

Middle Bronze Age Settlement Patterns in the Western Galilee, Israel

Assaf Yasur-Landau

University of California
Santa Cruz, California

Eric H. Cline

The George Washington University
Washington, D.C.

George A. Pierce

University of California
Los Angeles, California

During the Middle Bronze (MB) II period (ca. 1750–1600 B.C.), Tel Kabri, located in the western Galilee, Israel, was the center of a thriving polity with economic and cultural connections to Egypt, Cyprus, and the Aegean. While Kabri and some neighboring sites have been partially excavated, the rise and fall of the polity has not been clearly understood. We present evidence from the Kabri Archaeological Project (KAP) to reconstruct shifting settlement patterns, demography, and aspects of trade in the Kabri hinterland from MB I to Late Bronze (LB) I. We argue that Kabri, in the northern part of the Acco plain, follows a different developmental trajectory than does Acco and its hinterland in the southern part of the plain. Acco was urbanized early in MB I and developed a mature hinterland that persisted throughout MB II and into LB I. Kabri did not begin to bloom until late in the MB I period. Its rapid rise during MB II was accompanied by the abandonment of village sites far from the center of the polity and the fortification of nearby settlements. These efforts to consolidate power and to maintain the flow of goods into the center did not last long, and the polity of Kabri soon collapsed.

Introduction

Aharon Kempinski and Wolf-Dietrich Niemeier excavated Tel Kabri, in the western Galilee region of Israel (FIG. 1), in the late 1980s and early 1990s (Kempinski, Scheffelowitz, and Oren 2002). They found that during the Middle Bronze Age (MB) II period (ca. 1750–1600 B.C.) the site had been the center of a strong coastal polity. In size and importance, it may have been second only to Hazor in the Galilee (Maeir 2000: 43; Ilan 1995: 307) and, with Ashkelon on the southern coast (Stager 2002), was arguably one of the two strongest coastal powers in MB II Canaan.

Beginning in 2005, excavations resumed at Tel Kabri as part of a new regional study of Middle Bronze Age settlement patterns in the western Galilee. The Kabri Archaeological Project (KAP) has so far conducted one preliminary season of excavation at Kabri itself (Cline and Yasur-Landau 2007) and two seasons of regional studies in the terri-

tory of the polity of Kabri, which runs from the Mediterranean coast on the west to the foothills of the Har Meiron massif in the east and from the Rosh Ha Niqra (Rekhes Ha-Sulam) ridge in the north to the boundary of Acco in the south (see below).

Our aim here is to present a picture of the polity of Kabri and its hinterland in terms of diachronic changes in settlement patterns, agricultural exploitation, and patterns of trade. The KAP conducted multiple lines of research, including excavation, intensive site survey, study of existing pottery collections, examination of available textual evidence, population estimates, and studies of land use and economy. By studying the trajectory of a specific polity, we hope to address an important gap in the exploration of the Middle Bronze Age in the southern Levant, for there can be a sharp dichotomy between the larger regional narrative and the trajectory of a single polity. Recent criticism of universal models of state trajectories (Yoffee 2005) and of traditional nomenclature for “primary” and “secondary”



Figure 1. Location of Tel Kabri and the Acco Plain. Drawing by Assaf Yasur-Landau.

states (Parkinson and Galaty 2007) make clear the importance of close investigations of specific state formation trajectories, for many simply do not fit general models.

Here we use the newer tripartite division of the Middle Bronze Age, MB I, II, and III (Ilan 1995: 297, 2003: 326; Greenberg 2002: 8; Bietak 2004: 219–220), although we note that it is almost impossible to distinguish between MB II and MB III in the western Galilee so that MB II, the final period there, is the equivalent of MB II and MB III in other regions (Peilstöcker 2004: 227; Kempinski 1983). Chronological ranges can be derived from Tell el-Dab'a and other Egyptian sources (Bietak 2002: 41, 2004: 219–220) as well as via radiocarbon dates from Tel Ifshar (Marcus 2003); thus MB I (MB IIA in the earlier system) is ca. 1940/20–1750/30 B.C., MB II (MB IIB) is ca. 1750/30–1600 B.C., and MB III (later MB IIB or MB IIC) is ca. 1600–1530/1470 B.C.

The current views of the settlement systems in Middle

Bronze Age Israel are to a large extent a careful combination of overall explanations for processes of urbanization on the one hand and attention to regional variation on the other hand. Magen Broshi and Ram Gophna's (1986) work is a landmark study in this respect, addressing the demography of the entire southern Levant during the Middle Bronze Age, yet sharply delineating regional differentiation in settlement patterns. The continuation of this balanced approach can be seen in works that cover the entirety of Israel (e.g., Na'aman 1982; Finkelstein 1992; Ilan 1995; Cohen 2002a, 2002b) as well as in works that take a regional approach (e.g., Greenberg 2002 on the Hula valley; Maier 1997 on the central Jordan valley).

Still, the desire to answer questions concerning multi-regional polity formation and decline resulted in general models for settlement patterns in the Middle Bronze Age. For instance, Broshi and Gophna (1986) argued for the existence of four categories of MB settlements: unfortified

rural settlements; settlements fortified with ramparts which were built over Early Bronze Age (EB) fortified settlements; settlements fortified with ramparts which were first built in the MB period or over unfortified EB sites; and settlements fortified with walls but without ramparts. The most elaborate model of settlement patterns for the MB was presented by David Ilan (1995: 305), who contends that a well-structured settlement hierarchy which existed in MB I became gradually more elaborate in MB II.

According to Ilan (1995), sites fell into four categories during the MB I, with only the first having fortified settlements: regional centers and gateway communities; sub-regional centers and/or loci of specialist production or services (e.g., cult); villages; and farmsteads. During the MB II, sites fell into seven categories, with the first four having fortified settlements ranging in size from 82 ha (Hazor) to 4 ha (Beth Shean): first-order gateway communities (e.g., Hazor); second-order gateway communities (e.g., Ashkelon, Kabri, and Pella); third-order gateway communities (e.g., Masos, Dan, Jericho, Dor, and Jaffa); regional centers (e.g., Megiddo, Beth Shean, Shimron, Shechem, and Gezer); subregional centers and/or loci of specialist production (e.g., Tell el-Hayyat, Afula, and Tel Keisan); villages; and farmsteads or hamlets. In this model, Kabri is placed second, behind only Hazor, as a second-order gateway community. Ilan's latter categories of rural settlement were further elaborated upon by Arraham Faust (2005), who argued for the existence of at least two separate categories of villages: independent villages, identified by the relatively high living standards of their inhabitants; and dependent villages, identified by poor standards of living, yet sometimes with a single outstanding structure which housed the landlord.

Raphael Greenberg's (2002: 81–88) findings in the Hula valley, a lowland area with prime agricultural land located in northern Israel, conformed, for the most part, to Ilan's (1995) model of settlement hierarchy and gradual development from MB I to MB II. Greenberg's survey found a three to four-tiered settlement hierarchy for the MB I, headed by the centers at Tel Dan and Abil, both of which had massive, well-planned fortifications. During the later MB I, a major shift occurred in the settlement patterns, with the rise of the first urbanized communities. The rapid rise of Hazor to the status of a super-regional power during MB II (Greenberg 2002: 36, 106; Ilan 1995: 307) made it necessary to modify Ilan's model, because of the trajectory of this single polity (see below).

We believe that the situation at Kabri represents a "truncated trajectory" characterized by a rapid rise, an atypical settlement hierarchy, and a rapid descent. Kabri's sudden ascent from a rural site in MB I to a dominant polity cen-

ter and a regional power by the transition to MB II is also reflected in the settlement pattern within its hinterland. This is a very different situation than predicted by Ilan's model (above), for the rise of urbanism in the northern Acco plain resulted in the effective elimination of most of the MB I villages and the creation of larger nucleated settlements, as well as a network of specialized sites connected with the accretion of palatial control over the area of the polity.

While the Acco plain in general shows a gradual rise in complexity from the MB I to MB II, the two major polities of the plain—Acco in the south and Kabri in the north—follow very different trajectories. The site of Acco, like the plain as a whole, follows a gradual rise in complexity and ultimately survives into the Late Bronze (LB) I. The site of Kabri, on the other hand, rapidly rises and falls, all during the MB II period.

The polity at Kabri completed a full cycle of development without any apparent external political intervention. Its position away from the major land routes from Egypt to Syria and Mesopotamia resulted in political and cultural isolation from the core areas of the ancient Near East. In addition, since access to trade items from Cyprus was never limited to just the elites of the Kabri polity, overseas trade had only a marginal effect on processes of state formation and collapse, despite the fact that the palatial elite of MB II Kabri used Aegean-style paintings to demonstrate their status and possibly maintained a presence in the nearby port of Nahariya.

Historical and Archaeological Background

While the site of Kabri itself and several sites around it (such as the tell and shrine site of Nahariya) were at least partially excavated before the present project, the polity as a whole was not well understood. There were no previous attempts to explore and understand the rise and fall of Kabri or its hinterland in terms of changes in settlement patterns, agricultural exploitation, or patterns of trade. Previous surveys of this region focused on the history of settlement from the Neolithic to the Ottoman periods and the 450-year-long Middle Bronze Age was treated as a single unit without a chronological separation between MB I and MB II.

John Garstang (1922) divided the western Galilee, or Acco plain, into two sections, northern and southern, based upon geography. Kempinski (1986: fig. 1) drew a picture of the Acco plain as divided during late MB I and MB II between the kingdom of Kabri (named Rehob by him) and the kingdom of Acco. Both kingdoms were depicted as ruling the lowlands, with Nahal Yasaf serving as a boundary between them.

Israel Finkelstein (1992: 210–215) used rank-size analysis, weighted with literary data on the boundaries of LB polities, to draw Thiessen polygons and establish 16 territorial units in Palestine during the Middle Bronze Age. Similarly, Aaron Burke (2004: 215, 265) suggested, based on rank-size, natural boundaries, and the presence of planned fortifications, that the entire Acco plain was a single kingdom with two districts, i.e., Kabri and Acco, although he did not hypothesize in which district lay the capital of the kingdom.

Martin Peilstöcker (2004: 10) focused on the Acco plain during his investigations of the area from the Reches Ha-Sulam ridge in the north to the Carmel ridge in the south. The eastern border was the foothills of the Galilee Mountains. Using rank-size analysis, Peilstöcker (2004: 432–433) argued for the superiority of Kabri over Acco during the MB period, based on the larger size of Kabri and its more desirable location (having excellent water resources and an abundance of fertile land), in contrast to the sandy, swampy region of Acco. Like Kempinski and Finkelstein, he envisioned the two sites competing for supremacy throughout the Middle Bronze Age.

We agree with these scholars that there were two separate polities in the Acco plain during the Middle Bronze Age, namely Acco and Kabri. The boundary of the polity centered at Tel Kabri is geographically well-defined: to the west lies the Mediterranean Sea; to the north Reches Ha-Sulam, which today forms the border between Israel and Lebanon (FIG. 1). Its imposing cliffs would be arduous to negotiate, as confirmed by the 19th Dynasty Egyptian scribe in Papyrus Anastasi I 21,3 (Rainey and Notley 2006: 102):

“Let me tell you of another difficult case—the crossing of 𐤀𐤓𐤍𐤍 (the ladder of Tyre). You will say “It burns more than a sting!” So very sick is the *mabar* (warrior)!”

To the east are the slopes of the Har Meiron massif, the highest mountain range in the Galilee, which also served as the boundary of the kingdom of Hazor. While the eastern boundary of the polity of Kabri may well have extended all the way to Har Meiron, Peilstöcker (2004: 437; following Frankel et al. 2001: 103) has suggested that another polity, centered at Tel Rosh, lay between Kabri and Hazor. We have taken this possibility into account in interpreting our survey data (see below). Finally, in the south, the border is assumed to lie midway between Kabri and a polity centered at Acco, probably delineated by one of the E–W wadis. The two most likely candidates are Nahal Yasaf, located approximately midway between Acco and Kabri, and Nahal Beth Ha’emeq, located further to the north. In order to be on the safe side, we chose Nahal Yasaf as the boundary for

our study, although Nahal Beth Ha’emeq—only 2.5 km south of Tel Kabri—may have been the actual boundary.

Numerous MB sites had already been identified in the region of Kabri prior to the beginning of our project, as a result of previous survey work in the upper Galilee area conducted by Rafi Frankel, Nimrod Getzov, Mordechai Aviam, and Avi Dagani (Frankel and Getzov 1997; Frankel et al. 2001) and by the Israel Antiquities Authority (IAA) (see also Grootkerk 2000). Although this survey work did not differentiate between MB I and MB II, the accurate recording of MB sites for more than three decades created a solid foundation for the present study. In addition, repeated visits to these sites by IAA and pre-IAA survey teams also resulted in a massive pottery collection. This archive is important, as it includes pottery from sites which have since disappeared as a result of development and represents visits to these sites during different seasons and parts of the year over a lengthy period of time, thus ensuring that the collection is as complete as possible and has a deep diachronic dimension.

