu d'Alep et l'affaire d'Alahtum*. Florilegium marianum 7; Mémoires de N.A.B.U. 8. Paris: Paris: SEPOA.
- Dussaud, R.
1927 *Topographie historique de la Syrie antique et médiévale*. Paris: Geuthner.
- Fink, A. S.
2008 Where Was the Statue of Idrimi Actually Found? The Later Temples of Tell Atchana (Alalakh) Revisited. *Ugarit-Forschungen* 39: 162–245.
- Forrer, E.
1920 *Die Provinzeinteilung des assyrischen Reiches*. Leipzig: Hinrichs.
- Fortin, M.
2006 À la recherche de l'ancienne Tunip à Tell 'Acharneh, dans la vallée de l'Oronte (Syrie). Pp. 213–22 in *Les espaces Syro-Mésopotamiens: Dimensions de l'expérience humaine au Proche-Orient ancien: Volume d'hommage offert à Jean-Claude Marguero*, eds. P. Butterlin, M. Lebeau, J.-Y. Monchambert, J. L. Montero Fenollós, and B. Muller. Turnhout: Brepols.
- Gaál, E.
1982 On the Chronology of Alalah Level VII. *Annales Universitatis Scientiarum Budapestiensis* 22: 3–53.
1982– State and Private Sectors in Alalah VII. *Acta*
1984 *Antiqua* 30: 3–44.
1988 The Social Structure of Alalah. Pp. 99–110 in *Society and Economy in the Eastern Mediterranean (c. 1500–1000 B.C.): Proceedings of the*

- International Symposium Held at the University of Haifa from the 28th of April to the 2nd of May 1985*, eds. M. Heltzer and E. Lipiński. *Orientalia Loveniensia Periodica* 23. Leuven: Peeters.
- Garr, W. R.
1987 A Population Estimate of Ancient Ugarit. *Bulletin of the American Schools of Oriental Research* 266: 31–43.
- Gates, M.-H.
1981 Alalakh Levels VI and V: A Chronological Reassessment. *Syro-Mesopotamian Studies* 4: 41–49.
1987 Alalakh and Chronology Again. Pp. 60–86 in *High, Middle or Low? Acts of an International Colloquium on Absolute Chronology Held at the University of Gothenburg 20th–22nd August 1987*, Part 2, ed. P. Åström. *Studies in Mediterranean Archaeology and Literature*, Pocket-book 57. Gothenburg: Åström.
1988 Dialogues between Ancient Near Eastern Texts and the Archaeological Record: Test Cases from Bronze Age Syria. *Bulletin of the American Schools of Oriental Research* 270: 63–91.
1999 Kinet Höyük in Eastern Cilicia: A Case Study for Acculturation in Ancient Harbors. *Olba* 2/2: 303–12.
2000 Kinet Höyük (Hatay, Turkey) and MB Levantine Chronology. *Akkadica* 119–20: 77–101.
- Glatz, C., and Matthews, R.
2005 Anthropology of a Frontier Zone: Hittite-Kaska Relations in Late Bronze Age North-Central Anatolia. *Bulletin of the American Schools of Oriental Research* 339: 47–65.
- Graff, S. R.
2006 Economy and Society: An Archaeological Reconstruction of the Political and Informal Economy of Northwestern Syria in the Third Millennium BC. 2 vols. Ph.D. dissertation, University of Chicago.
- Grayson, A. K.
1996 *Assyrian Rulers of the Early First Millennium BC*, Vol. 2: 858–745 BC. *Royal Inscriptions of Mesopotamia, Assyrian Periods* 3. Toronto: University of Toronto.
- Güterbock, H. G.
1956 The Deeds of Suppiluliuma as Told by His Son, Mursili II (Continued). *Journal of Cuneiform Studies* 10: 75–98.
- Haines, R. C.
1971 *Excavations in the Plain of Antioch*, Vol. 2: *The Structural Remains of the Later Phases: Chatal Hüyük, Tell Al-Judaiah, and Tell Ta'yinat*. *Oriental Institute Publications* 95. Chicago: University of Chicago.
- Harrison, T. P.
