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# The Carmel Coast during the Second Part of the Late Bronze Age: A Center for Eastern Mediterranean Transshipping

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*Coastal sites in the vicinity of the Carmel Ridge were active partners in trade networks of the eastern Mediterranean during the Late Bronze Age. The three sites considered in this study are Tell Abu Hawam, Tel Akko, and Tel Nami. Archaeological remains from the three sites, especially from recent excavations, indicate that the active economic alliances were with the northern part of the eastern Mediterranean. It is suggested that these sites were utilized as anchorages serving the east-to-west routes, from the Mediterranean Sea, across Cisjordan, to Transjordan. It is also suggested that within the Late Bronze IIB period, possible geopolitical and geomorphological changes brought about changes in the utilizations of the anchorages.*

The Late Bronze Age in the area of the Levant is often depicted as a continuation of the Middle Bronze urban setting, but with a clearly diminished number and (especially) size of the settlements, as well as geographical dispersion. Written documents from this area become more abundant: the majority are Egyptian sources which refer to the towns and people in the area as dependent clients, while others originate primarily from the coastal communities of the eastern Mediterranean (Goren, Finkelstein, and Na'aman 2004). The Egyptians were involved in Canaan, but the records focus on accounts of military campaigns or correspondence. The often-cited el-Amarna letters might well be used to illustrate the spotty Egyptian control in the area—comprising modern Lebanon, Israel, and the Palestinian Authority—which, despite its small size, was quite diverse. The varied geographical character and the small size of ecological units contributed to disparity in behavior and development. The constantly changing balance of military and economic power among the Egyptians, Hittites, and others added a

parameter that renders any sweeping evaluation of the period and the general area referred to as Canaan or Palestine flawed.

In this study I would like to show that the archaeological remains at the sites in the vicinity of the Carmel Ridge do not necessarily agree with the written sources. While the Egyptian written sources suggest that these sites were under Egypt's control, the independent dynamic trade networks show a different picture. I would like to narrow the discussion to the Late Bronze II period, especially LB IIB, part of which might better be renamed as either LB IIC or even LB III—about the 13th to the beginning of the 12th century B.C.E. The sites chosen for discussion here are in close proximity to one another and were inhabited at least during part of the period (fig. 1).

The Bay of Haifa—or as it is also known, the Bay of Akko—is the only good bay along the entire coast of modern Israel. The area's anchorages/harbors along its shores depended on the rivers and their estuaries, from which routes led to the hinterland—from the west to the east, from “Sea to Desert,”



Fig. 1. Aerial photo of Carmel Ridge.

and vice versa.<sup>1</sup> Archaeological data gathered from previous excavations and those undertaken more recently show that the Carmel coast, at least during the period under discussion, served as a focus of maritime and terrestrial routes. Maritime routes are dependent on terrestrial outlets and hinterlands, which, in turn, rely on the availability of coastal installations for the propagation of successful maritime commercial activities, a combination the Carmel coast supplied to the ancient traders (Artzy 1998: 440–43). It should be emphasized that even in more recent

times, i.e., the 19th and 20th centuries, the Carmel coast, and especially the port of Haifa, has fulfilled this role. Over the centuries, the two sides of the bay were utilized intermittently. As we shall see, their economic viability was measured by their ability to be connected to the hinterland via routes crossing the ridge and/or swamps.

Three coastal sites in the vicinity of the Carmel Ridge are considered in this study: Tell Abu Hawam, Tel Akko, and Tel Nami (fig. 1). While maritime coastal shipping and tramping activities are to be expected there since these are well-situated coastal sites, the archaeological evidence from them suggests that they were not just way stations or “kiosks” connecting Egyptian trade with the north, but were also centers of transshipping for distant economic interests and not necessarily related to the trade interests of the Egyptians.

Tell Abu Hawam, a site on the estuary of the Qishon River, north of the Carmel Ridge, in the confines of modern Haifa, has been a constant source of information for archaeologists in the quest of contacts and trade, especially between the Aegean and the Levant. Its auspicious location beneath the Car-

<sup>1</sup>Bunimovitz (1995: fig. 6) proposed a spatial configuration of Late Bronze city-states based on the names of sites mentioned in the Amarna texts. He constructed this configuration with the aid of models from Renfrew and Level (1979) in which the area discussed is divided into three different centers. Thus the Carmel Ridge as well as the Akko-Haifa Bay are divided into virtual parts without consideration of the geographical data or the ecology. It should be borne in mind that economic interests of lands beyond the sea could have influenced the coastal sites and the economic hinterland, especially in this “international” period. Any changes there would have greatly influenced the area. Bunimovitz’s interest, however, lay more in the southern part of the country. This is not the place to consider the changes within the Late Bronze Age that have been addressed by others.

mel Ridge, which guards it from the prevalent south-westerly winds, enhanced its position as a harbor where maritime and terrestrial routes met. This favorable position was not limited to antiquity: there has been and is heavy modern industrial development in the area, during the British Mandate and later on for the State of Israel. Despite the location's advantages, there are also drawbacks, including an active geological fault line, swamps associated with the Qishon River, and the proximity and the sharp elevation of the Carmel Ridge in its vicinity, which hampered the land trade route and the movement of goods from the coastline to the hinterland. Today the site is located some 1.5 km from the coast due to geomorphological changes, silting caused by the Qishon River, sea sand, and industrial and urban development.

Industrial development in the early part of the 20th century provided the impetus for excavation at Tell Abu Hawam. The British Mandate Department of Antiquities carried out several salvage excavations at and around the site. R. W. Hamilton and L. Sorial directed the most notable project, in 1932–1933, and Hamilton published the results of his (at times) hurried project (Hamilton 1934; 1935). The Israel Department of Antiquities and Museums continued salvage projects, among which was one at a cemetery carried out in 1952 by E. Anati and M. Prausnitz (Anati 1959) and in 1963 on the edge of the site by E. Anati and Y. Olami (Anati 1963). J. Balensi, following her methodological study of the previous excavations by Hamilton (Balensi 1980), held a tenacious belief that parts of the site were still there to be studied (Balensi 1985; Herrera and Balensi 1985). In 1985–1986, she directed an excavation on the site (Balensi, Herrera, and Artzy 1993). It was during this period that the site and its surrounding area were formally redeclared as an antiquity site, and any further construction or damage had to be reported to the Israel Antiquities Authority; indeed, small salvage projects had to be carried out whenever any construction was planned. In 2001 and 2002, salvage excavations took place under the direction of M. Artzy (2002–2003; 2005).<sup>2</sup>

Several archaeologists and historians have addressed the date of the initial settlement of Tell Abu Hawam. Balensi dated it as early as the 16th cen-

tury B.C.E., in a not completely identifiable Level VI (Balensi 1985: 67; Balensi, Herrera, and Artzy 1993: 9), while Gershuny seemed uncertain of the date of the first settlement (1981: 37–39). Hamilton (1934: 74; 1935: 67) attributed the initial settlement to Level V, and Anati placed it at the end of the 15th, or the very first years of the 14th century B.C.E. (Anati 1963: 142–43); and Maisler (B. Mazar) placed the original habitation as late as ca. 1300 B.C.E. (1951: 25). Mazar felt that the site was established as an Egyptian naval base during the 19th Dynasty, although this was refuted by Weinstein (1980: 43–46). Balensi and Herrera felt that there was an Egyptian involvement in the establishment of the site, but it occurred during the mid-18th Dynasty (Herrera and Balensi 1985: 40–41; Balensi, Herrera, and Artzy 1993: 14).

The dating of the end of Level V, the level associated with the Late Bronze, is an issue still debated among scholars, especially with regard to Tell Abu Hawam's foreign relations. The coastal position of the site and the considerable amounts of imported wares from the eastern Mediterranean found there encouraged scholars interested in the transition of the Late Bronze to the Iron Age and the enigmatic "Sea Peoples" to utilize the site's finds in support of their arguments. Hamilton (1935: 11–12) felt that Level V ended around 1230 B.C.E., well before the final phase of the Late Bronze Age, as it is now recognized. Hamilton saw the succeeding Level IV as following without interruption. Scholars have differed on this point: Mazar (1951: 25), Anati (1970: 562), and Van Beek (1955: 38) suggested that there was a gap in occupation between Levels V and IV. The disagreements have had to do with the time of the site's abandonment following Level V and the beginning of Level IV. Balensi, who had noticed the gap and noted it in one of her publications (Herrera and Balensi 1985: 36), subsequently changed her mind and had her Level Vc fill in the gap between the two levels (Balensi, Herrera, and Artzy 1993: 9).

