

# The Central Levantine Economic System at the End of the Late Bronze Age (1350-1230 BCE): The Case of the Lower Qishon

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## **Abstract**

During the Late Bronze Age (LBA ca. 1550-1200 BCE), the Central Levant was divided into small states. Most scholars believe that these petite states were organized according to the political and economic model of the city-state, like that of Early Dynastic Mesopotamia (ca. 2900-2350 BCE) or Classical Greece (ca. 499-336 BCE). In the last ten years, however, it has been proposed that the economic system of the area matched better the harbor power model, a variation of the dendritic system model, a model based on the trade connections between harbors, inland sites, and foreign commercial powers. Through this dissertation, I explore the economic system of the Central Levant in the light of new archaeological evidence from the Lower Qishon Outlet, proposing a variation of the dendritic system model for the economic reality of the Central Levant during the LBA.

## **Resumen**

Durante la Edad del Bronce Tardío (1550-1200 a.C.), el Levante Central estaba dividido en pequeños estados. La mayoría de los estudiosos creen que estos estados se organizaban de acuerdo con el modelo político y económico de la ciudad-estado, similar al del periodo dinástico Mesopotámico (ca. 2900-2350 a. C.) o al de la Grecia clásica (ca. 499-336 a. C.). En los últimos diez años, se ha propuesto que el sistema económico de la zona se asemejaba más al modelo de poder de puerto. Una variación del modelo de sistemas dendríticos que está basado en las interacciones comerciales entre puertos, yacimientos interiores y potencias económicas extranjeras. Esta tesis doctoral explora el sistema económico del Levante Central a la luz de nuevas evidencias arqueológicas descubiertas en los asentamientos de la cuenca baja del río Qishon, proponiendo un nuevo estándar basado en el modelo de sistemas dendríticos, mejor ajustado a la realidad económica del Bronce Tardío.



## **Preface**

I have been interested in the Archaeology of the Ancient Near East since I visited the British Museum for the first time when I was 14 years old. My interest in the Levantine archaeology started during my undergraduate years, after taking a course in Mediterranean archaeology given by Dr. Maria Luisa Ruiz-Galvez. I began to study the anthropological theory during my master's thesis under the direction of Prof. Michal Artzy and Dr. Gil Gambash, in the Dept. of Maritime Civilization, at the University of Haifa.

This Ph. D is the result of the logical evolution of my interests and academic career. Its originality resides in the study of the areas situated north and south of Rosh Ha-Niqra as a whole. The example of a dendritic system model to LBA Lower Qishon Outlet might well satisfy an economic model for adaptation in other areas in the Coastal Levant.





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# Abbreviations

## Periods

BA	Bronze Age
EBA	Early Bronze Age
MBA	Middle Bronze Age
LBA	Late Bronze Age
IA	Iron Age

## Ware types

BR	Base Ring
Mch	Monochrome
PWWM	Plain White Wheel Made
WS	White Slip
WSh	White Shaved

## Ceramic Forms

B	Bowl
Bs	Basin/Bassinet
CP	Cooking Pot
Jg	Jug
Jr	Jar
K	Krater
LrB	Large Bowl
PT	<i>Pithos</i>

## Others

BCE	Before Christian Era
CE	Christian Era
EA	El Amarna Letter
IAA	Israel Antiquities Authority
IDAM	Israel Department of Antiquities and Museums
NAA	Neutron Activation Analysis
PhD	Philosophy Doctor
SPA	Southern Plain of Akko
TAH	Tell Abu Hawam

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# 1. INTRODUCTION

## 1.1. Introduction

This dissertation aims to create a model that explains how the economic system worked in the Levant during the Late Bronze Age (LBA), and then to apply the model to the specific case of the Lower Qishon riverbed. To do so, I present an overall geographical and material analysis of sites along the Levant, a theoretical discussion, and an in-depth geographical and ceramic analysis of various sites situated on the Southern Akko/Haifa Bay and the northern part of the Jezreel Valley.

## 1.2. Chronological Framework

In this PhD., I will follow the standard Levantine chronology. For the Late Bronze Age (LBA) (ca. 1550-1180 BCE), the focus of this thesis, I will follow the modified chronology proposed by José M. Martín and Michal Artzy (2018). Within the LBA, the thesis will mainly focus on the second half of the LBA IIA (ca. 1350-1300 BCE) and the LBA IIB (ca. 1300-1225 BCE), a ca. 125 years period that corresponds with the usage of the anchorage of Tell Abu Hawam (TAH) and with the last century of existence of Ugarit (Artzy 2006; 2013; Martín and Artzy 2018). In historical chronology, this archaeological period approximately corresponds with the late 18<sup>th</sup> and early 19<sup>th</sup> Egyptian dynasties.