2001 Tell Ta'yinat and the Kingdom of Unqi. Pp. 115–32 in *The World of the Aramaeans II: Studies in History and Archaeology in Honour of Paul-Eugène Dion*, eds. P. M. M. Daviau, J. W. Wevers, and M. Weigl. *Journal for the Study of the Old Testament Supplement Series* 325. Sheffield: Sheffield University.
- Hassan, F. A.
1981 *Demographic Archaeology*. New York: Academic.
- Hawkins, J. D.
1995 The Political Geography of North Syria and South-East Anatolia in the Neo-Assyrian Period. Pp. 87–101 in *Neo-Assyrian Geography*, ed. M. Liverani. *Quaderni di Geografia Storica* 5. Rome: Università di Roma “La Sapienza.”
- Heinz, M.
1992 *Tell Atchana/Alalakh: Die Schichten VII–XVII*. *Alter Orient und Altes Testament* 41. Kevelaer: Butzon & Bercker.
- Heltzer, M.
1976 *The Rural Community in Ancient Ugarit*. Wiesbaden: Reichert.
1982 *The Internal Organization of the Kingdom of Ugarit: Royal Service-System, Taxes, Royal Economy, Army and Administration*. Wiesbaden: Reichert.
- Hess, R. S.
1988 A Preliminary List of the Published Alalakh Texts. *Ugarit-Forschungen* 20: 69–87.
1994 Late Bronze Age and Biblical Boundary Descriptions of the West Semitic World. Pp. 123–38 in *Ugarit and the Bible: Proceedings of the International Symposium on Ugarit and the Bible, Manchester, September 1992*, eds. G. Brooke, A. H. W. Curtis, and J. F. Healey. *Ugaritisch-Biblische Literatur* 11. Münster: Ugarit.
- Iwasaki, T., and Tsuneki, A., eds.
2003 *Archaeology of the Rouj Basin: A Regional Study of the Transition from Village to City in Northwest Syria*. Al-Shark 2. Tsukuba, Japan: Department of Archaeology, Institute of History and Anthropology, University of Tsukuba.
- Klengel, H.
1974 Königtum und Palast nach den Alalah-Texten. Pp. 273–82 in *Le palais et la royauté: Archéologie et civilisation*, ed. P. Garelli. Paris: Geuthner.
1981 Historischer Kommentar zur Inschrift des Idrimi von Alalah. *Ugarit-Forschungen* 13: 269–78.
1992 *Syria, 3000 to 300 B.C.* Berlin: Akademie.
1995 Tunip und andere Probleme der historischen Geographie Mittelsyriens. Pp. 125–34 in *Immigration and Emigration within the Ancient Near*

- East: Festschrift E. Lipiński*, eds. K. van Lerberghe and A. Schoors. *Orientalia Lovaniensia Analecta* 65. Leuven: Peeters.
- Kramer, C.
1980 Estimating Prehistoric Populations: An Ethnoarchaeological Approach. Pp. 315–34 in *L'Archéologie de l'Iraq: Du début de l'époque néolithique à 333 avant notre ère: Perspectives et limites de l'interprétation anthropologique des documents. Actes du colloque international, Paris 13–15 juin, 1978*, ed. M.-T. Barrelet. Paris: Editions du Centre national de la recherche scientifique.
- Lauinger, J.
2007 Archival Practices at Old Babylonian/Middle Bronze Age Alalakh (Level VII). Ph.D. dissertation, University of Chicago.
- Liverani, M.
1975 Communautés de villages et palais royal dans le Syrie du II^e millénaire. *Journal of the Economic and Social History of the Orient* 18: 146–64.
1988 *Antico Oriente: Storia, Società, Economia*. Rome: Laterza.
1989 Economy of Ugaritic Royal Farms. Pp. 127–68 in *Production and Consumption in the Ancient Near East: A Collection of Essays*, ed. C. Zaccagnini. Budapest: Chaire d'égyptologie de l'Université Eötvös.
1990 *Prestige and Interest: International Relations in the Near East ca. 1600–1100 B.C.* HANE S1. Padua: Sargon.
2001 *International Relations in the Ancient Near East, 1600–1100 BC: Studies in Diplomacy*. New York: Palgrave Macmillan.
- Magness-Gardiner, B.