In 2001, renewed public works in the area of the Qishon River mandated a salvage excavation project directed by M. Artzy which focused on the north-eastern outskirts of the site. Since this area was not excavated in any of the previous projects, it contributed greatly to our understanding of the palaeo-environmental setting of the site. Six of the twelve squares, where supports of a future bridge were to be placed, contained archaeological data, and of these, only four yielded substantial remains; but the data

<sup>2</sup>The excavation was a combined project of the Recanati Institute for Maritime Studies at the University of Haifa and the Israel Antiquities Authority. Supervising the excavations alongside Artzy were S. Yanklevitz, U. Ad, and A. Abu Hamid.

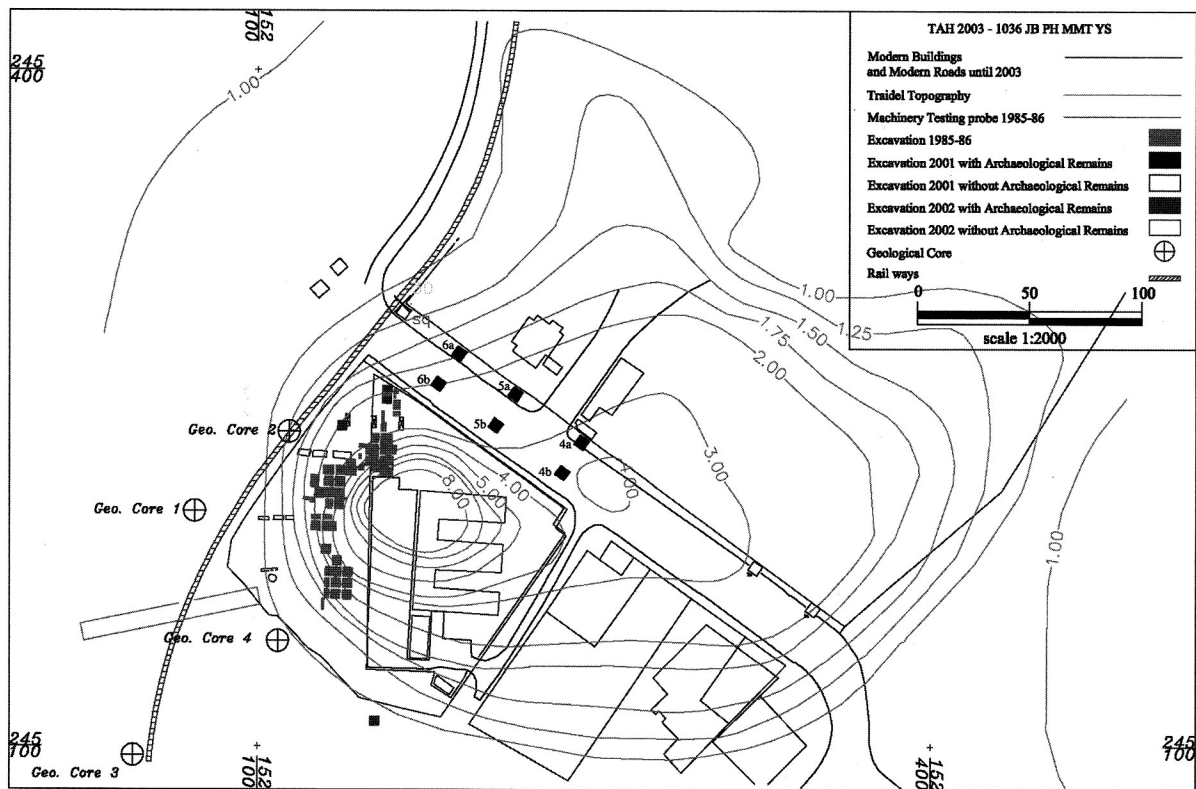


Fig. 2. Plan of 2001 excavated areas at Tell Abu Hawam.

gathered in the other squares is important for an understanding of the ancient ecology in various periods (fig. 2).

To facilitate the archaeological work, a few metal caissons were constructed to form  $5 \times 5$  m squares. The caissons were placed, when possible, to a depth of about 3.00 m below sea level. This made it feasible to excavate well below modern sea level. The sparse architectural remains were attributable to two distinct periods: Hamilton's Level II (Persian period) and Level V (Hamilton's Late Bronze). There were no remains from the intermediate periods. Part of an architectural element dated to the Late Bronze Age was noted. It might have been part of an anchorage installation: it was covered by mollusks, among them oysters that indicate the depth of the seawater. The distinction between the layers within the squares was based on the changes in soil substances attributable to flooding, sand silting, and human intervention (fig. 3).

Despite the lack of clear architectural remains, most of the abundant ceramic and faunal remains could be dated to Hamilton's general Level V. The

dating is based on the pottery stratified between the layers of river clay and sand. A large percentage of the ceramics are known imports to the area. It is likely that most of the pieces found were refuse—i.e., ceramics damaged either during transport or as the result of handling at the port were thrown out and ended up in shallows. It should be emphasized that very few sherds showed any signs of water wear, which is probably due to the speed at which they ended up in the silt after disposal. The earliest ceramics found during the 2001 salvage excavations seem to date to the end of the 15th or the early 14th century B.C.E., i.e., post-Tuthmosis III. The majority of the ceramic assemblage can be attributed to the 14th and the first half of the 13th century B.C.E. Sometime during the mid-13th century, the anchorage ceased to exist due to either geopolitical or geomorphological causes. The material remains correspond to Hamilton's Level V, and there are none that can be attributed to his Level IVb. There are also no signs of Balensi's Level VI (MB IIB–LB IA) or her Level Vc. The end of the activity at the anchorage can be dated to sometime in the mid-13th cen-

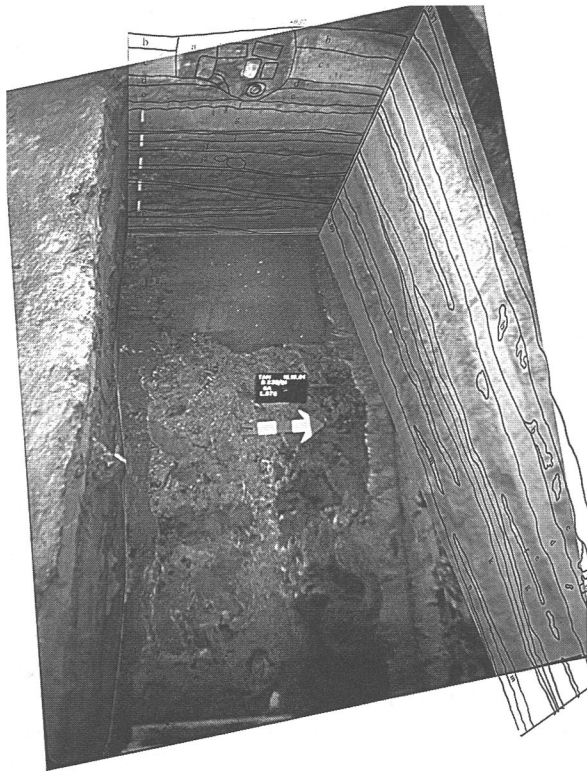


Fig. 3. Stratigraphy of Square 6a at Tell Abu Hawam.

ture B.C.E. Subsequent human activity found during the salvage project can only be dated to Hamilton's and Balensi's Level II (the Persian period).<sup>3</sup>

Tel Akko is situated north of the Naʿaman River, approximately 700 m from the sea. The earliest reference to the site comes from the Egyptian Execration Texts of the early second millennium B.C.E. Akko is represented in the el-Amarna archives of the 14th century B.C.E., although the clay origin of the three tablets from this archive that were written to the Egyptian pharaoh seem to belong to the Egyptian center at Beth Shan, as shown by the petrographic analysis (Goren, Finkelstein, and Naʿaman 2004: 239). Its prominence in trade is evidenced in the Ugaritic and Akkadian texts from Ras Shamra (Heltzer 1978: 51). Akko is also mentioned among the cities conquered by Seti I and destroyed by Ram-

<sup>3</sup>It should be emphasized that these archaeological results are true of the area excavated in the 2001 salvage operation but are not necessarily in accord with the results of earlier excavations. It seems at this juncture that the course of Level V on the tell is comparable to that noted above, although more work on the issue should be carried out.

ses II. Akko is mentioned only once in the Bible, but several times in the Assyrian annals (Dothan 1976: 1–2). It was an important center during the Persian and Hellenistic periods, at which time the inhabitants started moving toward the sea, away from the tell and near the artificial harbor. Luxury goods from the site dating to the Bronze, Iron, Persian, and Hellenistic periods, as well as inscribed sherds, mostly Greek and Phoenician ostraca, were found.