Neolithic	Pre-pottery Neolithic	ca. 8300 – 5500 BCE
	Pottery Neolithic	ca. 5500 – 4500 BCE
Chalcolithic	Early Chalcolithic	ca. 4500 – 4000 BCE
	Late Chalcolithic	ca. 4000 – 3300 BCE
Early Bronze Age (EBA)	Early Bronze Age I	ca. 3300 – 3000 BCE
	Early Bronze Age II	ca. 3000 – 2700 BCE
	Early Bronze Age III	ca. 2700 – 2200 BCE
Intermediate Bronze Age (IBA)		ca. 2200 – 2000 BCE
Middle Bronze Age (MBA)	Middle Bronze Age I	ca. 2000 – 1750 BCE
	Middle Bronze Age II	ca. 1750 – 1650 BCE
	Middle Bronze Age III	ca. 1650 – 1550 BCE
Late Bronze Age (LBA)	Late Bronze Age I	ca. 1550 – 1400 BCE
	Late Bronze Age II A	ca. 1400 – 1300 BCE
	Late Bronze Age II B	ca. 1300 – 1225 BCE
	Late Bronze Age II C	ca. 1225 – 1180 BCE
Iron Age (IA)	Iron Age IA	ca. 1180 – 1050 BCE
	Iron Age IB	ca. 1050 – 980 BCE
	Iron Age IIA	ca. 980 – 900 BCE
	Iron Age IIB	ca. 900 – 700 BCE
	Iron Age IIC	ca. 700 – 539 BCE
Persian Period		539 – 332 BCE
Hellenistic Period	Early Hellenistic	332 – 167 BCE
	Late Hellenistic	167 – 37 BCE
Roman Period	Early Roman	37 BCE – 132 CE
	Late Roman	132 – 324 CE
Middle Ages	Byzantine Period	324 – 638 CE
	Early Arab Period	638 – 1099 CE
	Crusader – Ayyubid Period	1099 – 1291 CE
	Late Arab Period	1291 – 1516 CE
	Ottoman Period	1516 – 1917 CE

<b>LBA (1550-1180)</b>	<b>TAH</b>	<b>Ugarit</b>	<b>Egypt</b>
LBA I (1550-1400)	First LBA level (Only burials)	Unknown	Ahmose I (1549-1524) Amenhotep I (1524-1503) Thutmose I (1503-1493) Thutmose II (1493-1479) Hatshepsut (1479-1458) Thutmose III (1479-1425) Amenhotep II (1425-1398)
LBA IIA (1400-1300)	Second LBA level (Fisherman village)	Niqmaddu I Yaqarum	Thutmose IV (1398-1388) Amenhotep III (1388-1350)
	Third LBA level (Site was fortified, anchorage in use)	Ammittamru I (-1350) Niqmaddu II (1350-1315) Arhalba (1315-1313)	Amenhotep IV (1350-1334) Smenkhkare (1335-1334) Neferneferuaten (1334-1332) Tutankhamun (1332-1323) Ay (1323-1319) Horemheb (1319-1292)
LBA IIB (1300-1225)	Forth LBA level (Site was fortified, anchorage in use)	Niqmepa (1313-1260) Ammittamru II (1260-1235) Ibiranu (1235-1225)	Ramses I (1292-1290) Seti I (1290-1279) Ramses II (1279-1213)
LBA IIC (1225-1180)	Fifth LBA level (Fisherman village)	Niqmaddu III (1225-1215) Ammurapi (1215-1180?)	Merneptah (1213-1203) Seti II (1203-1197) Siptah (1197-1191) Twosret (1191-1189)

### 1.3. State of the Field

#### A. The LBA economy: the formalist vs substantivist debate

The debate between formalists (advocates of a formal or minimal differentiation between the current market economy and the economies of the ancient world) and substantivists (defenders of an essential or substantive difference between market economy and ancient subsistence economies), is the continuation of the 19<sup>th</sup> century discussion between modernists and primitivists.

The modernist school of the ancient economy was dominant since the publication of *Wealth of Nations* by Adam Smith in 1776 (Monroe 2000: 5), its greatest exponent was the German historian Eduard Meyer (1855-1930). The followers of this school defended that the capitalist economy was not particular of contemporary society, but a distinguishing feature of all human societies. Modernists thought that since its beginnings, the ancient Near East civilization was based on a highly developed manufacturing economy, an extensive trading system, and the usage of metals as a model of exchange (Aubet 2007: 24-26). Thus, the economic model of the ancient Near East did not differ greatly from current capitalism.