1994 Urban-Rural Relations in Bronze Age Syria: Evidence from Alalah Level VII Palace Archives. Pp. 37–47 in *Archaeological Views from the Countryside: Village Communities in Early Complex Societies*, eds. G. M. Schwartz and S. E. Falconer. Washington, DC: Smithsonian Institution.
- Mallowan, M. E. L.
1936 The Excavations at Tall Chagar Bazar, and an Archaeological Survey of the Habur Region, 1934–35. *Iraq* 3: 1–85.
- Marfoe, L.
1980 Review of *Early Arad: The Chalcolithic Settlement and Early Bronze City*, Vol. 1: *First–Fifth Seasons of Excavations, 1962–1966*, by R. Amiran. *Journal of Near Eastern Studies* 31: 315–22.
- Matthers, J., ed.
1981 *The River Qoueiq, Northern Syria, and Its Catchment: Studies Arising from the Tell Rifa'at Survey 1977–79*. 2 vols. BAR International Series 98. Oxford: B.A.R.
- McClellan, T. L.
1989 The Chronology and Ceramic Assemblages of Alalakh. Pp. 181–212 in *Essays in Ancient Civilization Presented to Helene J. Kantor*, eds. A. Leonard, Jr. and B. B. Williams. *Studies in Ancient Oriental Civilization* 47. Chicago: Oriental Institute of the University of Chicago.
- Na'aman, N.
1974 Syria at the Transition from the Old Babylonian Period to the Middle Babylonian Period. *Ugarit-Forschungen* 6: 265–74.
1976 A New Look at the Chronology of Alalakh Level VII. *Anatolian Studies* 26: 129–43.
1979 A New Look at the Chronology of Alalakh Level VII Once Again. *Anatolian Studies* 29: 103–13.
- Niedorf, C.
1998 Die Toponyme der Texte aus Alalah IV. *Ugarit-Forschungen* 30: 515–68.
2002 Ein hethitisches Brieffragment aus Alalah. Pp. 517–26 in *Ex Mesopotamia et Syria Lux: Festschrift für Manfred Dietrich zu seinem 65. Geburtstag*, eds. O. Loretz, K. A. Metzler, and H. Schaudig. *Alter Orient und Altes Testament* 281. Münster: Ugarit.
- Nougayrol, J.
1956 *Le Palais royal d'Ugarit*, Vol. 4: *Textes accadiens des archives sud*. Mission de Ras Shamra 9. Paris: Imprimerie nationale.
- Oller, G. H.
1977 The Autobiography of Idrimi: A New Text Edition with Philological and Historical Commentary. Ph.D. dissertation, University of Pennsylvania.
- Otten, H.
1988 *Die Bronzetafel aus Boğazköy: Ein Staatsvertrag Tuthalijas IV.* Studien zu den Boğazköy-Texten, Beiheft 1. Wiesbaden: Harrassowitz.
- Pamir, H.
2005 The Orontes Delta Survey. Pp. 67–98 in *The Amuq Valley Regional Projects*, Vol. 1: *Surveys in the Plain of Antioch and Orontes Delta, Turkey, 1995–2002*, ed. K. A. Yener. Oriental Institute Publications 131. Chicago: Oriental Institute of the University of Chicago.
- Perdrizet, P., and Fossey, C.
1897 Voyage dans la Syrie du Nord. *Bulletin de correspondance hellénique* 21: 66–91.
- Philip, G.; Abdulkarim, M.; Newson, P.; Beck, A.; Bridgland, D. R.; Bshesh, M.; Shaw, A.; Westaway, R.; and Wilkinson, K.
2002 Settlement and Landscape Development in the Homs Region, Syria: Research Questions,

- Preliminary Results 1999–2000 and Future Potential. *Levant* 34: 1–23.
- Philip, G.; Jabour, F.; Beck, A.; Bshesh, M.; Grove, J.; Kirk, A.; and Millard, A.
2005 Settlement and Landscape Development in the Homs Region, Syria. Report on Work Undertaken during 2001–2003. *Levant* 37: 21–42.
- Postgate, N.
1994 How Many Sumerians per Hectare? Probing the Anatomy of an Early City. *Cambridge Archaeological Journal* 4: 47–65.
- Renger, J. M.
1995 Institutional, Communal and Individual Ownership or Possession of Arable Land in Ancient Mesopotamia from the End of the Fourth to the End of the First Millennium B.C. *Chicago-Kent Law Review* 71: 269–319.