Excavations on the tell were conducted intermittently from 1973 until 1985, with a short season later on in 1989. The excavations were directed by Moshe Dothan and undertaken by faculty and students of the University of Haifa. Foreign delegations and individuals joined the excavation for some of the seasons. D. Conrad from Marburg University took upon himself an excavation on the eastern side of the tell, which was directed as a separate project. In 1999, a short educational season of excavations was undertaken on behalf of the University of Haifa, under the direction of M. Artzy and A. Killebrew.

Tel Akko, like Tell Abu Hawam, suffered from human intervention. As part of a continuously inhabited urban area, the tell was regularly mined, especially the area now known as Old Acre. These activities left the site with little architectural remains from the later periods (Iron Age to Hellenistic), but preserved numerous robber trenches, pits, and possibly fills which contained great numbers of ceramics—hence its Arabic name: Tell el-Fukhar (“mound of potsherds”).

Three areas of Tel Akko that were inhabited at the end of the Late Bronze Age are presented here. The three—Areas AB, H, and PH—are situated on different parts of the site (fig. 4), yet they have one thing in common: namely, they are situated on top of the MB IIA rampart, where remains of the late 13th/early 12th century B.C.E. were identified and excavated. The initial construction of the impressive rampart of Tel Akko has been dated to the MB IIA period (Dothan 1983: 14; 1985: 4–5; Raban 1991: 20\*–25\*), although later additions were made (Dothan 1976: 9–15; 1983: 13–14). Thus, in the three areas—AB, H, and PH—the pattern of habitation is similar during the second millennium B.C.E. (Artzy in press). The top of the rampart was not inhabited during the MB IIA period; the summit (Area AB) might have been utilized as part of an “acropolis” during the following MB IIB period and as a burial area in MB IIB and the beginning of the Late Bronze Age. In Area H, graves associated with MB IIB and the

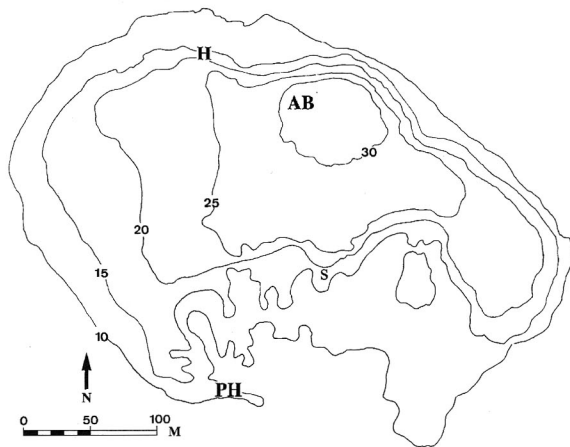


Fig. 4. Plan of areas at Tel Akko discussed in the study.

transitional Middle Bronze to Late Bronze period were noted, but no signs of habitation during these periods were discerned.<sup>4</sup> Area PH revealed no sign of habitation on the rampart during the MB IIA and IIB, or during the transitional period between the Middle and the Late Bronze Ages. Nor did it have any graves, but graves of the period were noted in close proximity, albeit in disturbed contexts. The flat top of the rampart, at least in the surroundings of Areas H, PH, and AB, was uninhabited during that period. The gap lasted during the major part of the Late Bronze Age, at least until LB II. This deficiency seems odd in view of the Egyptian sources that mention Akko during the Late Bronze Age. We had expected to find remains as befitting a site mentioned in both the Tuthmoside list of conquered cities as well as in the Amarna Letters, where it is mentioned at least 13 times. Some letters originated in Akko, or if not in the area itself, at least from the king of Akko. It is likely that the habitation areas of Late Bronze Age Akko are situated inside the ramparts, areas that have not yet been excavated.

The nature of the Late Bronze Age constructions on top of the ramparts at the end of the Late Bronze is not uniform (Artzy in press). A furnace and thick layers of ashes in Area AB indicate that it was utilized as an industrial zone. Area AB's location is well suited for industrial installations: on the summit of the tell, the prevalent wind is from the west (the sea), which would have fed the fires and

blown the fumes away from the area. Parts of crucibles with metal remains were found in the vicinity of the furnace. Area H seems to have had some importance for cultic use: an altar with engraved ships was found there (Artzy 2003: 233). The small Area PH—near Area P, where a gate was located closest to the river estuary—is assumed to have been used as the harbor in the Late Bronze Age (Raban 1991: 31\*). It seems also to have been used as a living area; its stone-lined pits, some with Cypriot wares in them, were excavated.<sup>5</sup> Among the imported ceramics are Cypriot wares, Mycenaean-style wares (especially Mycenaean IIIB), Egyptian imports, and even imports from Anatolia.

Tel Nami (Arabic Jezirat en-Nami) is located on the southern Carmel coast midway between the ancient sites of Atlit and Dor. It is part of a sunken sandstone (kurkar) ridge and forms a peninsula jutting some 150 m into the Mediterranean Sea. Its geographical position near the estuary of the Me'arot (Caves) River favored the establishment of an anchorage. The Carmel Ridge from which the river emanates is not more than 4 km east of the site, and its peculiar rock formation was and still is used as a benchmark for mariners. The rocks were also utilized for ship engravings comparable, among others, to those found on the Akko altar (Artzy 2003: 232–36). Human activity was noted in several areas: the peninsula, below the aeolic sand, barely 70 m east of the tell (Nami East), as well as about 1 km southeast of the peninsula at a site designated by the survey as 104–5.

Tel Nami was initially inhabited during the MB IIA period (Artzy and Marcus 1991; Artzy 1995: 19–22; Marcus and Artzy 1995) and then abandoned until a renewed habitation arose in the Late Bronze Age that seems to have taken place in the 13th century B.C.E. A necropolis was located in Nami East, and a sanctuary and its environs in which metal recycling took place were excavated on the peninsula. From the finds, the international connections and wealth of the inhabitants of the Nami region can be deduced (Artzy 1994; 1995; 1997). Tel Nami was destroyed and abandoned not much later than the first years of the 12th century B.C.E., contemporaneous with the destruction of Ugarit.

The polymorphic society at Tel Nami is well represented by varied objects of ritual. Cultic para-

<sup>4</sup>Area H is being prepared for publication by A. Brody and M. Artzy with a Leon Levy/Shelby White Grant for Archaeological Publications.

<sup>5</sup>Area PH is being prepared for publication by Svetlana Zagorski as part of the M.A. requirements at the University of Haifa. Area P is being prepared for publication by Ezra Marcus.



phernalia found include a seven-spouted lamp, *ker-nos*, conical cups, and pumice, as well as a conch shell (Artzy 1991: 203–7; 1995: 22–27). As at the previously discussed sites, the imported ceramics are mainly Cypriot wares, although there are Mycenaean-style wares, especially Mycenaean IIIb2 and “Myc. Simple Style” and possibly Anatolian-type wares. In the cemetery, a ring bearing a Hittite hieroglyphic inscription was found.

While the three sites are situated in close proximity to one another, the history of their settlement and the nature of their occupation are varied. The years between the 14th century and the first years of the 12th century B.C.E. span the period in which “northern” peoples, such as the Hittites, following the battles of Kadesh, Ugarit, and Cyprus (among others), played a major role in the trade relations of the eastern Mediterranean. Whoever the traders might have been, their interest was likely not exclusively in the coastal segment of the Via Maris, or only in maritime routes. They must have had a vested economic interest in the routes leading to the hinterland, to sources of specialized goods. The distance from the sea (Carmel coast) to the desert (Jordan River) is barely 70 km. We propose that they used the routes that transverse the area, via Megiddo and Beth Shean, and joined the north–south route that crossed Transjordan and connected Arabia with Syria and inner Anatolia. Connections to other sites, such as Lachish, were carried out through an interior terrestrial route.

The three sites have some specific features in common beside the fact that they were active during at least part of the Late Bronze Age in the vicinity of the Carmel Ridge. The three partook actively in the trade of the period, they were positioned near rivers that enabled their inhabitants to utilize them as anchorages before the advent of artificial harbors, and they were connected to the network of land routes in one way or another (Artzy 1998: 440–41). From Tel Akko, for instance, one can proceed to the Jezreel Valley and hence Megiddo, and from there toward the Jordan Valley via several routes, depending on the Qishon River and the swamp situation (Dorsey 1991: 78).