In contrast, the primitivists, whose highest representative was Karl Bücher (1847-1930), argued that “the economy of the ancient world was organized in non-modern economic rationality, highlighting the inexistence of markets, regulatory mechanisms of prices and a profit-oriented commercial mentality” (Aubet 2007: 24). The economy of the ancient world, including that of the Near East, was mainly subsistence-oriented; trade represented just a small portion of the economic surplus. Trade was based on the exchange of primary goods and in the elite acquisition of prestige goods. In such an economy, ideas such as supply-demand, surplus, or benefit would not fit in, and thus differed greatly from the present capitalist economies, which represent a unique phenomenon, typical of the liberal ideology of the neoclassical world (Aubet 2007: 24- 25).

The Formalists, ideological descendants of the modernists, argued that according to the law of minimum effort, humans tend to optimize their resources and therefore economic

principles of capitalism (rational choice, profit maximization, price variability according to supply and demand, and others) were more or less constant along with human history, regardless of political and social contexts (Monroe 2000: 6, Aubet 2007: 39).

The substantivist commercial model was based on the primitivist ideas and created by the social economist Karl Polanyi. For Polanyi, the economic systems are institutionalized processes of interaction between man and the environment providing resources and material means of living (Polanyi: 1977: 31). According to this interpretation, the economic system is dependent on social and ideological structures, and therefore culturally specific, adjusted to the social, ideological, and political order of each society (Sherratt and Sherratt 1991; Aubet 2007: 38-39). Consequently, the capitalist commercial system is characteristic of the bourgeois society and liberal ideology of the 19<sup>th</sup> century and therefore "rational" economic concepts such as profit, profitability, competitiveness, supply, and demand do not apply to ancient economies, which would be dependent on their own social and ideological models (Polanyi 1977: 6-18).

Polanyi (1977: 35-36) proposed that economic systems in ancient civilizations were based on redistribution, reciprocity, and exchange. He defended that the international trading systems of the ancient world were based on ports of trade, in which "the administration prevailed over the economic procedure of competition" (Polanyi 1963). This is to say, they had a system of fixed prices in which merchants were no more than bureaucratic employees (Sherratt and Sherratt 1991, Aubet 2007: 50-53). He mentioned the LBA harbors of the North Syrian coast as an example of ports of trade. He suggested the classical city of Palmira or medieval Kandahar as inland equivalents of the port of trade (Polanyi 1963), yet, a better inland example could be the Middle Bronze Age (MBA) Assyrian Karum of Kanesh (ca. 1950-1740 BCE) (Aubet 2007: 50-53).

Since the 1990s, both models have been criticized for being too rigid. Some scholars propose the application of a "balancing model" (Monroe 2000) accepting aspects of both the formalists and substantivists.

Research in ancient economy, specifically the study of the texts of the Assyrian Karum of Kanesh, demonstrated that already in the MBA, some of the “rational” characteristics of the modern capitalist economy (private trade, profit, and price variability) already existed (Veenhof 1972; Larsen 1976; Aubet 2007: 51). Different cultures, however, did not only differ their social and political organizations but also their economic ones. As a result, even if some societies might have had features found in present days capitalism, the economy should be understood as culture-specific. Another important difference between trade, in contemporary and ancient civilizations is that commerce in ancient cultures was not directed by the middle classes, but by the aristocracies, as already pointed out by Polanyi (1977: 85-86). In fact, the aristocracy was the only social class with enough financial capability to direct trade. A good example is the Karum of Kanesh, where the wealthiest aristocratic houses of Assur directed exchange with Anatolia. Another example is that of the LBA Ugarit, where private entrepreneurs as Urtenu were at the same time members of the economic and bureaucratic oligarchy.

Polanyi (1977: 85) argued that two main types of merchants existed in ancient societies, “factor” and “mercator.” “Factor” were merchants who worked as employees for the state (Polanyi 1977: 85), for example, the LBA Egyptian traders (Liverani 2001). “Mercator” were merchants who worked for their profit (Polanyi 1977: 85), as Susan Sherratt (Sherratt 1994; 1998) and Artzy suggested (Artzy 1994; 1998) for the LBA Cypriot and Levantine traders. Thus, for Polanyi (1977:85-86), the “factor,” who were always members of the aristocracy, were not interested in trade profit, since working for the public institutions provided a higher status than trading for self-profit. Polanyi’s division of merchants within two types seems quite accurate but too rigorous, as some “factor” were acting for their benefit, and therefore were also “mercator,” as it was the case of the Ugaritic economic oligarchy (Bell 2005b; 2009; Monroe 2010). The capacity of traders to act as “mercator,” was higher during times of growing decentralization. In accordance, the economic power of “private entrepreneurs” (Artzy 1994; 1998) or “sub-elites” (Sherratt 1994; 1998) in decentralized polities such as the old Assyrian kingdom (ca. 2025-1378 BCE.) or the LBA Levant was probably higher than in ultra-centralized societies like New Kingdom Egypt.