Recent work by Peilstöcker (2004) has added additional information concerning previously unpublished excavations of the tell of Nahariya, as well as the sites of Bira and Tel Aphek (Kurdani) located in Acco territory, and has added a few more sites to the IAA survey as well. All of this additional work was limited to the lowlands of the Acco plain, however (Peilstöcker 2004: 424–425); it did not include any surveying of the higher hills of the region.

Moreover, these earlier surveys concentrated only on identifying archaeological remains such as sherds, flints, and architecture. While they provided valuable information on the number of sites inhabited through all periods in the upper Galilee (including the MB period), they did not record attributes of the terrain, available arable land, lines of vision, or water and other resources.

Methods

Archaeological surveys in the Levant tend to follow a standard methodology that includes systematic fieldwalking, collection of pottery and other artifacts, documentation of architectural features, and standardized publication, frequently as part of the Archaeological Survey of Israel series (e.g., Olami 1984; Broshi and Gophna 1984, 1986; Levy and Alon 1987; MacDonald 1988; Zertal 1992; Banning 1996; Finkelstein, Lederman, and Bunimovitz 1997; Cohen 2002a, 2002b). More recent surveys conducted outside of Israel, such as those in the Pylos region (Davis et al. 1997; Zarinebaf, Bennet, and Davis 2005), the Ik-laina region (Cosmopoulos 2006), the Korinthia region (Caraher, Nakassis, and Pettegrew 2006), the island of Kythera in Greece (Broodbank and Kiriati 2007), Cyprus

Table 1: Preliminary size and chronology of surveyed MB I–II sites.

<i>Site name</i>	<i>IAA survey size (ha)</i>	<i>KAP survey size (ha)</i>	<i>Period</i>
el-Buqbaq	1.0	0.28	MB I, MB II
el-Mansura	1.2	0.93	MB I
Elon 2	0.2	0.3	MB I
Har Betah (south)	0.8	–	MB II
Har Hanita 2	0.1	–	MB I
Horvat Fazelet	5.0	13.47	MB I
Horvat Gemila	1.5	0.31	MB II
Horvat Hur	2.0	–	MB I
Horvat Karkara	1.9	1.09	MB I, MB II
Horvat Sirim	0.6	0.13	MB II
Iqrit	2.5	9.57	MB II
Jatt	3.0	–	MB I
Kefar Rosh ha-Niqra	1.0	–	MB II?
Khirbet el-Dabsha	1.0	0.28	MB I-MB II
Khirbet el-Shubeika	0.3	–	MB II
Khirbet Idmith	1.6	1.94	MB II?
Khirbet Jurdeih	1.0	2.64	MB I, II
Khirbet Umm Tuma	2.0	1.43	MB I
Me'arat Namer	0.1	–	MB I
Mezad 'En Tamir	0.3	.056	Late MB I or early MB II
Mi'ilya	1.5	23.75	MB II
Nahariya-Tel	4.0	–	MB I, MB II
Nahariya-Temple	0.1	0.1	MB I, MB II
Tel Achziv	7.0	5.47	MB I, MB II
Tel 'Avdon	2.0	2.85	MB II
Tel Kabri	30.0	15–20 in MB I; 32 in MB II	MB I, MB II
Tell el-Sumeiriya	4.5	1.12	MB I
Tel Rosh	9.0	0.76	MB I, MB II

(Given and Knapp 2003; Kardulias and Yerkes 2004), and Mesopotamia (Wilkinson et al. 2005), have combined ceramic analysis, satellite and aerial imagery, textual references, and computer applications such as GIS with traditional fieldwalking and site descriptions.

We have endeavored, in the same manner as the surveys in Greece, Cyprus, and Mesopotamia, to bring historical and archaeological data to bear on our questions about Tel Kabri and its environs during the Middle Bronze Age. Since so much pottery was collected from the MB sites during previous surveys and over an extended period of time, we decided that additional pottery collection would have a marginal impact on our results. We therefore devised a strategy to maximize the results of our project, especially given the limited time and staff available.

First, we decided to examine the MB sites already identified by the previous surveys in the western Galilee, rather than to attempt to resurvey the entire region again on foot. Our decision was, in part, influenced by the observation that when Peilstöcker and Lehmann (Peilstöcker 2004: 229–373) meticulously resurveyed the area east of Acco,

they added only three new sites to the roster of MB settlements in the western Galilee, none larger than 0.2 ha. In our opinion, the recurring visits of the IAA teams to many of the sites, and in different seasons, have effectively countered low surface visibility during the summer in Israel—the time when many archaeological activities are usually conducted. While we visited sites in an attempt to establish their size according to the extent of the MB pottery scatters, we also utilized the pottery collected by previous surveys to determine the chronology of each MB site.

Although the above surveys in Greece, Cyprus, and Mesopotamia, plus those conducted in Israel by the Megiddo Expedition (Finkelstein et al. 2006) of the Bronze and Iron Age sites in the Jezreel Valley and by Yuval Gadot (1999: 60) of the Bronze and Iron Age sites in the Wadi 'Ara, have demonstrated that survey parties of 10–15 people are the ideal size for efficiently surveying a previously-identified site, our team was smaller, usually consisting of five people (the authors plus two other team members). Our survey method was the standard one practiced in all of these regions (e.g., Davis et al. 1997: 400–401). Team members were spaced 10–15 m apart while walking transects and documented (but did not collect) pottery, flint, and other artifacts and recorded places of special interest (e.g., walls). The length of the transects was determined by the topography of each site, in order to achieve maximum coverage: at flat alluvial sites such as Khirbet Umm Tuma, transects were as long as 200 m, while at hilly terraced sites such as 'Avdon, the transects were determined by the length of the terraces. After an initial walk of the site, the team established the boundaries of the MB pottery scatters that were then recorded with GPS readings.

The KAP team visited nearly all of the sites (more than 90%) previously identified as MB in the region (FIGS. 2, 3) during the summers of 2006 and 2007. We were able to correct many of the previous estimates for the sizes of MB sites in the western Galilee and to generate an improved estimate of past population sizes in this region (TABLE 1). Thus, for example, the hilltop site of Mi'ilya, previously estimated to be only 1.5 ha in size, turned out to actually be 23.75 ha, making it a new major MB and LB site in the western Galilee. On the other hand the border fortress of Mezad 'En Tamir, previously estimated to be 0.3 ha in size (Frankel et al. 2001: 28), is apparently composed of only a single sturdy structure 0.056 ha in area.

Site boundaries were recorded using a WAAS-enabled GPS device, with 1–3 m accuracy. These GPS points were later downloaded to a GIS with topographic maps and the potential outline of each MB site was digitized as a polygon, allowing us to determine the area occupied (which in

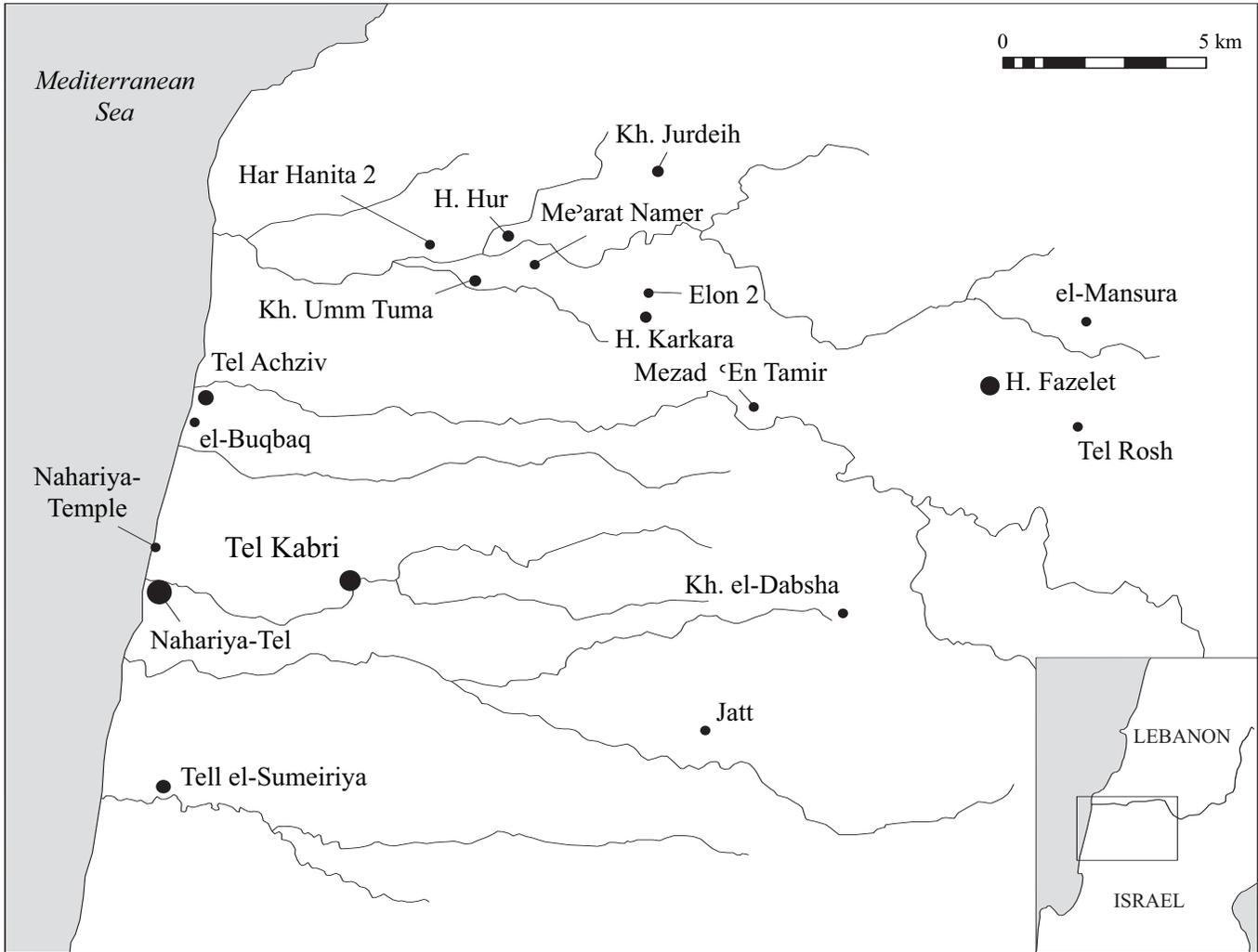


Figure 2. Surveyed MB I sites in the western Galilee, with hectares in parentheses. Relative site size is indicated by size of symbol. Map by George A. Pierce.

some cases differed from the original surveyors' estimate). Historical maps, tax records, and satellite imagery from the 1960s, 1990s, and the present day were also consulted when drawing the site boundary polygons and have proved invaluable when MB sites are no longer visible.

In fact, there has been rapid development in the entire area, with the result that some MB sites reported by previous surveys, such as those at Kfar Rosh Haniqra and Tel Nahariya, are now completely invisible and/or inaccessible. Others have apparently disappeared completely, perhaps as a result of building activities in the area. In addition, our visits to some sites previously reported as having MB pottery or structures, such as Horvat Gayis (Frankel et al. 2001: 32, no. 239), yielded no such MB pottery or structures. In these cases, the pottery collected by the previous surveys was examined, and if no MB pottery was found,

the sites were erased from the IAA register of MB sites.

At each of the sites visited during the survey, photographs were taken for visibility studies. Such studies have been performed elsewhere on landscapes in order to determine the prominence of a site in its natural and social settings (e.g., Gaffney, Stančić, and Watson 1996; Lock and Harris 1996; Wheatley and Gillings 2000). Our photographer climbed to the highest spot on the site and took a series of photographs in a complete circle. These pictures were later "stitched" together using computer software and a small movie was produced that allows the user to zoom in and pan around the landscape from the vantage point of the photographer (FIG. 4). This resulting viewshed may be useful in attempting to reconstruct the situation during the Middle Bronze Age for the site's inhabitants (Wheatley and Gillings 2002: 201–202) and may provide insights about