- Saller, R.
1994 *Patriarchy, Property, and Death in the Roman Family*. Cambridge Studies in Population, Economics, and Society in Past Time 25. Cambridge: Cambridge University.
- Schloen, J. D.
2001 *The House of the Father as Fact and Symbol: Patrimonialism in Ugarit and the Ancient Near East*. Studies in the Archaeology and History of the Levant 2. Winona Lake, IN: Eisenbrauns.
- Schwartz, G. M.; Curvers, H. H.; Gerritsen, F. A.; McCormack, J. A.; Miller, N. F.; and Weber, J. A.
2000 Excavation and Survey in the Jabbul Plain, Western Syria: The Umm el-Marra Project 1996–1997. *American Journal of Archaeology* 104: 419–62.
- Serangeli, F.
1978 Le liste de censo di Alalakh IV. *Vicino Oriente* 1: 99–131.
- Smith, A. T.
2003 *The Political Landscape: Constellations of Authority in Early Complex Polities*. Berkeley: University of California.
- Smith, M. L.
2005 Networks, Territories, and the Cartography of Ancient States. *Annals of the Association of American Geographers* 95: 832–49.
2007 Territories, Corridors, and Networks: A Biological Model for the Premodern State. *Complexity* 12: 28–35.
- Smith, S.
1949 *The Statue of Idri-mi*. Occasional Publications of the British Institute of Archaeology in Ankara 1. London: British Institute of Archaeology in Ankara.
- SSAU = Dietrich, M., and Loretz, O.
1969– Die soziale Struktur von Alalah und Ugarit (II):
1970 Die sozialen Gruppen *ḥupše-namē*, *ḥaniaḥḥe-ekū*, *eḫele-šūzubu*, und *marjanne* nach Texten aus Alalah IV. *Welt des Orients* 5: 57–93.
- Steinkeller, P.
1996 The Organization of Crafts in Third Millennium Babylonia: The Case of Potters. *Archiv für Orientforschung* 23: 232–53.
1999 Land-Tenure Conditions in Third Millennium Babylonia: The Problem of Regional Variation. Pp. 289–330 in *Urbanization and Land Ownership in the Ancient Near East: A Colloquium Held at New York University, November 1996, and the Oriental Institute, St. Petersburg, Russia, May 1997*, eds. M. Hudson and B. Levine. Cambridge, MA: Peabody Museum of Archaeology and Ethnology, Harvard University.
- Swift, G. A., Jr.
1958 The Pottery of 'Amuq Phases K–O, and Its Historical Relationships. Ph.D. dissertation, University of Chicago.
- Van Soldt, W. H.
2005 *The Topography of the City-State of Ugarit*. *Alter Orient und Altes Testament* 324. Münster: Ugarit.
- Verstraete, J., and Wilkinson, T. J.
2000 The Amuq Regional Archaeological Survey. Pp. 179–92 in “The Amuq Valley Regional Project, 1995–1998,” by K. A. Yener, C. Edens, T. P. Harrison, J. Verstraete, and T. J. Wilkinson. *American Journal of Archaeology* 104: 163–220.
- von Dassow, E. M.
1997 Social Stratification of Alalah under the Mittani Empire. Ph.D. dissertation, New York University.
2005 Archives of Alalah IV in Archaeological Context. *Bulletin of the American Schools of Oriental Research* 338: 1–69.
- Weulersse, J.
1940 *L'Oronte: Étude de fleuve*. Tours: Arrault.
- Wilhelm, G.
1989 *The Hurrians*. Trans. J. Barnes, from German. Warminster: Aris & Phillips.
- Wilkinson, T. J.
1994 The Structure and Dynamics of Dry-Farming States in Upper Mesopotamia. *Current Anthropology* 35: 483–520.
1997 The History of the Lake of Antioch: A Preliminary Note. Pp. 557–76 in *Crossing Boundaries and Linking Horizons: Studies in Honor of Michael C. Astour on His 80th Birthday*, eds. G. D. Young, M. W. Chavalas, and R. E. Averback. Bethesda, MD: CDL.
1999a Holocene Valley Fills of Southern Turkey and Northwestern Syria: Recent Geoarchaeological Contributions. *Quaternary Science Reviews* 18: 555–71.