Polanyi (1977: 94) divided trade into three types: gift, administrative or treaty, and market trade. Polanyi defined gift exchange as an economic interchange between “partners in relations of reciprocity,” in which the organization of trade is strongly ceremonial, including embassies, presentations, and political duels. The goods traded in this type of exchange are normally luxury items like gold, ivory, or horses. The gift exchange was the most common form of economic interaction between tribal societies and pre-colonial empires (Polanyi 1977: 94). The gift transfer in the diplomatic correspondence between Egypt, Hatti, and Babylon, described in the LBA el-Amarna letters, is a good example of gift exchange. In the administrative or treaty trade, the governmental bureaucracy is in control of the economic resources and trading methods. Locally, the government redistributes the goods among the local population, internationally, the commercial agreements are arrangements between partners (two states or trading companies), rates and prices are fixed beforehand. The products exchanged in the administrative trade can vary from first necessity goods to luxury commodities, protection, or political advantages (Polanyi: 95). Largely centralized states, like LBA Egypt, practiced the administrative trade, directing the economy from central institutions (Liverani 2001) while blocking the flow of free trade and the rise of sub-elites. Polanyi defined market trade as an economic system in which all means of production, land, labor, and money, are subordinated to the market laws of offer and demand (Polanyi 1977: 95-96). Polanyi defended that market trade only existed in modern capitalist societies (1977: 94-96).

Polanyi (1977) endorsed that “gift” and “administrative” trade were only based on ideology and prestige, with no interest in profit whatsoever. In my opinion, however, palaces, temples, and especially high aristocracies also sought lucrative profit in their commercial activities, as reflected in Urtenu’s, Yabinu’s, and Rapanu’s private archives at Ugarit (Bell 2005b; 2009; Monroe 2010), and in the clay tablets from the Karum of Kanesh (Veenhof 1972). Finally, the prices of imported and exported goods were not only dependent on the will of centralized institutions but also on their availability, price of extraction, and cost of transportation.

## B. The LBA geopolitical system

During the LBA, the Near East was divided in trans-regional empires such as Egypt, Hatti, Assyria, and Babylonia; regional kingdoms such as Mitanni, Carchemish or Amurru (At least during a short period of time) (Benz 2016); and smaller political entities, situated in the peripheries of the empires, mainly in the Levant and Cyprus.

Since the beginning of the LBA, the larger kingdoms of Mitanni (Syria), Hatti (Anatolia), and Egypt took advantage of the political fragmentation of the Levant and applied different forms of control over the area (Liverani 1995:434). Politically, the Levantine LBA history can be divided into two periods, the first one broadened from ca. 1550 BCE to ca. 1350 BCE and was characterized by the Mitannian and Egyptian preeminence; the second one broadened from ca. 1350 BCE to ca. 1200 BCE and was characterized by the ascendancy of Egypt and Hatti. During the first period, Mitanni controlled the area of Inner Syria while the coastal Levant was under Egyptian hegemony. The form in which Mitanni maintained its hegemony over Syria was based on treaties with the local rulers, by which they recognized the primacy of the Mitannian king in exchange for protection, in addition, Mitanni was leaving a certain degree of independence to its subject who could sign treaties with other local rulers (Liverani 1995:434-436).

The Egyptian predominance in the coastal Levant is better known and more intensively studied than the Mitannian one in Syria. For this reason, there are at least two theories regarding the Egyptian presence over the Levant. The traditional point of view defends that Egypt fully controlled the coastal Levant (Weinstein 1981). Based on the Egyptian written sources it states that the Egyptian Levant was divided into three regions, Canaan (Israel and Gaza strip), Amurru (coastal Lebanon) and Ube (Inner Lebanon and Syria) with their respective capitals, situated in Gaza, Sumur and *Kumidi* (Kamid el-Loz) and that almost all the local rulers were vassals of Egypt (Redford 1992: 200-206). In this narrative, Egyptians were present not only at the provincial capitals but also in areas of specific economic interests such as the Jezreel valley or King's Highway (Route situated in the inner Levant, parallel to the Jordan River) and on strategic fortresses such as the ones at Beth-Shean, (excavated by F.W. James and Patrick E. McGovern (1993) and Amihai Mazar (Panitz Cohen and Mazar 2009) and Jaffa (Liverani 1995: 437). All the Egyptian