Tel Abu Hawam faced several geographical problems unlike those of Tel Akko. Abu Hawam’s geographical position may have been favorable as an anchorage/port, but the routes leading from it to the economic hinterland were far from ideal (as noted above). The site was located in the estuary of the Qishon River or close to it, where swamps could form and at times rendered the connections to the

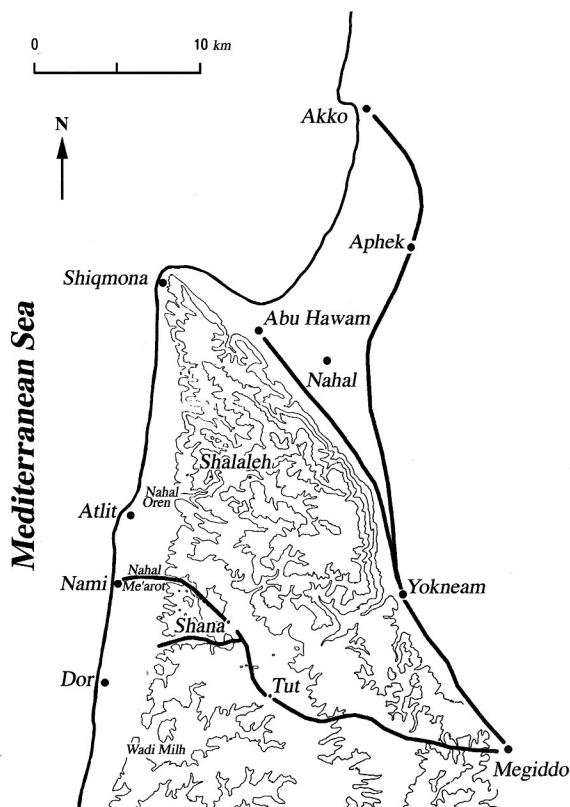


Fig. 5. Connecting routes from the Carmel coastal anchorages and Megiddo.

hinterland difficult. The steep terrain of the Carmel Ridge in the vicinity of the tell made it almost impossible to forge a route for pack animals along its northern face. The rest of the way toward Megiddo and beyond was the same as that from Tel Akko. These problems might have contributed to the fact that while Tel Abu Hawam had the advantages of a good anchorage, it was utilized during very limited periods.

Tel Nami was a small site situated on a route crossing the Carmel Ridge, most of which ran alongside the Me'arot River (Artzy 1998: 445–46). It was used in very specific periods: the MB IIA and the end of the LB IIB periods only. It connected the western coast of the Carmel Ridge to Tel Megiddo: the distance between the two areas could be traversed in less than a day’s walk, even with transport animals. The riverbed is very wide, and there are few, if any, steep segments along this route. Also, watering sources are plentiful, as is fodder for the animals. This route, coupled with a possible other entrance to the ridge, might have served the inhabitants of Tel Dor, at least during the early Iron Age (fig. 5). Tel

Nami's short life span as a harbor might have been due to the problems associated with river and sand silting and thus changes in the course of the river. In addition, the site did not have an abundant agricultural hinterland (at least part of it might have suffered from salinization).

Closer scrutiny of the three sites and their material culture during this limited period reveals differences in the type and shape of the imported ceramics. While slight divergences in the local ceramics could be attributed to regionalism, the changes in the imported ceramics could well mark geopolitical changes taking place in the lands beyond the sea. The majority of the Mycenaean-style sherds noted in the 2001 project at Tell Abu Hawam are Mycenaean IIIA/B. In a neutron activation analysis study carried out in the 1970s on the Mycenaean ware from Hamilton's excavations at Tell Abu Hawam, it was established that they originated in the Argolid (Asaro and Perlman 1973: 215–16). Further analysis of these results provided support for this view (French, Hoffmann, and Robinson 1993: 7–10). We feel that most of the samples excavated in our project (fig. 6:1–6) are comparable to ones published by Hamilton and re-studied by Balensi (1980). Most could be termed Mycenaean IIIA2, although there may be a few belonging to the Mycenaean IIIB1 group. In addition, there are "Minoan" pieces, among them stirrup jars and Oatmeal ware, assumed to have originated in Crete (possibly Kommos).

Tel Akko's "Mycenaean" wares, especially from Area PH (fig. 6:7–12), have some different attributes from those found at Tell Abu Hawam; Penelope Mountjoy determined (by observation, rather than technical analysis) that they might well have originated in Cyprus or possibly western Greece (namely, Messenia), although this is conjectural (fig. 7).<sup>6</sup> However, in excavations in the vicinity of Tel Akko, in the "Persian Garden," a cemetery with imported material goods was excavated and published (Ben-Arieh and Edelstein 1977). Among the imports found there was Mycenaean IIIA2/A1 pottery. Hankey's studies of this ware were published in her report (Hankey 1977: 45–51). A recent publication of neutron activation analysis, carried out already in the 1970s,

<sup>6</sup>Penelope Mountjoy kindly looked over some of the Mycenaean sherds from both Tell Abu Hawam and Tel Akko, area PH. Her extensive stylistic experience with Mycenaean wares has been of great help to us. We hope to have the group from Tel Akko analyzed by means of NAA and thus have it incorporated into a larger project being carried out by H. Mommsen and P. Mountjoy.

found comparable ceramics in Nichoria, Messenia, in Greece (Gunneweg and Michel 1999: 989–95).<sup>7</sup>

Some of the "Mycenaean"-type ware from Tel Nami (fig. 6:13–17)—Mycenaean IIIB2 or Simple style—have been sampled and tested by NAA and found to include pieces clearly produced from Cypriot clay. Others originated at coastal Levantine sites in the vicinity of Tel Nami.<sup>8</sup> The different origins of this ware in the three closely situated sites brings up the question of the chronology of imports, as well as the economic alliances of the Carmel coastal sites with various countries or regions of origin.

The Mycenaean-style wares at these three sites should be viewed in tandem with the other wares with which they were found. The usual Cypriot imports of White Slip, Base Ring, Monochrome, and White Shaved wares appear at all three sites, yet there are differences in the composition of the assemblages and even differences in the fabrics. Not surprisingly—although this should be emphasized—Cypriot imports, especially at Tell Abu Hawam, form by far the majority of the foreign wares found; although no ratios have been established yet, they seem to compete in numbers with the local wares. Cypriot imports include a few examples of Base Ring I and numerous specimens of Base Ring II, White Slip II, Monochrome, White Shaved juglets, and a few Red and White Lustrous and Cypriot Painted Wheel Made pieces. There are also wall brackets, all likely coming from Cyprus. Numerous diagnostic sherds of pithoi were found. Their provenience is still being investigated through petrographic analysis; although some are of Cypriot origin, other sites along the eastern Mediterranean, north of Tell Abu Hawam, are represented as well. The pithoi were obviously a part of the usual ships' load, a cargo already noted from

<sup>7</sup>Penelope Mountjoy's *Regional Mycenaean Decorated Pottery* (1999: 301–63) presents the Nichoria material as part of the "south-west Peloponnese" group of which the site of Pylos is a member. Indeed, a trail connects these two sites, a fact that should be taken into consideration. Where exactly the ware was produced, who had the possible trade connections with Akko, and who was interred in the graves near the Persian Garden should be considered in future studies. Gunneweg's idea of "discrete . . . members of *emporium* . . ." (Gunneweg and Michel 1999: 995) seems rash, but a study of possible emporia in the area during this period appears in Artzy 2005. Gunneweg and Michel (1999) rightly propose that there might be regional differences between the imports to Laish/Dan and those to the Persian Garden in Akko. But there may be differences in the chronological parameter as well. These questions are taken up in the study mentioned above.

<sup>8</sup>A study was carried out by J. Yellin and is to be published by N. Shai, J. Yellin, and M. Artzy in the final report on Tel Nami.