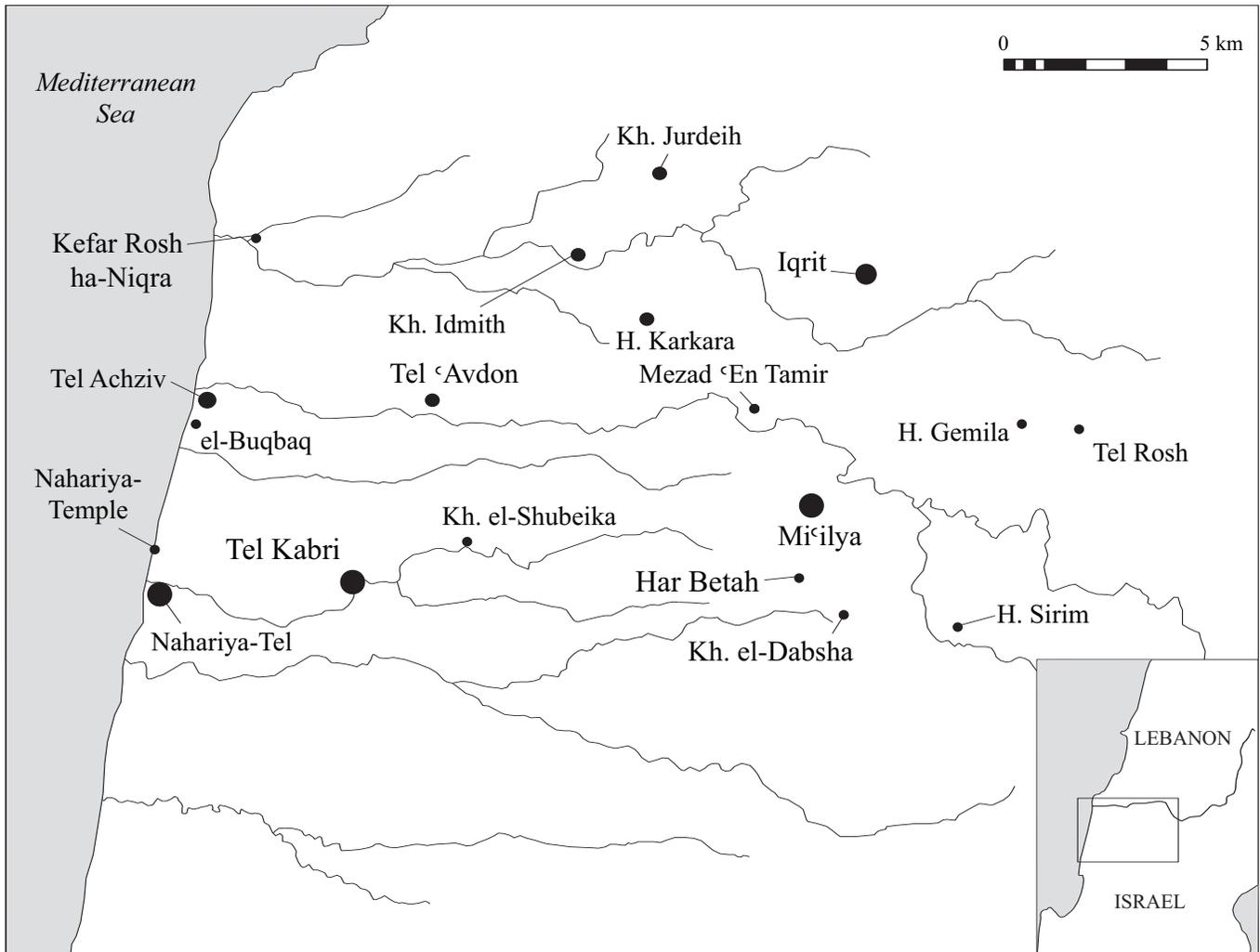


Figure 3. Surveyed MB II sites in the Acco plain in western Galilee. Relative site size is indicated by size of symbol. Map by George A. Pierce.

site location, trade routes, or the prominence of other sites within the viewshed.

Additional data recorded at each site included rock and soil types, inter-visibility with other sites, and available water and other resources. In addition, all of the MB pottery and some LB pottery from the IAA collection was typologically analyzed and the entire corpus of MB pottery was photographed. More than 220 items were selected for drawing. Finally, ca. 60 petrographic samples were taken and analyzed during the summer and fall of 2007 in order to study possible production centers and trade patterns.

Initial Results of the Regional Study

Intermediate Bronze Age

Before the Middle Bronze Age, the settlement landscape

of the western Galilee during what is known as the Intermediate Bronze Age (IBA), i.e., the last two centuries in the 3rd millennium B.C., reflects a very small-scale continuation of habitation of EB sites. These tiny rural settlements were visible either as scanty remains on existing tell sites, such as Kfar Rosh Haniqra, or, more often, as burials in the vicinity of large tells such as by Kabri and at the site of Horvat Manot near Tel 'Avdon (Getzov 1995: 17*; Frankel et al. 2001: 102; Getzov, Stern, and Parks 2001: 137).

Early-Middle MB I

The deep cultural change connected with the beginning of the Middle Bronze Age elsewhere in the Levant was also manifested in the western Galilee (FIG. 2). As elsewhere in Canaan, weapons made of tin-bronze and wheel-made



Figure 4. Photo mosaic of Khirbet el-Dabsha from the south. Photographs by George A. Pierce and Assaf Yasur-Landau.

pottery with typological connections to northern Levantine traditions in Syria and Lebanon made their first appearance (Ilan 1995: 30–301; Greenberg 2002: 105–106). Both of these cultural innovations are present in Tomb 990 at Kabri, a warrior tomb which is possibly the earliest MB I tomb in the western Galilee and which yielded both wheel-made pottery (Scheftelowitz 2002: 30; Scheftelowitz, Kempinski, and Gershuny 2002: fig. 5.58, profiles 1–5) and a bronze duck-bill axe (Shalev 2002: 309).

The earliest phase (Phase 1) of MB I (Cohen 2002a: fig. 9) is completely missing from the area studied by the KAP. Instead, intensive settlement both on tells and in rural sites, as well as the founding of new cemeteries, is evident starting in the intermediate phases (Phases 2–3) of the MB I (e.g., Cohen 2002a: fig. 11; Kochavi and Yadin 2002). This phenomenon is well-represented in excavation data from the region, e.g., tombs at Jatt (Getzov and Nagar 2002), Tomb 990 at Kabri (above), and in domestic remains from Stratum 4 at Kabri (Scheftelowitz, Kempinski, and Gershuny 2002: 120). The analysis of survey pottery shows a similar picture, especially at sites such as Horvat Hur and Khirbet Umm Tuma (FIG. 5) which were apparently founded during this phase. These sites have pottery types similar to those in Aphek Phases 2 and 3, Megiddo Strata XIV and XIIIa, and Qiriya Shmona Stratum VII (FIGS. 6, 7).

The settlement landscape of MB I in the western Galilee included mostly villages (or hamlets), such as Elon 2, Horvat Hur, Har Hanita 2, el-Mansura, Jatt and Khirbet Umm Tuma, whose sizes are variable but do not exceed 1 ha (TABLE 1). It is very likely that many more such villages ex-

isted but have since been covered by alluvium or hidden beneath later settlements. The availability of arable land and water resources, rather than security, appears to have been the reason for the location of these small sites, which are scattered evenly over the area. Many of them are not located on top of natural hills or on other easily defended positions. Khirbet Umm Tuma is an example of such a settlement (FIG. 5), located at the foot of an imposing hill on the northern edge of the Biq'at Shefa' Valley, a large area of prime agricultural land. The site has been heavily plowed in recent years, bringing to the surface large amounts of pottery and other materials, such as loom weights and MB sickle blades.

The lack of an urban polity in the northern part of the western Galilee during MB I, and the distance between the villages, located far from the emergent MB I polity of Acco (see below), suggests that these settlements enjoyed an independent status. Support for this hypothesis comes from the discovery of Cypriot White Painted pottery at Khirbet Umm Tuma and in the Jatt tombs (Getzov and Nagar 2002) which indicates that these villages had access to luxury imported pottery, without the interference of any central political control (Faust 2005).

Settlements at sites such as Tell el-Sumeiriya, Tel Achziv, and Tel Kabri (Kempinski, Scheftelowitz, and Oren 2002: 451) may have been even larger in size in MB I Phases 2–3, yet were unfortified and do not display any other traits, such as monumental architecture, that would indicate central power. The only non-residential site of the period was the small coastal cultic center at Nahariya, where excavations have uncovered evidence for continuous activity from the IBA to MB I (Ben-Dor 1950, 1951; Dothan 1956a,



1956b, 1993). This unique continuity may be used to support the suggested independent status of the site in MB I.

The rural picture in the northern part of the Acco plain is in direct contrast with the situation in the southern part of the plain, which was dominated in MB I by Acco—the only fortified center in the western Galilee and which has MB I Phase 2 pottery deposited in a context postdating the building of the rampart (Raban 1991: fig. 9).

Additional supporting evidence for a differentiation in settlement patterns between the southern and northern parts of the western Galilee at this time comes from the contemporary Egyptian Execration Texts. The earlier Sethe (1926) or Berlin Group is commonly dated to the early 12th Dynasty and the late 20th century B.C., while the later Posener (1940) or Brussels Group is commonly dated to the late 12th Dynasty and the 19th century B.C. (but cf. Redford 1992: 87, who dates them to the 19th and 18th centuries respectively). Enumerating the enemy sites of early Middle Kingdom Egypt, on clay bowls for the earlier group and on figurines of captives in the later group, these texts provide tantalizing clues to the settlement patterns of early Middle Bronze Age Canaan, including the Acco plain. The toponym ʿ-k-ya of the Posener Group (E 49) is very likely a reference to Acco, with a single ruler, Ṭal-ʿAmmu . Four further toponyms, nos. E11–14 in the later (Posener) Group, are widely accepted as also originating from localities within the Acco plain: ʿá-k-sap-a (E11), ʿá-š-ʿá-pa (E 12), ma-š-a-l-a (E 13), and ʿa-r-ḥ-b-u-m (E 14).

The toponym ʿá-k-sap-a (E11) is generally thought to have been vocalized as ʿAkṣapa , while ma-š-a-l-a (E 13) is seen as Mašʿla/Mishal . These appear side by side in both

the Posener Group (Helck 1971: 53; Rainey and Notley 2006: 58) and in the Topographical List of Thutmose III (no. 39 ma-ša-ʿa-la , no. 40 ʿa-k-sap ; Rainey and Notley 2006: 72). Undoubtedly, ʿá-k-sap-a of the Execration Texts is the same as ʿA-k-ša-pu in the Papyrus Anastasi I from the days of Ramses II. The latter, usually transliterated and identified as Achshaph, is listed in the Papyrus Anastasi as between Acco and Mount User (probably Mount Carmel), thus locating it within the Acco plain. Petrographic analysis of the 14th century B.C. el-Amarna Letter 223 (Goren, Finkelstein, and Naʿaman 2004: 231–233) sent by Enderuta of Achshaph to the king of Egypt has shown that the origin of the tablet is likely to be Tell Keisan in the southern Acco plain, thus significantly favouring Tell Keisan as the location of ancient Achshaph, a suggestion which was first made half a century ago by Yohanan Aharoni (1957: 121). If this is correct, then Mašʿla/Mishal is best identified with Tell el-Nahl, located NE of the modern refinery on Haifa Bay (Mazar 1974: 27; Aḥituv 1984: 143).

The toponym ʿa-r-ḥ-b-u-m (E 14), vocalized as ʿArḥabum/Rehob , was identified by Shmuel Aḥituv (1984: 163–164) as Tell Birwe or Tel Bira in the Acco plain, an important site during MB II (Peilstöcker 2004: 63). However, Kempinski (1986; Kempinski, Scheftelowitz, and Oren 2002: 452) suggested Tel Kabri in the western Galilee as the location of Middle and Late Bronze Age Rehob, bearing in mind the importance of both Kabri and ʿa-r-ḥ-b-u-m in late MB I. Finally, ʿá-š-ʿá-pa (E 12), vocalized as ʿAšʿapa , is very likely to be the same as ya-š-a-pa (e 31, f 21) of the earlier group of Execration Texts (Helck 1971: 49, 53; Aḥituv 1984: 201). The name ʿá-š-ʿá-pa may be pre-



Figure 5. Khirbet Umm Tuma from the south. Photograph by Assaf Yasur-Landau.

served to this day in Kfar Yasif, yet there are no MB remains in the immediate vicinity of the village, and indeed none have been found within a 4–5 km radius from the center of the village, despite the extensive survey and salvage excavations conducted in the vicinity (Frankel et al. 2001: 14, site 43). The fact that only Hellenistic and later remains were found may indicate that the name of the site “wandered” through the ages.

Despite the difficulties in identification, it seems that most of the sites mentioned in the Egyptian Execration Texts were located to the south and east of Acco, i.e. within the borders of the Acco polity. The lack of toponyms from the northern Acco plain, with the possible exception of Kabri, corresponds well with the lack of evidence for complexity in the area through most of the MB I period.

Late MB I and Transitional MB I–II

During late MB I and the transition to MB II, a sharp change in settlement patterns is evident, manifested by the appearance of a large fortified center at Kabri and secondary fortified centers at Tel Achziv, Tel ‘Avdon, and Mezad ‘En Tamir (FIG. 3). These indicate the swift rise of a polity centered at Kabri. The ramparts of Kabri, built during the late MB I, encircle an area of 32 ha, two or more times larger than the size of the earlier MB I settlement (Kempinski, Scheftelowitz, and Oren 2002: 451). At the same time, a very large late MB I public structure or “proto-palace” was built at the site. Belonging to Stratum 4,

this structure preceded the better-known palace of Kabri in Stratum 3 (see below).

The fortifications at the smaller site of Tel Achziv, which include a rampart encircling an area of ca. 5.5 ha (Oren 1975; Prausnitz 1975), indicate its role as a center secondary to Kabri. The fortifications may be slightly later than those at Kabri, having been built during transitional MB I–II, according to the pottery found in the core of the Achziv rampart. It is important to note that the core does not contain clear MB I ceramic forms of the Acco plain, such as the gutter-rim cooking pots which were found in a deposit sealing the rampart at Acco (Raban 1991: fig. 9) or the closed, carinated, red-slipped bowl found within the rampart at Kabri (Scheftelowitz, Kempinski, and Gershuny 2002: fig. 5.63:3). It does contain later, open, carinated bowls (Oren 1975: type 27), which are transitional MB I–II and MB II types, and jars with ribbed rims (Oren 1975: type 61), which are late MB I or transitional MB I–II types.