- 1999b Demographic Trends from Archaeological Survey: Case Studies from the Levant and Near East. Pp. 45–64 in *Reconstructing Past Population Trends in Mediterranean Europe (3000 B.C.–A.D. 1800)*, eds. J. Bintliff and K. Sbonias. *Archaeology of Mediterranean Landscapes* 4. Oxford: Oxbow.
- 2000 Geoarchaeology of the Amuq Plain. Pp. 168–79 in “The Amuq Valley Regional Project, 1995–1998,” by K. A. Yener, C. Edens, T. P. Harrison, J. Verstraete, and T. J. Wilkinson. *American Journal of Archaeology* 104: 163–220.
- 2001 Archaeological Survey of the Beydar Region, Syria 1997. Pp. 1–37 in *Tell Beydar: Environmental and Technical Studies*, eds. K. Van Lerberghe and G. Voet. Subartu 6. Turnhout: Brepols.
- 2003 *Archaeological Landscapes of the Near East*. Tucson: University of Arizona.
- Wilkinson, T. J.; Friedman, E.; Alp, E.; and Stampfl, A.
2001 The Geoarchaeology of a Lake Basin: Spatial and Chronological Patterning of Sedimentation in the Amuq Plain, Turkey. Pp. 211–26 in *Recherches archéométriques*, ed. M. Fortin. *Cahiers d’archéologie du CELAT* 10. Québec: CELAT, Université Laval.
- Wilkinson, T. J.; Ur, J. A.; and Casana, J.
2004 From Nucleation to Dispersal: Trends in Settlement Pattern in the Northern Fertile Crescent. Pp. 189–205 in *Side-by-Side Survey: Comparative Regional Studies in the Mediterranean World*, eds. S. E. Alcock and J. F. Cherry. Oxford: Oxbow.
- Wiseman, D. J.
1953 *The Alalakh Tablets*. Occasional Publications of the British Institute of Archaeology at Ankara 2. London: British Institute of Archaeology at Ankara.
- 1954 Supplementary Copies of Alalakh Tablets. *Journal of Cuneiform Studies* 8: 1–30.
- 1958 Abban and Alalah. *Journal of Cuneiform Studies* 12: 124–29.
- Woolley, C. L.
1953 *A Forgotten Kingdom: Being a Record of the Results Obtained from the Excavation of Two Mounds, Atchana and Al Mina, in the Turkish Hatay*. Pelican Books A261. London: Penguin.
- 1955 *Alalakh: An Account of the Excavations at Tell Atchana in the Hatay, 1937–1949*. Reports of the Research Committee of the Society of Antiquaries of London 18. London: Society of Antiquaries.
- Yener, K. A., ed.
2005 *The Amuq Valley Regional Projects*, Vol. 1: *Surveys in the Plain of Antioch and Orontes Delta, Turkey, 1995–2002*. Oriental Institute Publications 131. Chicago: Oriental Institute of the University of Chicago.
- Yener, A.; Schloen, J. D.; and Fink, A. S.
2004 Reliving the Legend: The Expedition to Alalakh, 2003. *Oriental Institute News and Notes* 181: 2–6.
- Yener, K. A.; Edens, C.; Harrison, T. P.; Verstraete, J.; and Wilkinson, T. J.
2000 The Amuq Valley Regional Project, 1995–1998. *American Journal of Archaeology* 104: 163–220.
- Zeeb, F.
1998 Die Orstnamen und geographischen Bezeichnungen der Texte aus Alalah VII. *Ugarit-Forschungen* 30: 829–86.
- 2001 *Die Palastwirtschaft in Altsyrien, nach den spätaltbabylonischen Getreidelieferlisten aus Alalah (Schicht VII)*. *Alter Orient und Altes Testament* 282. Münster: Ugarit.
- Zettler, R. J.
1996 Written Documents as Excavated Artifacts and the Holistic Interpretation of the Mesopotamian Archaeological Record. Pp. 81–101 in *The Study of the Ancient Near East in the Twenty-First Century: The William Foxwell Albright Centennial Conference*, eds. J. S. Cooper and G. M. Schwartz. Winona Lake, IN: Eisenbrauns.