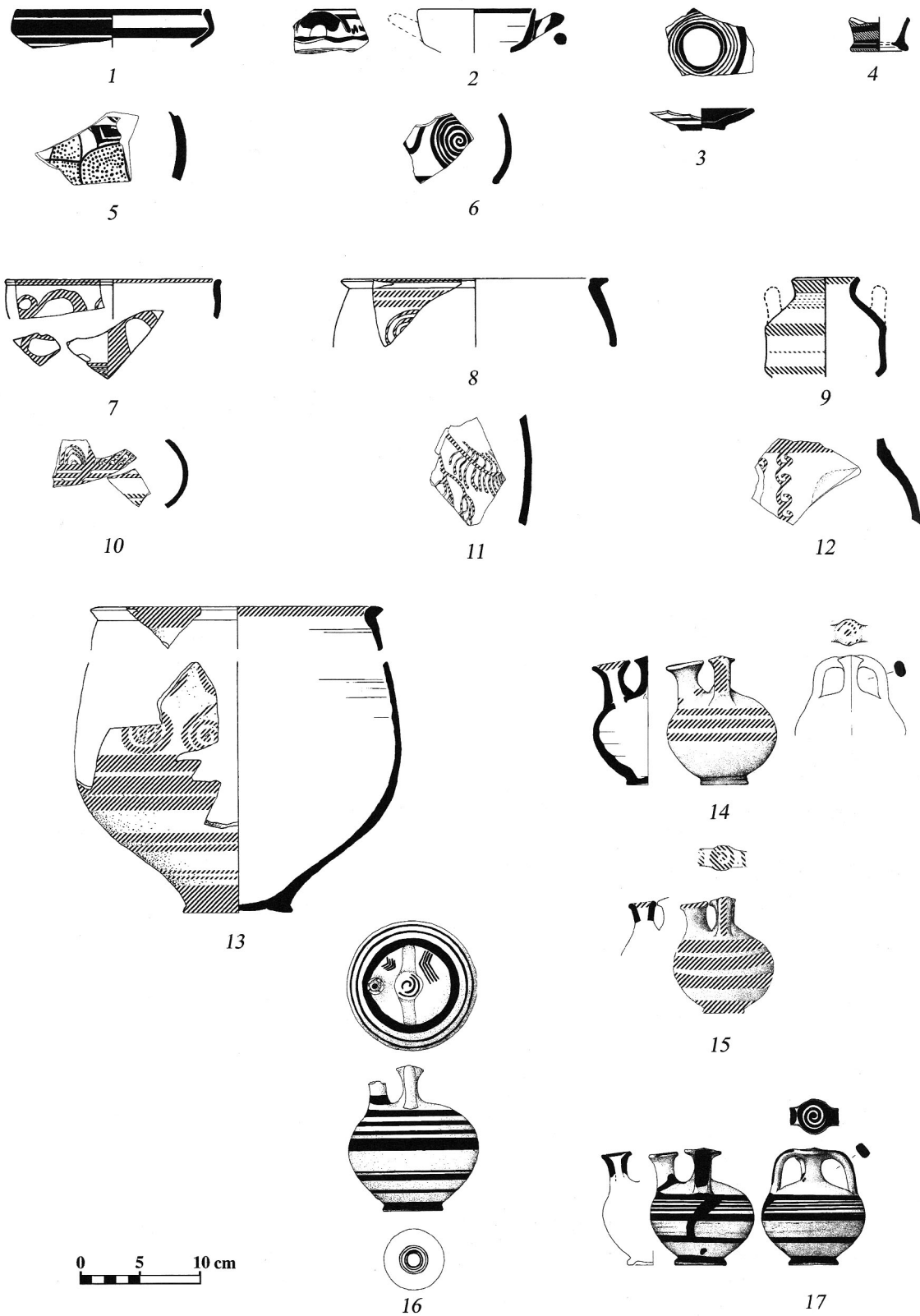
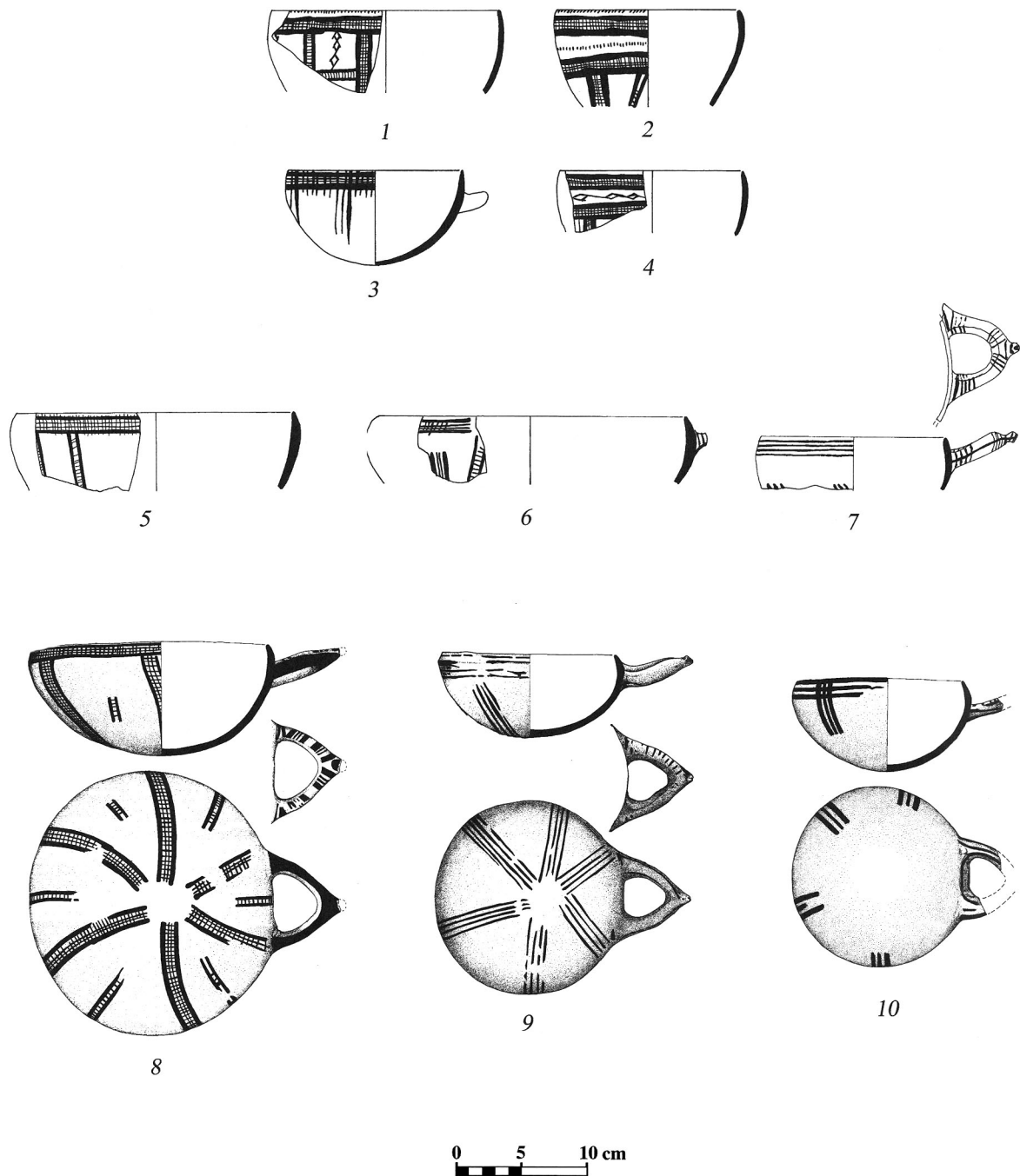


Fig. 6. Mycenaean-style wares from Abu Hawam (1-6), Akko (7-12), and Nami (13-17).



**Fig. 7.** White Slip ware from Abu Hawam (1–4), Akko (5–7), and Nami (8–10).

shipwrecks (Artzy 1994: 136–38; Pulak 1997: 242; Vagnetti 1999: 189–90; Lolos 1999: 44; 2003: 102). Examples of the Plain White Wheel Made ware of Late Bronze Cyprus were noted, some originating in the Enkomi area and southern Cyprus. It should be emphasized that some of the Cypriot vessels are so similar to the local ware that care must be taken

to distinguish among the various groups. Surprisingly, some of the shapes originally thought to be produced of Cypriot fabric, such as kraters and especially bassinets, turned out to be of local Tell Abu Hawam fabric bearing techniques used in the production of the Plain White Wheel Made ware in Cyprus. Petrographic studies of the clay are being

carried out to determine the origins of the ware since, as noted, the picture is more complex than previously assumed (fig. 8:1–10). Among cooking ware from Tell Abu Hawam, we find a staggering variety, which indicates the varied origins of the ships frequenting the international anchorage there (fig. 9:1–4). Likewise with many plain wares whose origins were in the Syro-Lebanese coast. Alongside the cooking ware were damaged utensils, from the service of the crews, thrown out upon arrival of the ships at the anchorage.