The steep slopes of Tel ‘Avdon, in contrast to the terraced shape so typical of unfortified sites (FIG. 8), strongly suggests the presence of Middle Bronze Age fortifications. The survey pottery from the site, including sherds that may be either transitional MB I–II or early MB II types, indicates that it was probably fortified at around the same time as Achziv.

A fort site, Mezad ‘En Tamir, was built above the ravine of Nahal Kheziv with a fine view towards the west (Getzov

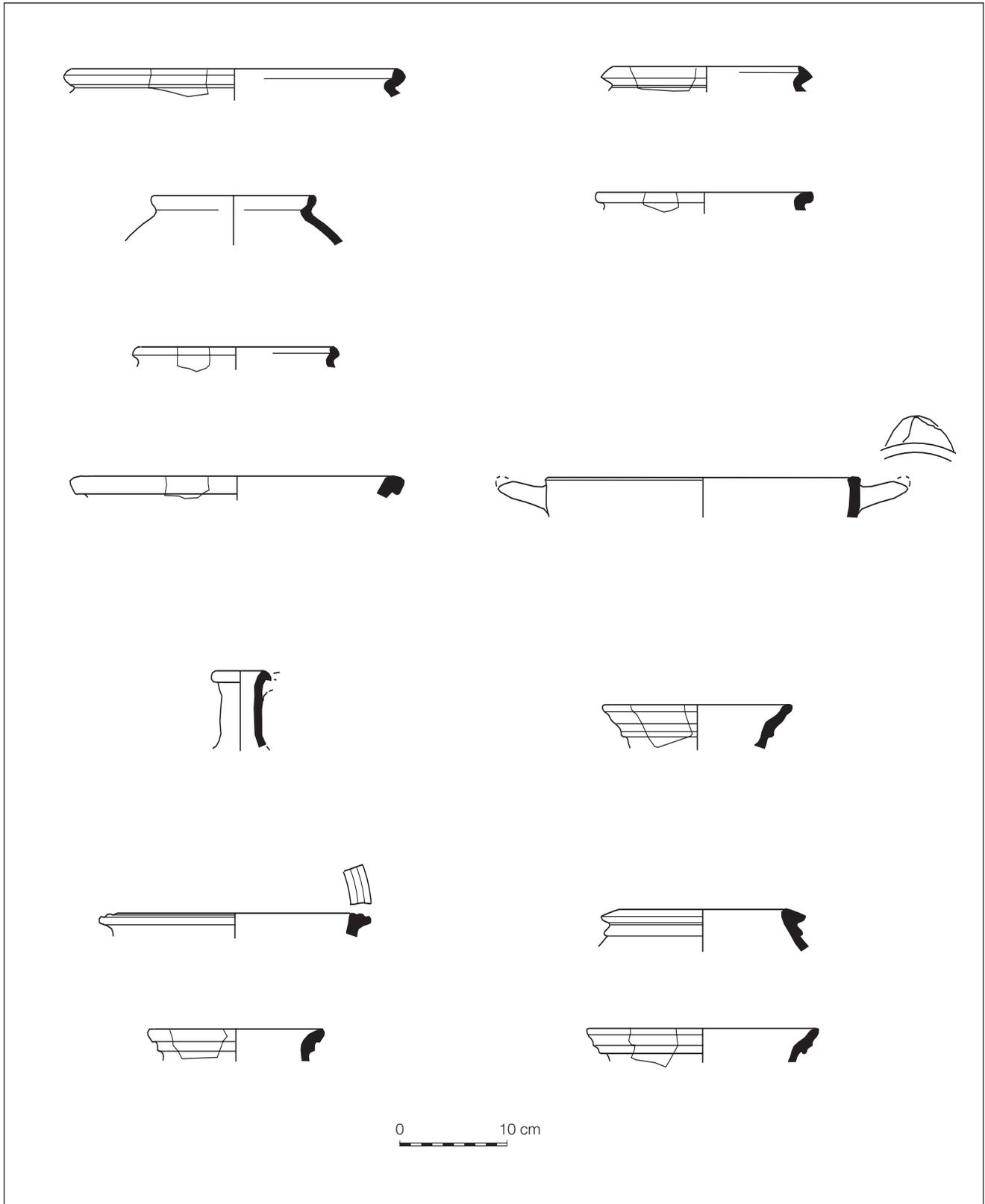


Figure 6. Pottery from Khirbet Umm Tuma. Drawings by Natalie Mesika.

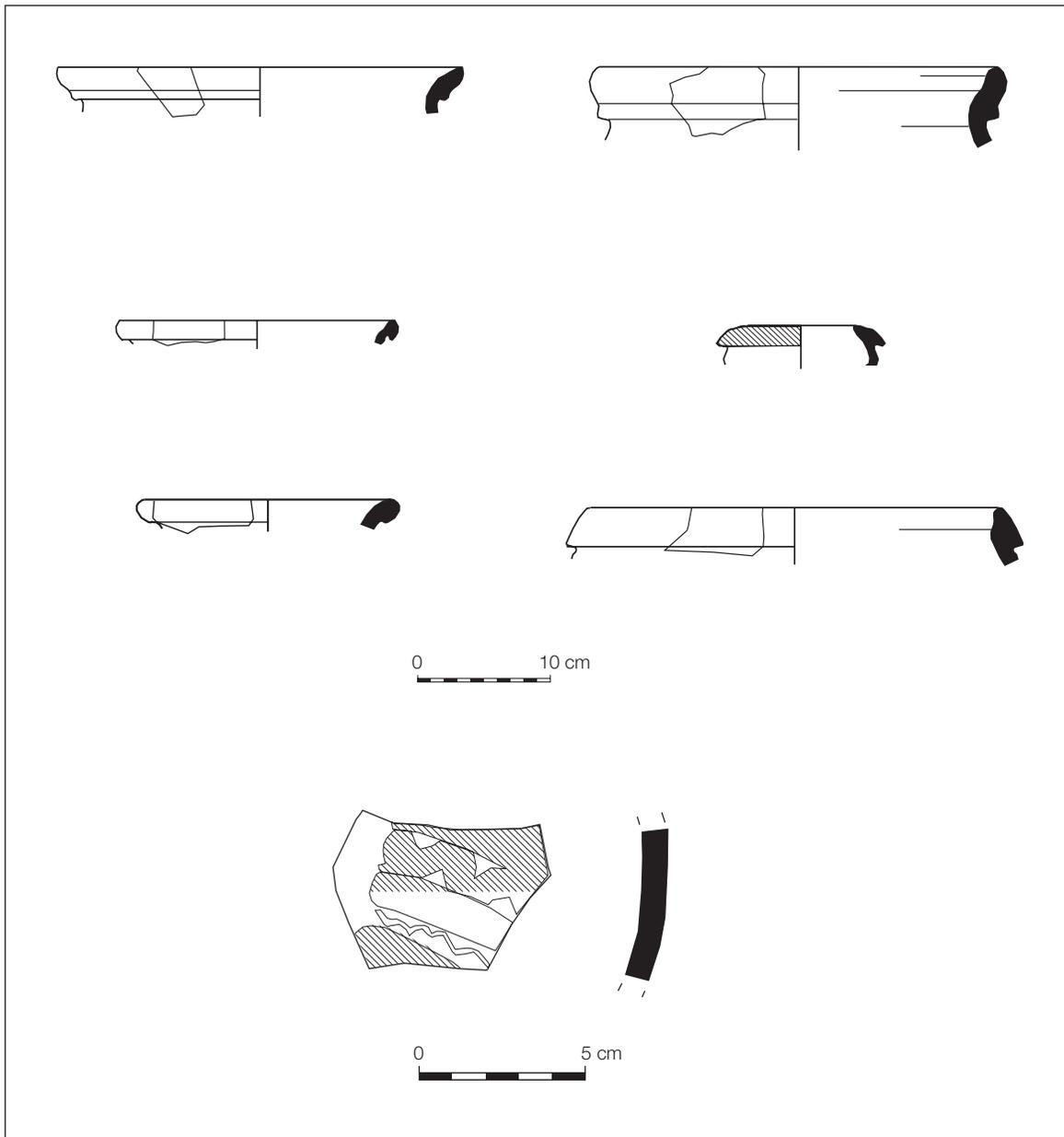


Figure 7. Pottery from Khirbet Umm Tuma. Drawings by Natalie Mesika.

1991, 2000). It has only one structure, built of masonry, consisting of a series of rooms encircling a large central court. Pottery found within the debris dates to late MB I or early MB II and indicates a short life span. Its well-planned monumental architecture and its location, without any arable agricultural land in its vicinity, attest to its specialized role as either an eastern border fort of the Kabri polity, or, as suggested by Rafi Frankel and his colleagues (2001: 103) and Peilstöcker (2004: 734), a western border fort of a polity centered at Tel Rosh.

An important trait of the transition between MB I and MB II is the depletion of the countryside. Almost all the small MB I village sites, such as Jatt, Horvat Hur, Khirbet Umm Tuma, el-Mansura and Har Hanita 2, did not continue into MB II. One example of a major lowland village that was deserted after MB I is Tell el-Sumeiriya. Located between Acco and Kabri, its desertion may have been due to a conflict between these two rising polities early in the MB II period, the time during which the large palace at Kabri was built. Similarly, the abandonment of Jatt after



Figure 8. Tel 'Avdon from the south. Photograph by Assaf Yasur-Landau.

the MB I period may have been due to its proximity to the border between Kabri and the important highland site of Mi'ilya (see below). The post-MB I settlement landscape included only hilltop sites, with newly-founded sites at Khirbet Idmith, Iqrit, Horvat Gemila, and Tel 'Avdon. This phenomenon may be indicative of deterioration in the security situation, perhaps due to aggravation caused by inter-polity competition, and the need for adequate defenses.

The new settlement pattern may also be explained as the result of the desire on the part of the emergent political power in Kabri to consolidate and strengthen its economic base by supporting building activities in nearby secondary sites such as Achziv and 'Avdon which controlled prime lowland agricultural soil. The economic and political stress related to the rapid growth of the Kabri polity was apparently so intense that it did not allow villages on the northern, eastern, and southern peripheries of the kingdom to adjust, capitulate, or offer resistance to the twin trends of urban control and loss of village independence. A similarly complex picture of various forms of dependent and independent villages is also observed in the Jordan Valley (Falconer 1995; Faust 2005).

The end of the MB I is also the period during which international trade influenced the emerging Kabri polity. Cypriot pottery was found in Domestic Area C, Stratum 4, at Kabri (Scheftelowitz, Kempinski, and Gershuny 2002: figs. 5.17, 5.18). The presence of such pottery in non-elite contexts implies that access to imported goods was not

limited to the upper echelons of society. The Nahariya sites, both temple and tell, and the Achziv sites, including the tell itself and the small anchorage at el-Buqbaq, were without doubt the points of entry for imported Cypriot pottery. The small anchorage at el-Buqbaq (FIG. 9), located south of Achziv, yielded MB I and II cooking pots (FIG. 10), while large beach-rock boulders indicate the existence of an enclosure or a fort. This may be an example of an anchorage not connected to a settlement, but rather—perhaps similar to the situation at Nahariya—found near a coastal fort or shrine.

MB II

During MB II, the Kabri polity reached its zenith, manifested in the construction of the large palace of Stratum 3. This palace was built on top of the “proto-palace” of Stratum 4 using a Syrian architectural pattern with some resemblance to the palace at Alalakh (Oren 2002: 69). Our preliminary excavations in 2005 (Cline and Yasur-Landau 2007) demonstrated that the overall area of the palace is in excess of 0.4 ha, twice as large as previously thought. The palace was adorned with Aegean-style paintings on at least one wall and floor, with the former resembling the West House fresco at Santorini (Niemeier and Niemeier 2002). As part of a major renovation to the palace, the wall fresco was removed and its fragments were deposited as a fill under a doorway (Cline and Yasur-Landau 2007).

We accept the views that Kabri played a dominant role



Figure 9. Anchorage at el-Buqbaq from the east. Photograph by Assaf Yasur-Landau.

on the Acco plain during the MB II period (Ilan 1995: 307; Maeir 2000: 43; Peilstöcker 2004: 432–433). At the same time, Acco—although perhaps subordinate to Kabri—maintained its MBI settlement hierarchy and thus remained an important regional center (Kempinski, Scheftelowitz, and Oren 2002: 451; Finkelstein 1992; Burke 2004: 215, 265).

The MB II Kabri polity is distinguished by a varied settlement landscape (FIG. 3) with several specialized settlements, perhaps reflecting the interests of the elite. Such specialized settlements include the coastal Nahariya temple. This had been founded in the MB I period as a humble cult site, originally consisting of an open air-shrine and *bamah* (a high place for cultic use), but reached its period of greatest prosperity during the MB II period, at which time it was enlarged and reconfigured as a rectangular shrine and large platform—perhaps an altar—that covered the earlier MB I remains (Dothan 1993: 1090). Overlooking the temple is the rather small fort that may have been used to protect the trading interests of the polity. In addition, the anchorage of el-Buqbaq continued to be used throughout this period.