subjects were obliged to pay tribute to Egypt, a tribute that was collected by a cyclical Egyptian military campaign in the Levant. Although the Egyptian control over the coastal Levant was supposedly stronger than the Mitannian control over Syria, Egypt did not intervene in the relations between the local rulers, neither offered protection to them (Liverani 1995: 437). In the last years, it has been proposed that Egypt did not have the capacity of imposing a strong control over the area (Sugerman 2000: 19) and that the Egyptian hegemony was maintained throughout the control of specific fortresses such as Beth-Shean (Singer 1988) and harbors such as Gaza (Sugerman 2000: 141) or Akko (Artzy 2006), situated in economically relevant positions. A weaker Egyptian presence in the area, and the disloyalty of most of the vassals, explains why Egypt needed to send a yearly military campaign to collect taxes, as well as why it did not get involved in the constant fights between local rulers.

The second political period started at ca. 1350 BCE with the Hittite expansion in Syria, implying the end of Mitanni as an interregional power, and the retreat of Egypt from coastal Syria to Northern Lebanon. The conflict between Egypt and Hatti lasted until the signature of the treaty of Kadesh in 1259 BCE. The treaty divided the Levant in two, leaving Lebanon and Palestine under Egyptian hegemony, and Syria and Cyprus under Hittite influence (Liverani 1987).

As in the Mitannian case, the Hittites directed their hegemony over Syria forcing the local rulers to sign treaties recognizing the preeminence of the great king of Hatti; in exchange, the Hittites offered protection to the local rulers. However, contrary to the Mitannian, the Hittites imposed a stronger control over their vassals and arbitrated directly in the conflicts among local rulers (Liverani 1995:436-439). Additionally, Suppiluliuma I (1358 - 1322 BCE) established one of his sons in the throne of Carchemish, creating a sort of viceroyalty in Syria facilitating the control over the Syrian kings (Liverani 1995:436-439). As to the tributary system, the Hittites utilized merchants and bureaucrats installed in the Syrian cities, instead of expending resources in an annual military campaign, as the Egyptians were doing (Liverani 1995:436-439). The installation of Hittite traders and the economic control over Syria facilitated the economic infiltration of the Hittites into the Egyptian sphere, and already at the end of the 14<sup>th</sup> century BCE large part of the political



entities that were under Egyptian nominal authority were in reality economically dependent of the Syrian Hittite vassals (Artzy 1998). The Hittite hegemony over the Northern Levant came to an end with the destruction of the Hittite capital at around 1200 BCE and the disintegration of the empire itself; however, the Kingdom of Carchemish lasted until the Assyrian destruction of the city in the 8<sup>th</sup> century BCE.

The indirect system of control that the Egyptians imposed on the Levant during the 16<sup>th</sup> and 15<sup>th</sup> centuries lasted until the beginning of the 13<sup>th</sup> century BCE. With the dynastic change at the end of the 14<sup>th</sup> century, the Pharaohs of the 19<sup>th</sup> dynasty tried to impose a stronger and more direct control over their hegemonic region (Singer 1988). The 13<sup>th</sup> century change of the Egyptian political agenda in the Levant can be detected in the archaeological record, Egyptian fortresses and governmental houses have been excavated in different sites of the Southern Levant such as Ashdod (M. Dothan 1977), Apeh (Kochavi 1981), Gezer (Singer 1986), Tel Mor (M. Dothan, 1993) and Tell Jemeh (Oren 1984: 46). However, the Egyptian efforts to strengthen their influence over the Levant were only effective in the Southern part of the region, as Egypt did not have the military or economic capability to impose a stronger control over the political entities situated in the Central Levant; therefore, the Central Levantine political entities were de facto independent since at least the middle of the 13<sup>th</sup> century BCE. The Egyptian hegemony over at least some parts of the Southern Levant lasted until 1177 BCE (Cline 2014:1; Mazar 1985) or more probably 1150 or 1130 BCE (Finkelstein 1998; Ussishkin 1985).

### **C. The LBA Levantine political organization**

Until present, most of the work regarding the political organization of the Levant has centered on the territories of the modern state of Israel and the Gaza strip. The general agreement is that the political organization of the Levant was based on the city-state model (Bunimovitz 1994; 1995; Finkelstein 1996; Na'aman 1997; Savage and Falconer 2003), similar to that of Classical Greece (510-323 BCE) or Early Bronze Age (EBA ca. 3300-2000 BCE) Mesopotamia. By definition, a city-state is an independent small territorial unit, controlled by a large, highly developed capital city and surrounded by a social and economic integrated hinterland (Rihll and Wilson 1991:60; Charlton and Nichols 1997b). The discussion regarding the political organization of the Levant has