A considerable amount of information emerges from an evaluation of the comparable Cypriot imported assemblages from the three groups. Base Ring samples from several different families, according to Vaughn's excellent study (1987), were analyzed, but all subgroups from Tell Abu Hawam seem to have originated in one general area in Cyprus (fig. 10:1–5).<sup>9</sup> While the Base Ring ware at Tel Akko (fig. 10:6–10) and Tel Nami (fig. 10:11–12) has not been analyzed for its precise Cypriot origin, it seems to be of a different manufacture than the examples from Tell Abu Hawam. The numerous sherds of White Slip ware found at Tell Abu Hawam (fig. 7:1–4) are almost all of the same "classical" White Slip II family. They have not as yet been analyzed to identify their likely Cypriot origin. Those from Tel Nami are noticeably different (fig. 7:8–10), with thin, almost nonexistent slip likely from a different provenance in Cyprus than their Tell Abu Hawam counterparts. At Tel Akko, the assemblage is a mixture of the types found at Tell Abu Hawam and at Tel Nami (fig. 7:5–7).<sup>10</sup> The White Shaved family is particularly helpful in establishing the similarities and differences in various wares found at the three sites. While at Tell Abu Hawam the examples of the White Shaved ware seem to have originated in a similar area in Cyprus, if not in the same workshop (fig. 11:1–3), the ones from Tel Akko are Cypriot in origin, but might well be from a different provenance in Cyprus (fig. 11:4–5). Tel Nami's ceramics, because they include all types, are helpful in distinguishing among the assem-

blages of the three sites. While some of the juglets are of clear Cypriot origin, there are those that might well have originated in one or more centers of local manufacture, and indeed similar vessels have been found in other sites, such as Megiddo (fig. 11:6–9). The absence of Red Lustrous ware at both Tel Akko and Tel Nami is likely due to the ware's short time on the scene (it appears for a very limited time, mostly in the LB IIA period). On the other hand, it might also be attributable to regional differences in the trade networks. Tell Abu Hawam's imports include Anatolian Grey and Tan wares. The Grey ware krater can be compared to examples from Troy VIg or VIh (fig. 9:6–7): none have been so far reported from either Tel Akko or Tel Nami. Anatolian Grey ware comparable to the slightly later Troy VIIh–VIIa has been reported at Tel Miqne (Allen 1994) and Tel Lachish (Yannai 2004: 1273). While there was little Egyptian ware in the 2001 excavations at Tell Abu Hawam, a cartouche of Ramses II on a storage jar handle (fig. 12) was found alongside the wares mentioned above, which helps in the dating of at least a part of Level V and the comparable ceramics in the layer.<sup>11</sup>

All three sites shared a favorable position as an anchorage/harbor for the transshipment of goods. The possibility that some loads were intended for shipping directly to Egypt, as might be gathered from the storage jars (and their contents) from Tell Abu Hawam found in Egypt (Bourriau, Smith, and Serpico 2001: 140; Serpico et al. 2003), should, however, not be overlooked. Serpico et al. (2003: 368–69) recently suggested that the incense-bearing Canaanite jars found in the Ulu Burun shipwreck originated on the Carmel coast and are similar to those from Tell Abu Hawam and Tel Nami. This does not negate the possibility that some shipping from Cyprus directly to Egypt, using the currents, was also taking place at this particular time, as might be inferred from the finds at Marsa Matruh (White 2003) and Umm Rakkham (Snape 2003: 63–70). S. Sherratt proposed the idea that a commercial center for maritime activities was based in Cyprus, which developed a "long-term marketing strategy" to dominate the trade in the coastal eastern Mediterranean (Sherratt 1994: 59–107). The growing complexity in the manipulation of

<sup>9</sup>This is part of a larger study which is being carried out currently. Several students are now involved in studies of the different wares from Tell Abu Hawam, and I would like to thank them all. O. Barkai worked on the Base Ring ware, D. Golan on the Monochrome ware, S. Yanklevitz on the Plain White Wheel Made ware, and S. Golay on the cooking pots.

<sup>10</sup>It should come as no surprise that in the assemblages of Mycenaean-type and Cypriot wares at Ras Shamra-Ugarit, most, if not all, of the variations appear.

<sup>11</sup>Faunal remains include mollusks, among which are numerous crushed Murex shells as well as imported shells from Egypt (Baruch et al. 2005). Numerous fish and animal bones, as well as turtle shells, as befitting the marshy environment, were found at Abu Hawam.

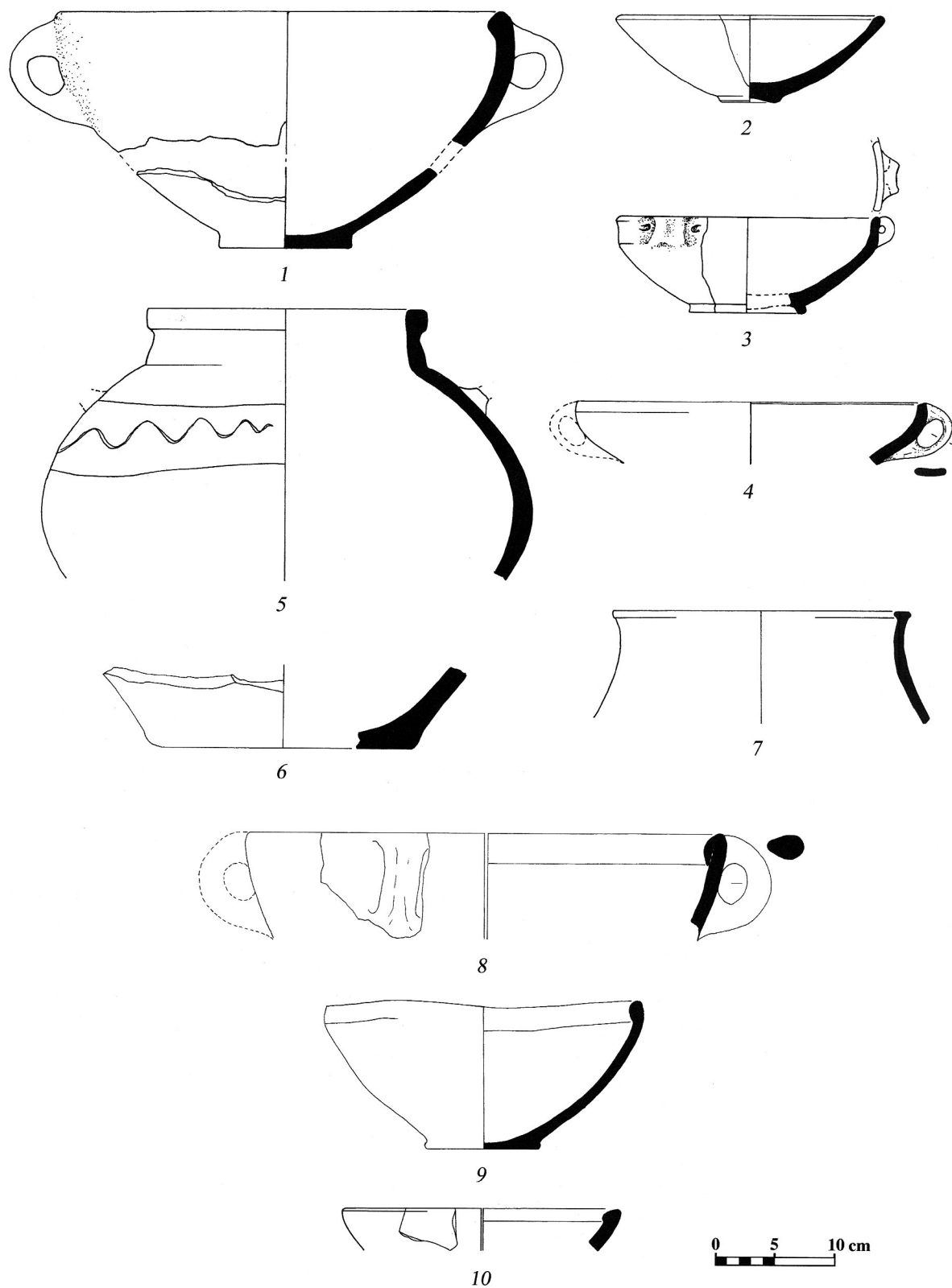


Fig. 8. Plain White Wheel Made ware from Abu Hawam.