Side by side with the floruit of Kabri during the MB II period, we note another concentration of sites in the highlands east of Kabri, on the eastern and NE slopes of Har Meiron. The largest settlement was the ca. 24 ha site of Mi'ilya, a large tell which would ultimately outlast Kabri (FIG. 3). Another important site was Horvat Fazelet, where

rich tombs were found, including one that yielded a scarab of Nefer-Hotep I of the 13th dynasty (Aviam 1989/1990: 92). Smaller sites in the area such as Tel Rosh, Horvat Gemila, Har Betah, and perhaps Khirbet el-Dabsha, are mostly on hilltops. A typical rural site founded in this period is Horvat Sirim, located on the top and slopes of a low hill (FIGS. 11, 12).

This settlement cluster with apparent internal hierarchy may support the suggestion by Frankel and his colleagues (2001: 103) that another polity existed between Kabri and Hazor. The diminutive size of Tel Rosh during MB II does not allow us to reconstruct it as the regional center of this eastern polity (*contra* Peilstöcker 2004: 437); instead, we would suggest Mi'ilya.

The destruction of Kabri and its palace at the end of MB II came at the same time as the end of some of the other settlements in the western Galilee. Yet habitation continued at several of the secondary sites, such as 'Avdon and Tel Rosh, and there was a continuity of activity in both the temple and fort of Nahariya through LB I. The demise of Kabri was accompanied by the foundation of a new settlement at Tel Emek (FIG. 1), located only 2 km SE of Kabri, which utilized some of the agricultural lands previously belonging to Kabri.

The regional vacuum was filled in part by an increase in the political power of Acco and a continuation in the habitation of the major hilltop center of Mi'ilya. Mi'ilya was active through LB I, as evident by Cypriot Bichrome and

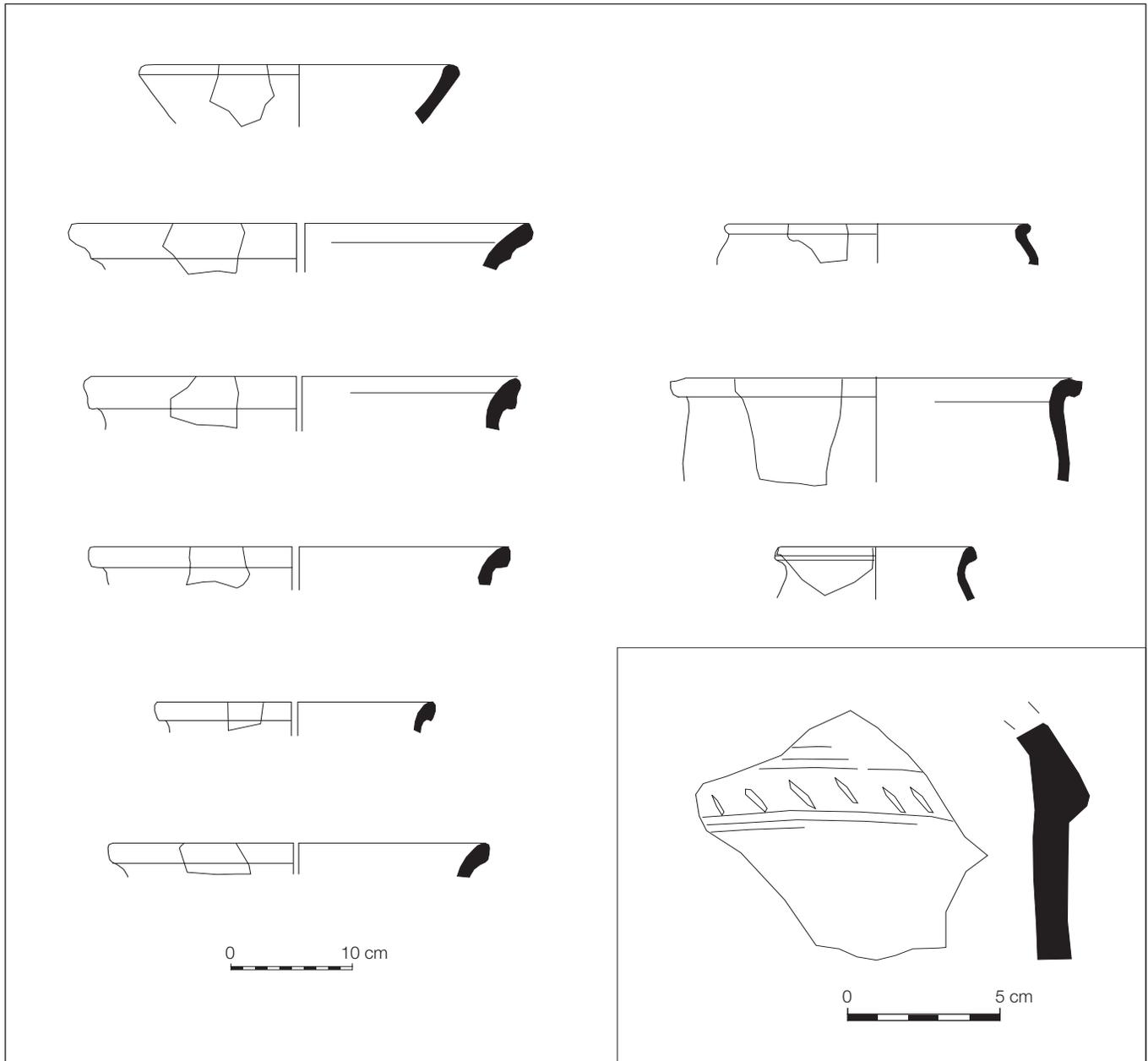


Figure 10. Pottery from el-Buqbaq. Drawings by Natalie Mesika.

Base Ring I ware found during the KAP survey (FIG. 13). The presence of these imported wares indicates a continuation in trade and international contacts in the area even after the fall of Kabri and its networks.

Land Use, Economy, and Population

A careful integration of floral and faunal remains from excavations, GIS analysis of the survey area, and environmental data allows us to make several suggestions about

the economy and population of the western Galilee during the MB. While the underlying geology of the coastal plain is mainly sand dunes, loam, and alluvium of the Kukar group, the hills in the eastern portion of our survey area are composed of Cenomanian chert and dolomite, Turonian limestone, and Senonian and Eocene chalk (Sneh 2004). Soils include *terra rossa*, brown and pale *rendzinas*, clay-laden vertisols (grumusols), alluvial deposits, and hamra soils (Survey of Israel 1985).



Figure 11. Horvat Sirim from the south. Photograph by Assaf Yasur-Landau.

Water sources in the area are limited to springs, wells, and the seasonal wadis that flow through western Galilee. Rainfall averages between 500 and 700 mm per year (Survey of Israel 1985; Frankel et al. 2001: 2). Several springs would have served the settlements and their pastoral components. For example, Kabri is built around two springs, 'Ein Giah and 'Ein Shefa (Horowitz 2002: 9), which would have provided ample water even during droughts (Tsuk 2002). Man-made wells and cisterns provided water to sites such as Horvat Fazelet and Jatt (Nimrod Getzov personal communication, 2006). In addition to springs and wells, several seasonal streams such as Nahal Bezet, Nahal Kheziv, Nahal Sha'al, Nahal Ga'aton, Nahal Beth Ha 'Emeq, and Nahal Yasaf, as well as several additional feeder streams, run through the survey area and would have been a source of water during wetter months.

The analysis of botanical and faunal remains recovered during the excavations at Tel Kabri sheds light on the food sources and the agro-pastoral economy of the western Galilee during the MB. Carbonized olive stones indicate that olives formed part of the inhabitants' diet (Lipshitz 2002: 403). Faunal analysis reveals a varied exploitation of domesticated caprovines and bovines, as well as a few wild species such as gazelle, fallow deer, and possibly wild boar (Horowitz and Mienis 2002: 398).

Sheep and goats were used primarily for secondary products, while cattle were employed for traction and transport with meat and milk being of secondary impor-

tance (Horowitz and Mienis 2002: 400). It is also likely that male animals 2–3 years old were culled for meat and that some of these may have been funerary offerings in the MB burials similar to those recovered at Hazor (Horowitz 1997: 346; Horowitz and Mienis 2002: 397–398).

Freshwater crabs, edible mollusks, and saltwater fish added variety to the diet of MB Kabri (Horowitz and Mienis 2002; Lernau 2002). Remains of Nile perch indicate trade with Egypt, although the fish may have been indigenous to Levantine coastal rivers (Lernau 2002: 425). While this marine component of the Kabri diet was probably not as common at other inland sites within the survey area, the possibility exists that MB peoples exploited every opportunity to acquire food. In addition, Aharon Horowitz (2002: 11) mentions the presence of fig trees and raspberry bushes near stream beds, both of which may have present during the MB period, but which are not represented in the archaeological finds from Tel Kabri.

If the climate of the western Galilee was more humid during the MB period than it is today, as the cores from Haifa Bay suggest (Horowitz 2002: 13), it is likely that agriculture flourished and pastoralists grazed livestock in marshy areas around the springs of western Galilee. Sheep were preferred over goats, as suggested by faunal remains at Sasa and Hazor (Horowitz 1997: 346).

Finally, regarding the estimation of past populations, there are several suggested methods employing archaeological data such as site areas, numbers, and sizes of

dwelling, artifacts such as cooking pots, food remains, and mortuary data (Hassan 1981: 66–83). Inscriptions and textual references have also been used, although critics of ancient authors' population figures have shown that they are not always trustworthy (Duncan-Jones 1963; Broshi 1979: 6). One widely used method is the calculation of the number of inhabitants according to dwelling floor space (Narroll 1962; Schacht 1981: 125) or of family size per dwelling in conjunction with all architectural characteristics (Sanders 1965: 133–137; Braidwood and Reed 1957; Charlton 1972; Shiloh 1980; Zorn 1994; but see Schloen 2001 for critiques of Shiloh 1980 and Zorn 1994). Most of these methods for estimating past population sizes, however, require extensive archaeological excavation and are therefore inapplicable for the analysis of survey data.

One of the more basic and widely applied methods of estimating past population using survey data involves multiplying the size of a site by a coefficient (usually related to persons per ha or sq km and based on ethnographic analogy). This method has been employed in previous estimates of the population of Palestine during the EB II–III, MB II, Iron Age II, and Byzantine periods (Broshi 1979; Broshi and Gophna 1984; Broshi and Gophna 1986; Broshi and Finkelstein 1992) as well as for 3rd millennium Sumer (Braidwood and Reed 1957) and for larger portions of the Eastern Mediterranean (Angel 1972). While this method is acknowledged as being well-suited for regional studies (Broshi and Finkelstein 1992; Zorn 1994), it is nonetheless hindered by factors such as the proportion of public to residential buildings (Redman and Anzalone 1980; van Beek 1982) as well as settlement type, cultural complexity, ethnic spacing standards, and environmental circumstances (Mayerson 1967: 40; Schacht 1981: 128).

Broshi and Gophna (1986: 74) consider a density coefficient of 250 persons per ha to be sufficiently accurate for MB sites; in fact, the number is perhaps a bit low for MB/LB urban communities. If we take this suggested density coefficient of 250 persons per ha and multiply it by the number of settled hectares within our survey area, we get an approximate total of 28,000–29,000 people living within the region of the kingdom of Kabri in the western Galilee during both the MB I and MB II periods. We reached these numbers by following the methodology of Broshi and Gophna (1986: 74): adding up the settled hectares from each site in each period; subtracting half of the area at the three fortified sites (Kabri, Achziv, and 'Avdon) in order to account for the area taken up by the fortifications, which results in a total of 112.93–117.93 settled ha in MB I and 118.85 settled ha in MB II; and then multiplying the result by 250 people per settled hectare.

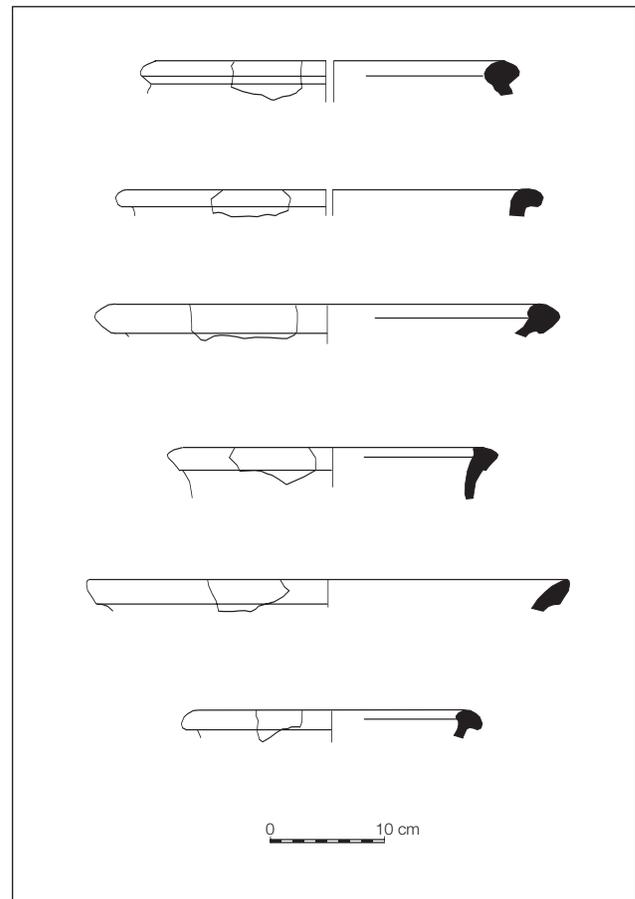


Figure 12. Pottery from Horvat Sirim. Drawings by Natalie Mesika.