focused on the length, number, and strength of the city-states. In this sense, Nadav Na'aman (1997) suggested that during the LBA there were between 21 and 27 city-states plus 3 Egyptian centers in the area situated between Tyre and Gaza. He also suggested that city-states did not have the capability of controlling the full region, hence some areas were nominally and practically no man's land, populated mainly by nomads and semi-nomads. By contrast, Shlomo Bunimovitz (1994, 1995) and Israel Finkelstein (1996) who based their reconstruction of the LBA city-states on the Amarna Letters, and thought that every city-state should have been reported in one or more of those letters defended that city-states maintained, at least nominally a full control over the region. Also, following the city-state model, they suggested that each city-state should have had a 15-20km radial hinterland, therefore reducing the number of city-states to 19. Finally, they used cluster analysis to define the borders between each city state. Using K-means cluster and rank-size analysis, Stephen H. Savage and Steven E. Falconer (2003) divided the region into twenty-four political entities of different sizes, more or less the average between the twenty-nine maximum numbers of polities of Na'aman and the 19 polities of Finkelstein and Bunimovitz.

New historical research conducted on the Amarna letters by Brendon C. Benz (2016) implies that the political model of the Levant was far more complex than the one suggested by Bunimovitz, Finkelstein, Na'aman and Savage and Falconer. Benz defends that other models of political organization such as centralized territorial states, decentralized territorial states, city-states coalitions, and semi-nomadic groups existed together with the "city-states" in the LBA Levant (Benz 2016). Some of them, as the semi-nomadic groups were at least partially independent of the sedentary polities (Benz 2016), as was already suggested by Na'aman (1997). Additionally, to Benz's models of political organization, there were also independent trading posts and anchorages/harbors such as TAH or Tel Nami (Artzy 2006; 2013). Benz also demonstrated that the political model of the Levant was far from stable and that states could form temporary coalitions or absorb one another, forming regional kingdoms. Regional kingdoms could as well dissolve in a multiplicity of independent political entities of different sorts (Benz 2016).

#### D. The LBA Levantine social organization

It is generally accepted that the social systems of the regional and trans-regional states were strongly centralized, stratified, and ruled by a king or great king supported by the bureaucratic aristocracy of temples and palaces (Liverani 2001). It is also commonly assumed that the Levant was organized in a similar form, with a *ḥazannu* (Governor) or *šarru* (King) ruling in each political entity. The local kings monopolized power in name of the Egyptian Pharaoh or the great king of Hatti, while local aristocrats were simple palace bureaucrats. The peasants were attached to the ground and obliged to pay great percentages of grain to the local rulers. The specialized artisans were no more than serfs of the palaces or temples with public salaries. Social mobility was minimum, the only form that peasantry had to escape the palace oppression was to run away and join the *ʿapirû*, some form of semi-nomadic outlaws (Liverani 1995: 430-434).

However, later research on the Amarna letters demonstrates that the picture was far more complex. For example, ʿAbdi-Aširta, who was not a *šarru* or a *ḥazannu*, and in addition to it probably came from the *ʿapirû*, personally wrote letters to the Egyptian pharaohs and conquered most of Amurru (Northern Lebanon and Southern Syria) (Benz 2016: 143-166). After years of war with its neighbors, he was killed by the people of Amurru in a collective decision, explained in EA 101 (Benz 2016: 153). Various years later, the son of ʿAbdi-Aširta, Aziru, finished the unification of Amurru, named himself king, broke alliance with Egypt, and allied with the Hittites (Benz 2016: 169-175). The history of Amurru demonstrates that there was at least some social mobility in the LBA Levant. A successful military leader, probably belonging to the lower aristocracy, could become himself a king. The murder of ʿAbdi-Aširta in a free collective decision demonstrates that the people of Amurru had the capability, and probably the right of killing a military leader or even a king, hence, they should have been free people, not serfs, and had certain power and status. As to the *ʿapirû*, in EA 195, Biryawaza the *ḥazannu* of Damascus, named them among his regular soldiers and *sutû*, stating that all of them were his (Benz 2016: 164). Accordingly, the *ʿapirû* should have had a similar status to that of the other military units, and at least collaborated with the rulers of the sedentary political entities.

The social differences between Egypt and the Levant can also be detected in the archaeological record. For example, at Ugarit some of the military aristocracy, *maryannu*, owned houses that could compete in wealth and size with the city palace; houses that had their own private commercial archives, indicating that power and trade were not monopolized by the king (Yon 1992). Both the situation at Amurru and Ugarit implies a complex social organization, in which the king had to share power with local aristocrats and merchants. In addition to it, free landowners and maybe traders should have coexisted with the palace serves. Although all the examples described here belong to Northern Lebanon and Syria, the situation in the rest of the Levant must have been similar. Even more, in Syria and Northern Lebanon, we can find large settlements of almost one hundred hectares, fortifications, monumental architecture, and sculptures. By contrast, to the south, except for Hazor, no archaeological site overcomes fifty hectares, and the monumental buildings are small. The small settlement size and the small size of the monumental architecture suggest that the economic and control capabilities of the Central Levantine kings were even lower to that of the kings of Amurru and Ugarit, therefore the social system in the region should have been less centralized and more “egalitarian”.