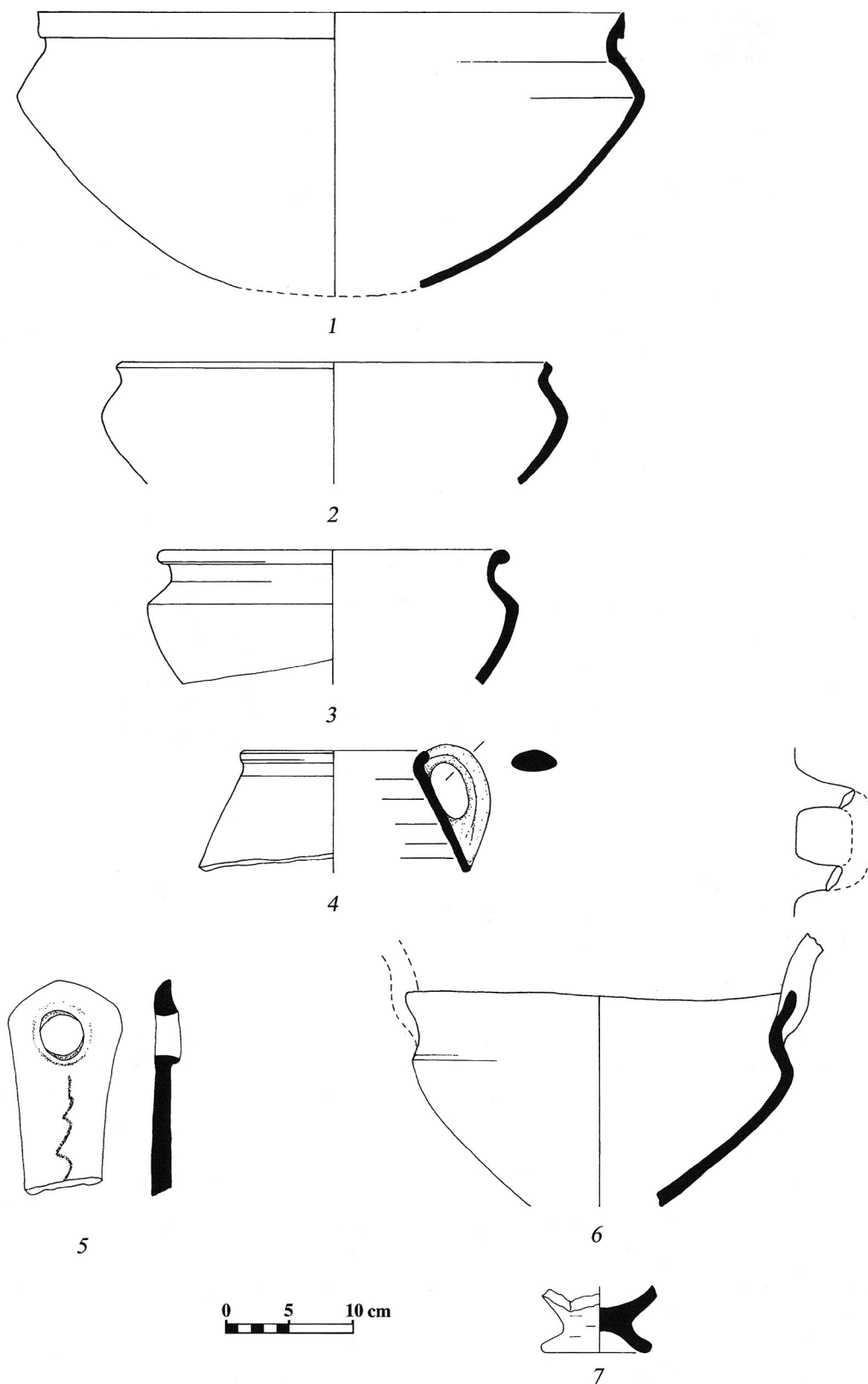


Fig. 9. Cooking pots (1–4), wall bracket (5), and Anatolian Grey ware (6–7) from Abu Hawam.

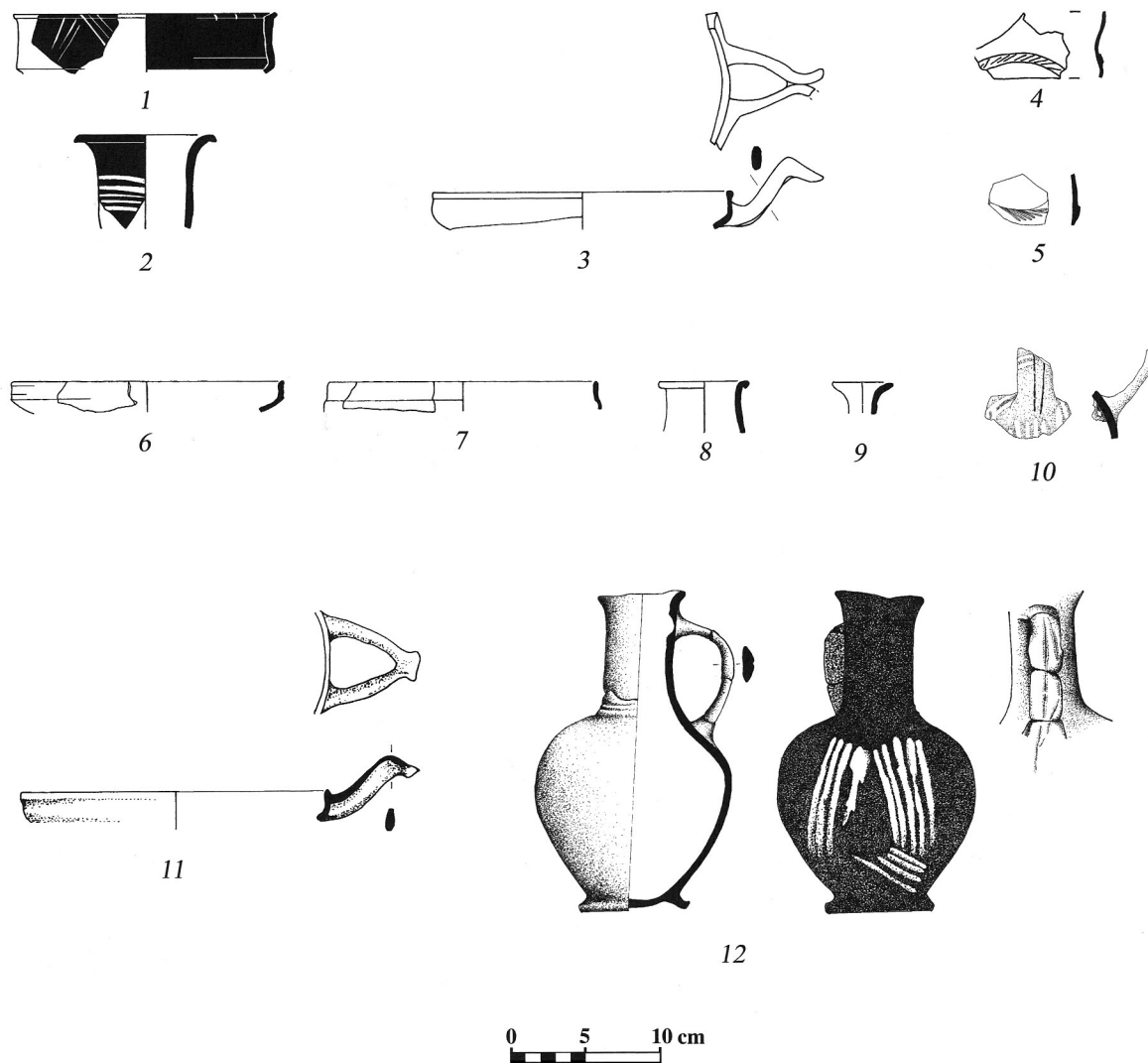


Fig. 10. Base Ring ware from Abu Hawam (1–5), Akko (6–10), and Nami (11–12).

materials (Sherratt and Sherratt 2001: 15–38) certainly seems likely in view of the finds along the Carmel Ridge and its economic hinterland.<sup>12</sup> Natu-