This population estimate is also significant for the establishment of Kabri as an administrative center. MB II Kabri, with its 32 ha and 4,000–6,500 inhabitants, represents an agglomeration of population on a scale which, according to Steven Falconer (1995) and William Dever (1993: 100), would have been dependent on the hinterland for its food supply.

Broshi and Gophna (1986: 87) suggest a total population for Canaan of 140,000 people during the MB I and a total population of 150,000 during the MB II. If so, the estimated population of the western Galilee would have represented approximately 20% of the total. However, their estimate of overall population is probably too low, since they did not include many of the sites that were later mentioned in the survey of the Upper Galilee by Frankel and Getzov (1997; see also Frankel et al. 2001).

The scale of the estimated population for the polity of MB Kabri seems to be in accord with Ottoman population records from the countryside of the Ottoman district of Acco (Qazā of 'Akkā). The area of this district may be com-



Figure 13. Pottery from Mi'ilya. From left to right: Cypriot Base Ring I, Bichrome, Bichrome, and White Slip II. Photograph by H. Tomas.

parable to the territory of Kabri (Frankel et al. 2001: 122), since it included the entire Acco plain up to Rekhes Ha-Sulam. Although it extended more to the south than did the territory of Kabri, it did not include the foothills and the areas around Mi'ilya which are part of the MB population estimate. The district itself had a pre-industrial Mediterranean subsistence economy similar to that of the western Galilee during the MB but has the additional benefit of providing us with written records. In 1871–1872, this region included one town (Acco) and a countryside with 34 villages (Schlöch 1985: 488). An 1886 population census of this district (Schlöch 1985: 502) counted 9,800 people in the town of Acco itself and 29,760 more in the countryside, slightly higher but still quite similar to our estimate of 28,000–29,000 people for the MB Kabri polity. Similarly, an 1893 census accounted for 26,610 people in the countryside alone (Karpát 1978: 262).

Truncated Trajectories: Hazor and Kabri

If we look for a possible parallel for Kabri and the Acco plain, a similar dichotomy between a regional narrative and the trajectory of a single polity is seen in northern Israel in the Hula valley during the MB, as mentioned briefly above. While the regional history of the Hula valley gives the impression of an overall linear rise in complexity, a close examination of the specific sites shows a different picture—one of surprising variability in trajectories, many of them short and truncated, and most characterized by a fast pace of change.

To begin with, urbanization came late to the Hula valley, only towards the end of MB I—considerably later than at other lowland sites such as Megiddo and Aphek, which

were fortified during the middle of MB I. During the middle MB I period, no urban settlements existed in the Hula valley, yet a planned, fortified 0.2 ha settlement, possibly with a rectangular outline and a square corner tower, was built at Qiriat Shmona to the north of Hazor (Gadot and Yasur-Landau in press). The site was newly founded and had not developed from any preceding village at the same spot. It was destroyed soon afterwards, in the late MB I period.

At approximately the same time as this site was destroyed in late MB I, Tel Dan seems to have gone through a swift transition, developing from a village to a fortified town within a very short period. It soon became the center of an independent polity. During the MB II period it apparently suffered a decline. Its magnificent Syrian gate was blocked up and its links to trade and influence from outside the region were almost completely severed, if the finds from tombs are any indication. In fact, it is likely that the site became subordinate and was incorporated into the kingdom of Hazor (Maier 2000: 39).

Hazor itself also shows a truncated trajectory typical of very fast development. Tombs and other scattered remains indicate that an unfortified settlement was established at the site not earlier than the MB I–II transition (Maier 1997: 327; Ben-Tor 2005: 51). The fortification of the tell, complete with huge earthen ramparts and coinciding with the regional hegemony of Hazor, occurred either in the MB I–II transition (Kempinski and Dunayevski 1990; Maier 1997: 319) or very shortly afterwards at the beginning of MB II (Greenberg 2002: 36, 106; Ilan 1995: 307).

Similarly, it appears that the polity centered at Kabri

may have arisen fairly late in the MB I period, well after Acco had begun to dominate the southern part of the plain. The mention of Acco and other sites in the southern part of the plain within the Egyptian Execration Texts may give us a 19th century B.C. terminus post quem for the rise of the Kabri polity in the northern part of the same plain.

During most of the MB I period in the western Galilee, small and medium-sized agricultural communities dominated the landscape. Their position suggests a desire to maximize accessibility to agricultural lands, rather than to maximize security. This situation changes drastically in late MB I and early MB II, when Kabri developed in a very short span of time from an unfortified rural site to a very large, heavily fortified urban center, with a “proto-palace” in its midst.

Kabri’s very rapid trajectory toward urbanization is dramatically reflected in its countryside. The fortification of secondary sites such as Achziv and perhaps ‘Avdon is indicative of the swift creation of a three-tiered settlement hierarchy: the center of the polity with its palace; the secondary fortified centers; and smaller unfortified settlements. This new, organized, landscape of complexity in the northern part of the Acco plain was accompanied in early MB II by a process of nucleation and the disappearance of many small rural sites, which, as suggested by population estimates, was not accompanied by any significant increase or decrease in the overall numbers.

In our opinion, the Kabri rulership initiated this process of *synoikism*, since it resulted in greater control over the populace, facilitated the flow of agricultural produce to the growing center at Kabri, and enabled easier access to the human resources needed for large public works such as fortifications. The nucleation may well have been voluntary since, for the rural population, the move into fortified sites closer to Kabri may have been a solution to the deterioration in the security conditions due to the inter-polity rivalry with Acco.

At the same time, the ability of the rulership to exercise control and to maintain its interests outside the walls of the capital site is manifested by the creation of specialized, non-residential sites. One such site is the border fort at Mezaḏ ‘En Tamir. The will of the rulership to take over existing foci of power may also be visible in the MB II renovation and elaboration of the Nahariya temple.

Other specialized sites are connected with the trade interests of the polity. While MB I finds of Cypriot pottery in rural sites indicate that trade did not have a direct relation to the rise of Kabri, it was certainly a resource which was tapped by the ruling elite. The construction of the fort at Nahariya, and perhaps the el-Buqbaq anchorage, was very likely aimed at protecting the rulership’s trade interest.

These trade connections provided access to Aegean-style fresco art, an exotic commodity in the eastern Mediterranean, which was used to decorate at least one floor and wall of the MB II palace (Niemeier and Niemeier 2002; Cline and Yasur-Landau 2007).

The rapid rise of Kabri, like the rise of Hazor, cannot be readily explained. It is likely that in both cases competition with an already urbanized MB I center (Dan for Hazor, Acco for Kabri) sparked a very fast trajectory towards urbanization. Rather than peer-polity-interaction, apparently this uneven competition ended in a zero-sum game, with the upstart polities of Hazor and very likely Kabri reaching regional supremacy over their more well established rivals.

Thus, the creation of such a settlement hierarchy in and around Kabri during the transition between MB I and MB II may reflect a conscious effort to duplicate, in a short period of time, the administrative system of the rival polity of Acco—with its well developed three or four-tiered settlement hierarchy—which had evolved more slowly in the southern part of the Acco plain in MB I (Peilstöcker 2004: 433). The policy adopted by the Kabri elite was successful and resulted in their ability to plan and undertake an expensive and extensive building program of a new MB II palace at the site.

At the end of the MB II, however, the palace at Kabri met a fiery end, and the MB II town was either destroyed or deserted. It is interesting that the truncated trajectory and the destruction of the core of the polity—the central site of Kabri—had a rather marginal effect on the settlement patterns in the western Galilee during the LB I. Some sites were abandoned, but many others continued to be inhabited. These were mainly the former secondary centers: ‘Avdon and Achziv by the coast, the Nahariya temple and tell sites, and the highland sites of Mi’ilya and Tel Rosh, although these last two sites may possibly have been connected to another polity which lay to the east of Kabri, as mentioned above.

Such continuation at the secondary centers is hardly surprising. ‘Avdon and Achziv may have served as part of the agricultural hinterland of Kabri, and thus were self-sufficient. The demise of Kabri may even have come as a relief to some, because it meant an end to the demands of the Kabri rulership. The independent nature of the sanctuary at Nahariya, active at least from the beginning of the MB I as a regional cult center, may have helped it to last beyond the demise of the Kabri polity. Finally, the presence of LB I and LB II imports at all of these sites indicates that the collapse of the Kabri polity did not sever the region’s international trade relations with the island of Cyprus and elsewhere, and clearly indicate that international trade was never completely monopolized by the ruling elite.

Conclusions

The results of the 2005 KAP excavations at Kabri and the 2006–2007 KAP regional study in the western Galilee, when combined with previous excavations and surveys in the area, enable us to reconstruct a synthetic diachronic image for the rise and fall of the polity of Kabri during the MB period. We see two different, yet complementary, views of complexity: the regional narrative of the entire plain of Acco and the truncated trajectory of the individual polity of Kabri.

A regional narrative of the entire Acco plain shows an evolutionary rise of complexity, very similar to that described by Ilan (1995) for the entire southern Levant. There was a four-tiered settlement hierarchy present during most of MB I, with Acco being the only fortified center or polity and secondary sites existing mostly in the southern part of the plain (as also hinted at by the Execration Texts) but also at Kabri; there were also villages and farmsteads. Then, during MB II, the area reached a six-tiered settlement hierarchy, again conforming well with Ilan's (1995) model. This includes the possible ascendancy of Kabri to a regional power above Acco, which became a secondary center. There were more fortified sites (e.g., 'Avdon and Achziv in the north, Keisan and Aphek in the south); the differentiation in their size—more than ten ha for Aphek but less than three ha for 'Avdon—may well indicate two levels in the hierarchy. A fifth level may be represented by other large unfortified sites smaller than 5 ha which mainly existed in the southern part of the plain, e.g., Tel Par, Tel Dauq, and Horvat Usa (Peilstöcker 2004: 424). Within the sixth level fall the small and specialized sites such as the anchorage at el-Buqbaq, the fort at Mezad 'En Tamir, and the temple of Nahariya. Ultimately, the end of MB II took the entire system one level back, with the fall of Kabri.

A comparison of the individual site trajectories shows an astonishing contrast between the well-paced and gradual trajectory of Acco to a regional power and Kabri's truncated trajectory consisting of very rapid growth and collapse. Acco maintained its four- to five-tiered settlement system through most of MB I, into MB II, and then again into LB I. In contrast, Kabri arose from what appears to be a two-tiered settlement hierarchy in MB I to a six-tiered hierarchy in early MB II, which completely collapsed when the site was destroyed and/or abandoned at the end of MB II.

In the end, the political situation at the beginning of the Late Bronze Age in the western Galilee was much the same as it had been at the beginning of the Middle Bronze Age, with Acco reigning supreme in its pivotal role as a regional center—a position which it would continue to maintain

through the Iron Age, Hellenistic, and Roman periods and beyond, right up to the 20th century A.D. In contrast, the up-start polity of Kabri rose to prominence, temporarily superseded and eclipsed the polity of Acco, and then fell into oblivion, in a rapid and truncated trajectory lasting two centuries or less.

Acknowledgments

The Kabri Archaeological Project was undertaken with the blessing of Wolf-Dietrich Niemeier and with funding and equipment provided by the Institute of Aegean Prehistory, the Institute of Archaeology at Tel Aviv University, and The George Washington University, to all of whom we are most grateful. The 2005 excavation team included Aaron Burke of UCLA, Celia Bergoffen of the Fashion Institute of Technology (NY), Michal Bieniada of the Pultusk School of Humanities (Warsaw, Poland), and Nurith Goshen of Tel Aviv University as Area Supervisors. Additional team members included architect Beatta Jurkiewicz of the Pultusk School of Humanities and ca. 40 archaeologists and volunteers from the United States, Israel, Poland, the U.K., France, Australia, and Croatia. The 2006 and 2007 survey teams included the present authors, Nurith Goshen of Tel Aviv University, and Helena Tomas of Zagreb University.

The survey also enjoyed the generous and enthusiastic cooperation of the IAA representatives. We were frequently joined by Nimrod Getzov, IAA Counseling Archaeologist of the North, who enriched us with his decades of experience in field survey in the Galilee. IAA inspectors Yoav Lerner and Hana Abu 'Uqsa also traveled with us to several sites and provided information on unpublished excavations in the area, for which we are most grateful.