In the last years, it has been proposed that the society of the LBA Levant matches better Levy Strauss’s model of house society, a specific form of organization model based on household relations, than the palace economy model (Schloen 2001; Gonzalez Ruibal and Ruiz-Galvez 2016; Muntalt Sánchez 2018).

#### E. **The LBA collapse**

Around 1200 BCE the regional kingdoms and trans-regional empires, the “palatial economy” and the Mediterranean trade system collapsed, leading to a period of political and social instability known as the “dark ages” (Cline 2014). Traditionally, the collapse of the centralized states and economies of the LBA was portrayed as the result of the massive migration and military invasion of the “Sea Peoples” (Dothan and Dothan 2002; Yasur-Landau 2010; Cline 2014). This interpretation is based on written sources like the inscriptions at the temple of Medinet Habu in Egypt and the letters from Ugarit, describing episodes of violence and political instability. The destruction layers at the end of the LBA strata of some archaeological sites of the Near East, such as Hattusa (Singer

2000), Enkomi (Karagheorgis 1992), Ugarit (Astour 1965) or Ashkelon (Stager 1995), and the introduction in some of these sites of Aegean style materials following their destruction (Dothan and Dothan 2002; Yasur-Landau 2010) reinforced the idea of a massive invasion that originated in the Aegean, and advanced towards Egypt destroying on the route most of the LBA Near Eastern civilization, especially near the coasts.

As an alternative, archeobotanists, and palynologists suggested that the LBA collapse was more of a result of an economic crisis provoked by a large drought in the Mediterranean basin. The drought provoked the destabilization of the economic system and famine, leading to the massive migration of the “Sea Peoples” (Kaniewski *et al.* 2015). Nevertheless, the cultural continuity detected in the cities of Tyre, (Bikai 1992), Akko (Artzy, personal communication) and Dor (Gilboa 2005; 2007), and the continuity detected in the material culture of the LBA IIIA-IIIB sites in Cyprus (Sherratt 1998) suggests that at least the regions situated in the periphery of the centralized states (directed by non-centralized polities) did not collapse and were just partially affected by the enigmatic “Sea Peoples” invasions.

Consequently, the collapse of the LBA centralized states could not have been provoked by an invasion, as in this case intrusive materials should have been found in all the Mediterranean coast, and not only in some specific areas. A drought does not provide a complete explanation either, as in this case it would be expected that the centralized states, which had a stronger economy and greater storage capability, would have survived the drought, while the small political entities with low production should have collapsed, and not vice versa. As a result, and in agreement with Artzy (1994), Knapp and Manning (2016), I believe that the collapse of the LBA centralized societies, and the transformations suffered by the coastal Levantine and Cypriote societies, were the result of a long economic and social crisis that affected mainly the centralized empires and kingdoms.

## 2. REGIONAL SETTINGS

### 2.1. Introduction

Studies related to the ancient economy and especially to trade should take into consideration geographical settings and their effect on communications, within the context of the period, which in this study is the LBA. In this chapter I introduce the general geography of the Levant; a subdivision of regions, based on cultural affiliation and economic spheres; followed by an analysis of the LBA Levantine transport technology and reconstruction of terrestrial routes during the period

### 2.2. General Geography of the Levant

The name Levant comes from the Latin term *Levante*, meaning the place from which the sun rises. It is used to define the eastern side of the Mediterranean basin, an area expanding from the Amanus Mountains in the north to the Negev deserts in the south. The western border of the region is the Mediterranean Sea, while its eastern border is situated in the Syrian Desert (Suriano 2014: 9). The geographical features of the Levant, rivers, lakes, mountains, highlands, and river valleys (wadi in Arabic, nahal in Hebrew) are formed by the Great Rift Valley, which runs parallel to the eastern Mediterranean shores and is confined by two parallel fault lines (Safadi 2013:19).