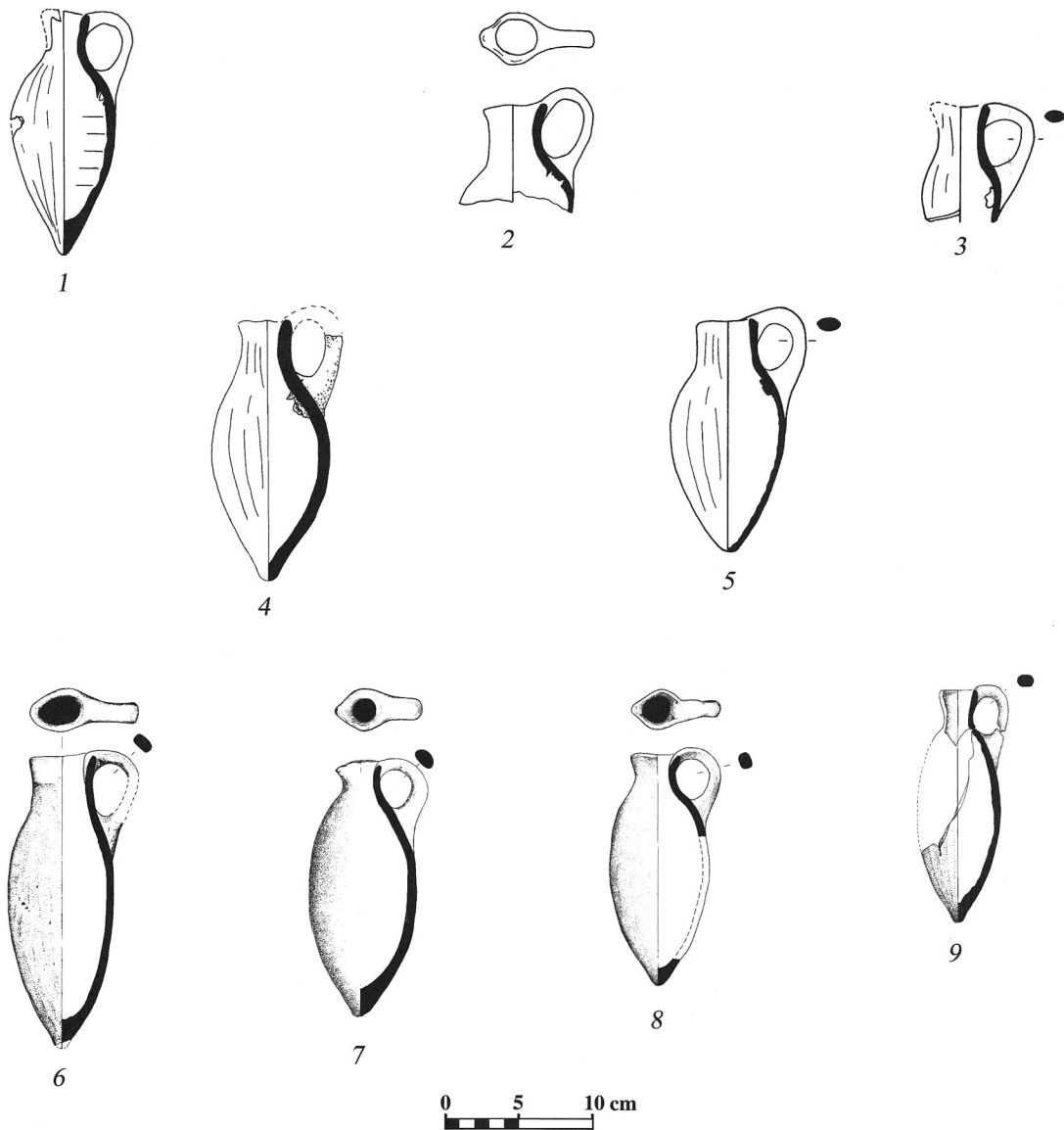
<sup>12</sup>We should take into consideration the enigmatic (for the period) site of Tel Shiqmona situated barely 5 km along the coast south of Tell Abu Hawam, below the “nose” of the Carmel. Although poorly published, some Mycenaean IIIA material was found there, as were Cypriot imports. Shiqmona has no discernible anchorage/harbor and no connection by land to the hinterland. It could well have served as an agricultural center funneling produce from the Western Carmel Ridge, much like Castra in a much later period (Hadad 2000). The produce could well have been olive oil and wine, which was then distributed to clientele far from the harbor/anchorage of Tell Abu Hawam. Tel Shiqmona in the Late Bronze Age is included in the larger study being undertaken now.

rally, the ceramics are but a sign of the network, and the main loads traded should be looked for elsewhere and studied further. The possibility is that we are seeing signs of the Cypriot economic expansion, not only to the east (Transjordan) and southeast (Egypt), but also to the west, to Sardinia and possibly beyond, via the southwestern part of the Peloponnese (Niochoria and especially Pylos).<sup>13</sup>

The Sherratts’ hypothesis that the Cypriots started and eventually took over the production of their own

<sup>13</sup>A study is now being carried out on metals found at Hama and Jat and metal objects from the two. The results are to be published shortly by the author. For previous work carried out on metals from these two sites, see Artzy 2001.





**Fig. 11.** White Shaved juglets from Abu Hawam (1–3), Akko (4–5), and Nami (6–9).

“Mycenaean” ware (Sherratt and Sherratt 2001: 29) might well be revealed in the changes discernible in the types of imports found in these coastal sites. The NAA results of some of the “Mycenaean wares” found in the Levant certainly support this assumption. We might actually be able to follow the chronological changes by comparing the “Mycenaean” wares from three sites that served as anchorages/harbors situated near the Carmel Ridge and serving north–south maritime and east–west terrestrial routes during the second part of the Late Bronze Age.

By following the trail of the regionally restricted ceramics, we may be able to follow the sailing routes of the time. It appears likely that ships did sail east from Cyprus to the coast (possibly to Ras Shamra), and then continued south along the coast. Once they arrived on the Carmel coast, especially in the case of Tell Abu Hawam, they disposed of goods that were then traded and transshipped further via the terrestrial routes, probably to Megiddo, possibly north to Hazor, south to Lachish, and to other sites west of and across the Jordan River to the emerging Late



Fig. 12. Cartouche (nomen) of Ramses II on a storage jar handle from Abu Hawam.

Bronze sites in Transjordan. There also might have been an economic interest in the Carmel coast itself, for which Tel Nami and especially Tell Abu Hawam served as ports. The western slopes of the Carmel could have supplied agricultural goods, with the site of Shiqmona, on the tip of the Carmel, serving as an agricultural center, much like Castra in later times (Hadad 2000).<sup>14</sup> Canaanite jars, originating in the area of the Carmel, at Tell Abu Hawam or Tel Nami, contained *Pistacia* spp. resin, incense (Egyptian *sntr*), honey, and even oil (Serpico et al. 2003: 373). Such wealthy material remains at Late Bronze Age Tel Nami have in the past been attributed to the trade in incense, especially *sntr* and *Pistacia* spp. (Artzy 1994). The establishment of “economic alliances” with diverse centers, be they Ugarit or other sites along the coast, with connections to Cypriot counterparts whose commercial interests were similar, was of the highest importance for the economic well-being and survival of these small sites. Tel Akko, due to its location, served as a center for a wider hinterland and, with its wider political terrestrial interests, followed a different pattern. Many of the Cypriot fine wares, such as Base Ring and White Slip wares, did not necessarily constitute the main cargo of the ships but were part of the “sailors’ trade” (Artzy 2001: 112); still, the fact remains that the goods originated in Cyprus.

The utilization of these three sites in different time periods has to do with the dissimilarity in their

<sup>14</sup>Shiqmona does not have a good harbor, and the distance to Tell Abu Hawam is a mere 4 km.

agricultural hinterlands and reasonable access to the site from terrestrial routes. The immediate hinterland of the Tel Nami area, for instance, has a limited agricultural area. Geographically it is positioned near the Carmel Ridge and *kurkar* ridges which cause troughs; the river and sand create swamps; the high groundwater triggers salinization; and the winds from the sea, especially northern gales, make it rather unpleasant for settlement, especially on the peninsula and its environs. Tell Abu Hawam also has problems vis-à-vis the relationship to terrestrial routes due to swamps, the Carmel Ridge, and its position on a geological fault line. Tel Akko was the one site with a considerable agricultural hinterland and acceptable anchorage facilities, and it was the one site to have been continuously inhabited until the Hellenistic period—although, according to data gathered so far, its position as a trading center was not a stable one.

Considering the assemblage found in the 2001 season at Tell Abu Hawam, it seems that what we think was an anchorage went out of use in the 13th century. Following that, or congruent with the last phase, the maritime trade center moved to the anchorage harbor at Tel Akko, to the Na’aman River. Concurrently, during the last part of the Late Bronze Age, the anchorage of Tel Nami was utilized. The material goods encountered in these Carmel Ridge sites in the second part of the Late Bronze Age show that these anchorages/harbors were active participants, at least in part, as transshipment centers of the trade networks during this period, especially with trading partners from the northern part of the eastern Mediterranean.

Geopolitical alterations in distant places could potentially transform anchorage/harbor transshipment sites such as those in the Carmel Ridge, as well as their trade-reliant clients, in a short period of time. Changes in the importance of sites, in a limited geographical area, is not unique to this area, as has been so well shown by the study of the Amurru sites in Lebanon (Goren, Finkelstein, and Na’aman 2003). Changes in the prominence of the anchorages in the Carmel coast could be attributed to “horizontal,” concurrent local alteration and contacts as well as to “vertical,” time-related developments, or both. A future, wider study would have to take into consideration other sites in the vicinity of the Carmel Ridge as well as those connected via the maritime and terrestrial routes as a part of the Late Bronze Age commercial network.

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This paper was written more than two years ago, and since that time, much more data has been gathered, especially from the 2001/2002 excavation at Tell Abu Hawam, although these do not change the conclusions.

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