In addition to the above, we would also like to thank Rafi Frankel and Nimrod Getzov for permission to study and publish the survey collection stored at Kibbutz Bet Ha-'Emeq; Anson Rainey for reading a partial draft of this paper and commenting on historical geography; Martin Peilstöcker for referring us to his important research and for a copy of his Ph.D. dissertation; Chris Roosevelt for reading and commenting upon a rough draft of the entire paper; Nick Kardulias, and two anonymous reviewers for commenting upon a preliminary version of the submitted manuscript; Natalie Mesika and Ada Perry for drawing the pottery and Rachel Pelta and Yafit Wiener for conservation and restoration of the pottery; and Micha Roded and the inhabitants of Kibbutz Kabri and Tami Mines and Kibbutz Lohamei Hagetaot.

Assistant Professor at the University of California, Santa Cruz. His interests include the archaeology of the Aegean and the Levant, migrations, and interregional interactions. Mailing address: Department of History, UCSC, Santa Cruz, CA 95064. E-mail: asyasur@ucsc.edu

Eric H. Cline (Ph.D. 1991, University of Pennsylvania) is an Associate Professor at The George Washington University. His interests include the archaeology of the Aegean and the Levant, interregional interactions, and military history. Mailing address: Department of Classics and Semitics, 345 Phillips Hall, 801 22nd St., NW, Washington D.C. 20052. E-mail: ehcline@gwu.edu

George A. Pierce (M.Sc. 2004, University of York, U.K.) is a graduate student at the University of California, Los Angeles. His interests include the archaeology of the Levant, ancient populations and household demography, and computer applications in archaeology. Mailing address: Department of Near Eastern Languages and Cultures, Humanities Bldg. 378, 415 Portola Plaza, Los Angeles, CA 90095. E-mail: gpierce@humnet.ucla.edu

Aharoni, Yohanan

- 1957 *The Settlement of the Israelite Tribes in Upper Galilee*. Jerusalem: Hebrew University.

Ahituv, Shmuel

- 1984 *Canaanite Toponyms in Ancient Egyptian Documents*. Leiden: E.J. Brill.

Angel, J. Lawrence

- 1972 "Ecology and Population in the Eastern Mediterranean," *World Archaeology* 4: 88–105.

Aviam, Mordechai

- 1989/1990 "Fassuta," *Excavations and Surveys in Israel* 9: 92.

Banning, Edward B.

- 1996 "Highlands and Lowlands: Problems and Survey Frameworks for Rural Archaeology in the Near East," *Bulletin of the American Schools of Oriental Research* 301: 25–45.

Ben-Dor, Imanuel

- 1950 "A Middle Bronze-Age Temple at Nahariya," *Quarterly of the Department of Antiquities in Palestine* 14: 1–41.

- 1951 "A Canaanite Temple at Nahariya," *Eretz-Israel* 1: 17–28.

Ben-Tor, Amnon

- 2005 "Hazor and Chronology," *Egypt and the Levant* 14: 45–67.

Bietak, Manfred

- 2002 "Relative and Absolute Chronology of the Middle Bronze Age: Comments on the Present State of Research," in Manfred Bietak, ed., *The Middle Bronze Age in the Levant. Proceedings of an International Conference on MB IIA Ceramic Material, Vienna, 24th–26th of January 2001*. Wien: Verlag der Österreichischen Akademie der Wissenschaften, 29–42.

- 2004 "Review of Sturt W. Manning 'A Test of Time,'" *Bibliotheca Orientalis* 61/1–2: 199–222.

Braidwood, Robert J., and Charles A. Reed

- 1957 "The Achievement and Early Consequences of Food-Production: A Consideration of the Archaeological and Natural-Historical Evidence," in *Population Studies: Animal*

Ecology and Demography. Cold Spring Harbor Symposia on Quantitative Biology 22. Cold Spring Harbor, NY: Cold Spring Harbor Laboratory Press, 19–31.

Broodbank, Cyprian, and Evangelia Kiriati

- 2007 "The First 'Minoans' of Kythera Revisited: Technology, Demography, and Landscape in the Prepalatial Aegean," *American Journal of Archaeology* 111/2: 241–274.

Broshi, Magen

- 1979 "The Population of Western Palestine in the Roman-Byzantine Period," *Bulletin of American Schools of Oriental Research* 236: 1–10.

Broshi, Magen, and I. Finkelstein

- 1992 "The Population of Palestine in Iron Age II," *Bulletin of American Schools of Oriental Research* 287: 47–60.

Broshi, Magen, and Ram Gophna

- 1984 "The Settlements and Population of Palestine during the Early Bronze Age II-III," *Bulletin of American Schools of Oriental Research* 253: 41–53.

- 1986 "Middle Bronze Age II Palestine: Its Settlements and Population," *Bulletin of American Schools of Oriental Research* 261: 73–90.

Burke, Aaron A.

- 2004 *The Architecture of Defense: Fortified Settlements of the Levant during the Middle Bronze Age*. Ph.D. dissertation, The University of Chicago. Ann Arbor: University Microfilms.

Caraher, William R., Dimitri Nakassis, and David K. Pettegrew

- 2006 "Siteless Survey and Intensive Data Collection in an Artifact-rich Environment: Case Studies from the Eastern Corinthia, Greece," *Journal of Mediterranean Archaeology* 19: 7–43.

Charlton, Thomas H.

- 1972 "Population Trends in the Teotihuacán Valley, A.D. 1400–1969," *World Archaeology* 4: 106–123.

Cline, Eric H., and Assaf Yasur-Landau

- 2007 "Poetry in Motion: Canaanite Rulership and Aegean Narrative at Kabri," in Sarah P. Morris and Robert Laffineur, eds., *EPOS: Reconsidering Greek Epic and Aegean Bronze Age Archaeology. Aegaeum* 28. Liège: Université de Liège, 157–165.

Cohen, Susan

- 2002a "Middle Bronze Age IIA Ceramic Typology and Settlement in the Southern Levant," in: Manfred Bietak, ed., *The Middle Bronze Age in the Levant: Proceedings of an International Conference on MBIIA Ceramic Material, Vienna, 24th–26th of January 2001*. Wien: Verlag der Österreichischen Akademie der Wissenschaften, 113–131.

- 2002b *Canaanites, Chronologies, and Connections: The Relationship of Middle Bronze Age IIA Canaan to Middle Kingdom Egypt. Studies in the Archaeology and History of the Levant* 3. Winona Lake, IN: Eisenbrauns.

Cosmopoulos, Michael B.

- 2006 "The Political Landscape of Mycenaean States: A-pu2 and the Hither Province of Pylos," *American Journal of Archaeology* 110: 205–228.

Davis, Jack L., Susan E. Alcock, John Bennet, Yannis G. Lolos, and Cynthia W. Shelmerdine

- 1997 "The Pylos Regional Archaeological Project. Part I: Overview and the Archaeological Survey," *Hesperia* 66: 391–494.

- Dever, William G.
 1993 "The Rise of Complexity in Palestine in the Early Second Millennium B.C.," in Avraham Biran, Joseph Aviram, and Alan Paris-Shadur, eds., *Biblical Archaeology Today, 1990. Proceedings of the Second International Congress on Biblical Archaeology, Jerusalem, June 1990*. Jerusalem: Israel Exploration Society, 98–109.
- Dothan, Moshe
 1956a "The Excavations at Nahariya. Preliminary Report (Seasons 1954/55)," *Israel Exploration Journal* 6: 14–25.
 1956b "The Sacrificial Mound at Nahariya," *Eretz-Israel* 4: 42–46.
 1993 "Nahariya, the Bronze Age Temples and Bamah," *New Encyclopedia of Archaeological Excavation in the Holy Land* 3: 1090–1092.
- Duncan-Jones, Richard P.
 1963 "City Population in Roman Africa," *Journal of Roman Studies* 53: 85–90.
- Falconer, Steven E.
 1995 "Rural Responses to Early Urbanism: Bronze Age Household and Village Economy at Tell el-Hayyat, Jordan," *Journal of Field Archaeology* 22: 399–419.
- Faust, Avraham
 2005 "The Israelite Village: Cultural Conservatism and Technological Innovation," in Yoran Cohen and Assaf Yasur-Landau, eds., *Papers: The Sonia and Marco Nadler Institute of Archaeology Annual Symposium, April 29, 2004: Between East and West: Eretz Israel and the Ancient Near East. Intercultural Ties and Innovations in the Second Millennium BCE*. Tel Aviv: Emery and Claire Yass Publications in Archaeology, 204–219.
- Finkelstein, Israel
 1992 "Middle Bronze Age 'Fortifications': A Reflection of Social Organization and Political Formation," *Tel Aviv* 19 (2): 201–220.
- Finkelstein, Israel, Zvi Lederman, and Shlomo Bunimovitz
 1997 *Highlands of Many Cultures: The Southern Samaria Survey. Sonia and Marco Nadler Institute of Archaeology Monograph* 14. Tel Aviv: The Institute of Archaeology of Tel Aviv University Publications.
- Finkelstein, Israel, Baruch Halpern, Gunnar Lehmann, and H. Michael Niemann
 2006 "Chapter 40: The Megiddo Hinterland Project," in Israel Finkelstein, David Ussishkin, and Baruch Halpern, eds., *Megiddo 4: The 1998–2002 Seasons* Vol. 2. Tel Aviv: Tel Aviv University, 705–776.
- Frankel, Rafi, and Nimrod Getzov
 1997 *Archaeological Survey of Israel, Map of Akhziv (1), Map of Hanita (2)*. Jerusalem: The Israel Antiquities Authority.
- Frankel, Rafi, Nimrod Getzov, Mordechai Aviam, and Avi Degani
 2001 *Settlement Dynamics and Regional Diversity in Ancient Upper Galilee: Archaeological Survey of Upper Galilee. IAA Reports* 14. Jerusalem: Israel Antiquities Authority.
- Gadot, Yuval
 1999 "The Wadi 'Ara Pass as an International Highway during the Bronze Age, Iron Age and the Persian Period, in the Light of the Settlement Pattern," unpublished M.A. thesis, Tel Aviv University (in Hebrew).
- Gadot, Yuval and Assaf Yasur-Landau
 in press "Excavations at Qiriat Shmona (South)," *Salvage Excavations*. Tel Aviv: Institute of Archaeology, Tel Aviv University.
- Gaffney, Vincent, Zoran Stančić, and Helen Watson
 1996 "Moving from Catchments to Cognition: Tentative Steps Toward a Larger Archaeological Context for GIS," in Mark Aldenderfer and Herbert D. G. Maschner, eds., *Anthropology, Space, and Geographic Information Systems*. Oxford: Oxford University Press, 132–154.
- Garstang, John
 1922 "Field Work, 1922," *Bulletin of the British School of Archaeology in Jerusalem* 2: 9–18.
- Getzov, Nimrod
 1991 "Mezad 'En Tamir," *Excavations and Surveys in Israel* 10: 75–76.
 1995 "Tombs from the Early and Intermediate Bronze Age in Western Galilee," *Atiqot* 27: 1–18.
 2000 "A Middle Bronze Age II Fort on the Naqar Ridge in Western Galilee," *Atiqot* 39: 75–106.
- Getzov, Nimrod, and Yossi Nagar
 2002 "Middle Bronze Age II Burial Caves in Western Galilee," in Zvi Gal, ed., *Eretz Zafon: Studies in Galilean Archaeology*. Jerusalem: Israel Antiquities Authority, 1–49 (in Hebrew).
- Getzov, Nimrod, Ephraim J. Stern, and Danielle Parks
 2001 "A Burial Cave at Lower Horvat Manot: Additional Evidence for the Intermediate Bronze Age (EB IV–MB I) Settlement Pattern in the 'Akko Plain and Western Galilee." *Atiqot* 42: 133–138.
- Given, Michael, and A. Bernard Knapp
 2003 *The Sydney Cyprus Survey Project: Social Approaches to Regional Archaeological Survey. Monumenta Archaeologica* 21. Los Angeles: The Cotsen Institute of Archaeology.
- Goren, Yuval, Israel Finkelstein, and Nadav Na'aman
 2004 *Inscribed in Clay: Provenance study of the Amarna Tablets and other Ancient Near Eastern Texts. Emery and Claire Yass Publications in Archaeology*. Tel Aviv: Institute of Archaeology, Tel Aviv University.
- Greenberg, Raphael
 2002 *Early Urbanizations in the Levant. A Regional Narrative*. London and New York: Leicester University Press.
- Grootkerk, Salomon E.
 2000 *Ancient Sites in Galilee: A Toponymic Gazetteer*. Leiden: Brill.
- Hassan, Fekri
 1981 *Demographic Archaeology*. New York: Academic Press.
- Helck, Wolfgang
 1971 *Die Beziehungen Ägyptens zu Vorderasien im 3. und 2. Jahrtausend v. Chr.* 2 edn. Wiesbaden: Otto Harrassowitz.
- Horowitz, Aharon
 2002 "The Natural Environment," in Aharon Kempinski, Na'ama Scheftelowitz, and Ronit Oren, eds., *Tel Kabri: The 1986–1993 Excavations. Emery and Claire Yass Publications in Archaeology*. Tel Aviv: Institute of Archaeology, Tel Aviv University, 7–14.
- Horowitz, Liora K.
 1997 "The Animal Bone Assemblage from the Middle Bronze II Tomb (T1181, Area L) at Hazor," in Amnon Ben-Tor, Ruhama Bonfil, Yosef Garfinkel, Raphael Greenberg, Aren Maier, and Amihai Mazor, eds., *Hazor V: An Account of the Fifth Season of Excavation, 1968*. Jerusalem: The Israel Exploration Society, 344–347.

- Horowitz, Liora K., and Mienis, Henk
2002 "Archaeozoological Remains," in Aharon Kempinski, Na'ama Scheftelowitz, and Ronit Oren, eds., *Tel Kabri: The 1986-1993 Excavations. Emery and Clair Yass Publications in Archaeology*. Tel Aviv: Institute of Archaeology, Tel Aviv University, 395-408.
- Ilan, David
1995 "The Dawn of Internationalism—The Middle Bronze Age," in Thomas E. Levy, ed., *The Archaeology of Society in the Holy Land*. London and Washington: Facts on File, 297-319.
2003 "The Middle Bronze Age," in Suzanne Richard, ed., *Near Eastern Archaeology. A Reader*. Winona Lake, IN: Eisenbrauns, 325-336.
- Kardulias, P. Nicholas, and Richard W. Yerkes
2004 "World-Systems Theory and Regional Survey: The Malloura Valley Survey on Cyprus," in Effie Athanassopoulou and Luann Wandsnider, eds., *Mediterranean Archaeological Landscapes: Current Issues*. Philadelphia: University of Pennsylvania Museum of Archaeology and Anthropology, 143-164.
- Karpat, Kemal H.
1978 "Ottoman Population Records and the Census of 1881/82-1893," *International Journal of Middle East Studies* 9 (3): 23-274.
- Kempinski, Aharon
1983 *Syrien und Palästina (Kanaan) in der letzten Phase der Mittelbronze IIB Zeit (1650-1570 v.Chr.)*. Wiesbaden: Otto Harrassowitz.
1986 "Kabri and Its Environs During the Middle Bronze Age 2 (2000-1600 BCE)," in Moshe Yedaya, ed., *The Western Galilee Antiquities*. Mate Asher: Mate Asher Regional Council, 66-77.
- Kempinski, Aharon, and Dunayevski, Imanuel
1990 "The Eastern Rampart of Hazor," *Atiqot* 10: 24-28 (Hebrew).
- Kempinski, Aharon, Na'ama Scheftelowitz, and Ronit Oren, editors
2002 *Tel Kabri. The 1986-1993 Excavations. Emery and Clair Yass Publications in Archaeology*. Tel Aviv: Institute of Archaeology, Tel Aviv University.
- Kochavi, Moshe, and Esther Yadin
2002 "Typological Analysis of the MBIIA Pottery from Apeh According to its Stratigraphic Provenance," in Manfred Bietak, ed., *The Middle Bronze Age in the Levant. Proceedings of an International Conference on MBIIA Ceramic Material. Vienna 24th-26th of January 2001*. Wien: Verlag der Österreichischen Akademie der Wissenschaften, 189-225.
- Lernau, Omri
2002 "Fish Bones," in Aharon Kempinski, Na'ama Scheftelowitz, and Ronit Oren, eds., *Tel Kabri: The 1986-1993 Excavations. Emery and Clair Yass Publications in Archaeology*. Tel Aviv: Institute of Archaeology, Tel Aviv University, 409-427.
- Levy, Thomas E., and D. Alon
1987 "Settlement Patterns along the Nahal Beersheva-Lower Nahal Besor: Models of Subsistence in the Northern Negev," in Thomas E. Levy, ed., *Shiqmim I: Studies Concerning Chalcolithic Societies in the Northern Negev, Israel (1982-1984)*. BAR International Series 356. Oxford: B. A. R., 45-138.
- Lipshitz, Nili
2002 "The Paleobotanical Remains," in Aharon Kempinski, Na'ama Scheftelowitz, and Ronit Oren, eds., *Tel Kabri: The 1986-1993 Excavations. Emery and Clair Yass Publications in Archaeology*. Tel Aviv: Institute of Archaeology, Tel Aviv University, 395-408.
- Lock, Gary, and Trevor M. Harris
1996 "Danebury Revisited: An English Iron Age Hillfort in a Digital Landscape," in Mark Aldenderfer and Herbert D. G. Maschner, eds., *Anthropology, Space, and Geographic Information Systems*. Oxford: Oxford University Press, 214-240.
- MacDonald, Burton
1988 *The Wadi el Hasa Archaeological Survey 1979-1983, West Central Jordan*. Waterloo: Wilfred Laurier University.
- Maeir, Aren M.
1997 "The Material Culture of the Central and Northern Jordan Valley during the Middle Bronze Age II: Pottery and Settlement Patterns," unpublished Ph.D. dissertation, Hebrew University.
2000 "The Political and Economic Status of MB II Hazor and MB II Trade: An Inter- and Intra- regional View," *Palestine Exploration Quarterly* 132: 37-58.
- Marcus, Ezra S.
2003 "Dating the Early Middle Bronze Age in the Southern Levant: A Preliminary Comparison of Radiocarbon and Archaeo-Historical Synchronizations," in Manfred Bietak, ed., *The Synchronization of Civilizations in the Eastern Mediterranean in the Second Millennium B.C. II. Proceedings of the SCIEEM 2000 Euroconference, Haindorf, 2nd of May-7th of May 2001*. Wien: Verlag der Österreichischen Akademie der Wissenschaften, 95-110.
- Mayerson, Philip
1967 "A Note on Demography and Land Use in the Ancient Negev," *Bulletin of the American Schools of Oriental Research* 185: 39-43.
- Mazar, Benjamin
1974 *Canaan and Israel. Historical Essays*. Jerusalem: Mosad Bialik.
- Na'aman, Nadav
1982 "Eretz Israel during the Canaanite Period: The Middle Bronze Age and the Late Bronze Age (circa 2000-1200 B.C.E.)," in Israel Ef'al, ed., *The History of Eretz Israel. Introductions. The Early Periods*. Jerusalem: Keter Pub., 129-256 (in Hebrew).
- Narroll, Raoul
1962 "Floor Area and Settlement Population," *American Antiquity* 27: 587-589.
- Niemeier, Barbara and Wolf-Dietrich Niemeier
2002 "The Frescoes in the Middle Bronze Age Palace," in Aharon Kempinski, Na'ama Scheftelowitz, and Ronit Oren, eds., *Tel Kabri: The 1986-1993 Excavations. Emery and Clair Yass Publications in Archaeology*. Tel Aviv: Institute of Archaeology, Tel Aviv University, 254-285.
- Olami, Ya'aqov
1984 *Prehistoric Carmel*. Jerusalem: Israel Exploration Society.
- Oren, Eliaer D.
1975 "The Pottery from the Achzib Defense System, Area D: 1963 and 1964 Seasons," *Israel Exploration Journal* 25: 211-225.

- Oren, Ronit
 2002 "Area D," in Aharon Kempinski, Na'ama Scheftelowitz, and Ronit Oren, eds., *Tel Kabri: The 1986–1993 Excavations. Emery and Clair Yass Publications in Archaeology*. Tel Aviv: Institute of Archaeology, Tel Aviv University, 55–72.
- Parkinson, William A., and Michael Galaty
 2007 "Secondary States in Perspective: An Integrated Approach to State Formation in the Prehistoric Aegean," *American Anthropologist* 109: 113–129.
- Peilstöcker, Martin
 2004 "The Plain of Akko from the Beginning of the Early Bronze Age to the End of the Middle Bronze Age. A Historical Geography of the Plain of Akko from 3500–1550 B.C.: A Spatial Analysis," unpublished Ph.D. dissertation, Tel Aviv University, Tel Aviv.
- Posener, George
 1940 *Princes et Pays d'Asie et de Nubie*. Brussels: Fondation Égyptologique Reine Élisabeth.
- Prausnitz, Moshe W.
 1975 "The Planning of the Middle Bronze Age Town at Achzib and Its Defenses," *Israel Exploration Journal* 25: 202–210.
- Raban, Avner
 1991 "The Port City of Akko in MB II," *Michmanim* 5: 17–34.
- Rainey, Anson F., and R. Steven Notley
 2006 *The Sacred Bridge. Carta's Atlas of the Biblical World*. Jerusalem: Carta.
- Redford, Donald B.
 1992 *Egypt, Canaan, and Israel in Ancient Times*. Princeton, NJ: Princeton University Press.
- Redman, Charles L., and Ronald D. Anzalone
 1980 "Discovering Architectural Patterning at a Complex Site," *American Antiquity* 45: 284–290.
- Sanders, William T.
 1965 *The Cultural Ecology of the Teotihuacán Valley: A Preliminary Report of the Results of the Teotihuacán Valley Project*. University Park, PA: Department of Sociology and Anthropology, Pennsylvania State University.
- Schacht, Robert M.
 1981 "Estimating Past Population Trends," *Annual Review of Anthropology* 10: 119–140.
- Scheftelowitz, Na'ama
 2002 "Stratigraphy and Architecture: I: Area B," in Aharon Kempinski, Na'ama Scheftelowitz, and Ronit Oren, eds., *Tel Kabri: The 1986–1993 Excavations. Emery and Clair Yass Publications in Archaeology*. Tel Aviv: Institute of Archaeology, Tel Aviv University, 19–34.
- Scheftelowitz, Na'ama, Aharon Kempinski, and Lilly Gershuny
 2002 "Pottery: III. Middle Bronze Age," in Aharon Kempinski, Na'ama Scheftelowitz, and Ronit Oren, eds., *Tel Kabri: The 1986–1993 Excavations. Emery and Clair Yass Publications in Archaeology*. Tel Aviv: Institute of Archaeology, Tel Aviv University, 109–175.
- Schloen, J. David
 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.
- Schölch, Alexander
 1985 "The Demographic Development of Palestine 1850–1883," *International Journal of Middle East Studies* 17: 485–505.
- Sethe, Kurt
 1926 *Die Achtung feindlicher Fürsten, Völker und Dinge auf altägyptischen Tongefässscherben des Mittelen Reiches*. Berlin: Walter de Gruyter.
- Shalev, Sariel
 2002 "Metal Artifacts," in Aharon Kempinski, Na'ama Scheftelowitz, and Ronit Oren, eds., *Tel Kabri: The 1986–1993 Excavations. Emery and Clair Yass Publications in Archaeology*. Tel Aviv: Institute of Archaeology, Tel Aviv University, 307–318.
- Shiloh, Yigal
 1980 "The Population of Iron Age Palestine in the Light of a Sample Analysis of Urban Plans, Areas, and Population Density," *Bulletin of the American Schools of Oriental Research* 239: 25–35.
- Sneh, Amihai
 2004 *Geological Map Sheet I-IV: Nabariya*. Jerusalem: The Geological Survey of Israel.
- Stager, L.E.
 2002 "The MBIIA Ceramic Sequence at Tel Ashkelon and Its Implications for the 'Port Power' Model of Trade," in Manfred Bietak, ed., *The Middle Bronze Age in the Levant. Proceedings of an International Conference on MBIIA Ceramic Material. Vienna 24th–26th of January 2001*. Wien: Verlag der Österreichischen Akademie der Wissenschaften, 353–362.
- Survey of Israel
 1985 *The Atlas of Israel. Cartography, Physical, and Human Geography*. 3rd edn. Jerusalem: Survey of Israel.
- Tsuk, Tsvika
 2002 "The Springs of Kabri," in Aharon Kempinski, Na'ama Scheftelowitz, and Ronit Oren, eds., *Tel Kabri: The 1986–1993 Excavations. Emery and Clair Yass Publications in Archaeology*. Tel Aviv: Institute of Archaeology, Tel Aviv University, 15–18.
- van Beek, Gus W.
 1982 "A Population Estimate for Marib: A Contemporary Tell Village in North Yemen," *Bulletin of the American Schools of Oriental Research* 248: 61–67.
- Wheatley, David, and Mark Gillings
 2000 "Vision, Perception, and GIS: Developing Enriched Approaches to the Study of Archaeological Visibility," in Gary Lock, ed., *Beyond the Map: Archaeology and Spatial Technologies*. Amsterdam: IOS Press, 1–27.
 2002 *Spatial Technology and Archaeology: The Archaeological Applications of GIS*. London: Taylor & Francis.
- Wilkinson, Tony J., Eleanor B. Wilkinson, Jason Ur, and Mark Altaweel
 2005 "Landscape and Settlement in the Neo-Assyrian Empire," *Bulletin of the American Schools of Oriental Research* 340: 23–56.
- Yoffee, Norman
 2005 *Myths of the Archaic State. Evolution of the Earliest Cities, States, and Civilizations*. Cambridge: Cambridge University Press.
- Zarinebaf, Fariba, John Bennet, and Jack L. Davis
 2005 *A Historical and Economic Geography of Ottoman Greece: The Southwestern Morea in the 18th Century. Hesperia Supplement*

34. Princeton: American School of Classical Studies at Athens.

Zertal, Adam

1992 *The Manasseh Hill Country Survey*. Haifa: University of Haifa Press.

Zorn, Jeffrey R.

1994 "Estimating the Population Size of Ancient Settlements: Methods, Problems, Solutions, and a Case Study," *Bulletin of the American Schools of Oriental Research* 295: 31–48.