Topographically, the Levant consists of a coastal plain in the west, and a double line of mountains enclosing the Great Rift Valley. The western line of the mountains and highlands is formed from north to south by the Mount Lebanon; the hills of the Lower and Upper Galilee; The Samarian and Judean highlands; and the Negev Mountains. The eastern mountain line is formed from north to south by the Anti-Lebanon chain and the Jordanian western highlands. The lowlands of the Great Rift Valley are formed by the Beqaa, Ghab, Hula, and Jordan valleys. The larger watersheds of the Levant are those of the Orontes, the Litani, the Sea of Galilee, the Jordan River and the Dead Sea. The Red Sea is the continuation of the Great Rift Valley to the south. The rain originating in the Mediterranean is blocked by the western mountain chains, creating a Mediterranean climate in the western part of the Levant and a desert climate in its eastern part.

All in all, the Levant is enclosed by the sea to the west and the mountains and the Arabian Desert to the east, forming a thin long stretch of ca. 700 km from north to south and ca. 60 km from west to east. The proximity of the sea, the mountains, and the desert imply the existence of many environments in a very narrow stretch. The multiplicity of environments and the interdependency between them, typical from the Mediterranean (Horden and Purcell 2000: 67) provides a large variety of resources. The position of the Levant in between Asia and Africa made it work as a melting point for Mediterranean, Egyptian, Mesopotamian, and Anatolian influences.

### **2.3. The Levantine Regions**

Up to the present, there have been several attempts to define the different geographical or economic regions of the Levant. In “The historical geography of the ancient Levant”, a chapter of *The Oxford Handbook of the Archaeology of the Levant*, Matthew J. Suriano (2014: 9-23) divided the Levant into two major regions, the Northern and Southern Levant. The Northern Levant is, at the same time, divided into two regions from north to south, lower (lowlands in coastal Syria) and upper (The coast of Lebanon and Lebanese mountains). Suriano further divided the Southern Levant into two regions, Cisjordan (west of the Jordan Valley) and Transjordan (east of the Jordan Valley). This subdivision is based on the physical geography of the region, and it does not represent economic or cultural affiliations. Theoretically, it could be asserted that the geographical areas could represent natural borders and that different cultural and economic systems should arise in different geographical settings. However, rivers and mountains in the Mediterranean are not large or high enough to create natural borders, and the Mediterranean itself works as a bridge between the coastal-oriented areas (Horden and Purcell 2000: 23-24). Because of it, geographical regional subdivision should be based on demonstrated cultural similarities and economic affiliations of the material culture.

Economically, the Levant is clearly marked by the influence of the Mediterranean Sea and international trade during many of the historical periods and even earlier. The regions situated near the coast demonstrate clear cultural and economic differences from those situated inland. The areas situated near the coast have a more disperse population than the inner areas, at the same time, sites west of the Great Rift Valley are in general smaller

than those situated east of it. For this reason, I will divide first the Levant into coastal-oriented Levant (west of the Great Rift Valley) and Inland Levant (east of the Great Rift Valley). The inland areas are at the same time divided into two, Inner Syria (east of the Beqaa Valley and Sea of Galilee) and Transjordan (east of the Jordan Valley).

As for the coastal Levant, the first attempt to divide it into economic spheres of interaction was made by Carol Bell in 2005. In her study based on her PhD, Bell divided the Levant into four zones of interaction named from north to south as Zone L-1, Zone L-2, Zone L-3, and Zone L-4 (Bell 2005: 16:22). Bell situated her zone L-1 in the area in which Ugarit had commercial and administrative links and placed its southern border in the Nahr el-Kebir River, along the modern border between Lebanon and Syria (Bell 2005: 17-18). Bell's Zone-L-2 has its southern border at Rosh Haniqra (actual border between Lebanon and Israel), enclosing the full of actual Lebanon, a region dominated by the Phoenicians during the Iron Age (IA). Her third Zone, L-3 corresponds to the Akko/Haifa bay, Carmel coast, Jezreel Valley, and Galilee in Northern Israel, with its southern border somewhere south of Tel Dor; culturally this region represents what Bell considers Southern Phoenicia. At last, Bell situated her Zone L-4 in Southern Israel and Gaza, a region characterized during the LBA by a strong Egyptian control and by the development of the Philistine culture during the IA I.

Bell analysis is interesting, as it is a pioneering attempt to make a Levantine division based on economic and cultural factors. Even more, it divided the Levant into more than two regions, creating a more accurate picture of the economic and cultural reality. Also interesting is the fact that she acknowledges the cultural and economic differences that existed between Northern and Southern Israel during the LBA and IA, dividing them into two regions, instead of treating them as a single unit.

Bell's study, however, is influenced by the modern borders, which do not necessarily represent ancient realities. To portray the Levantine economic and cultural reality more accurately, I will propose changes in the limits of Bell's regions. I agree with Bell (2005: 17:18), and Suriano (2014: 9-23), in placing the northern border of zone L-1 in the Amanus Mountains. The southern border, however, should be placed somewhere south

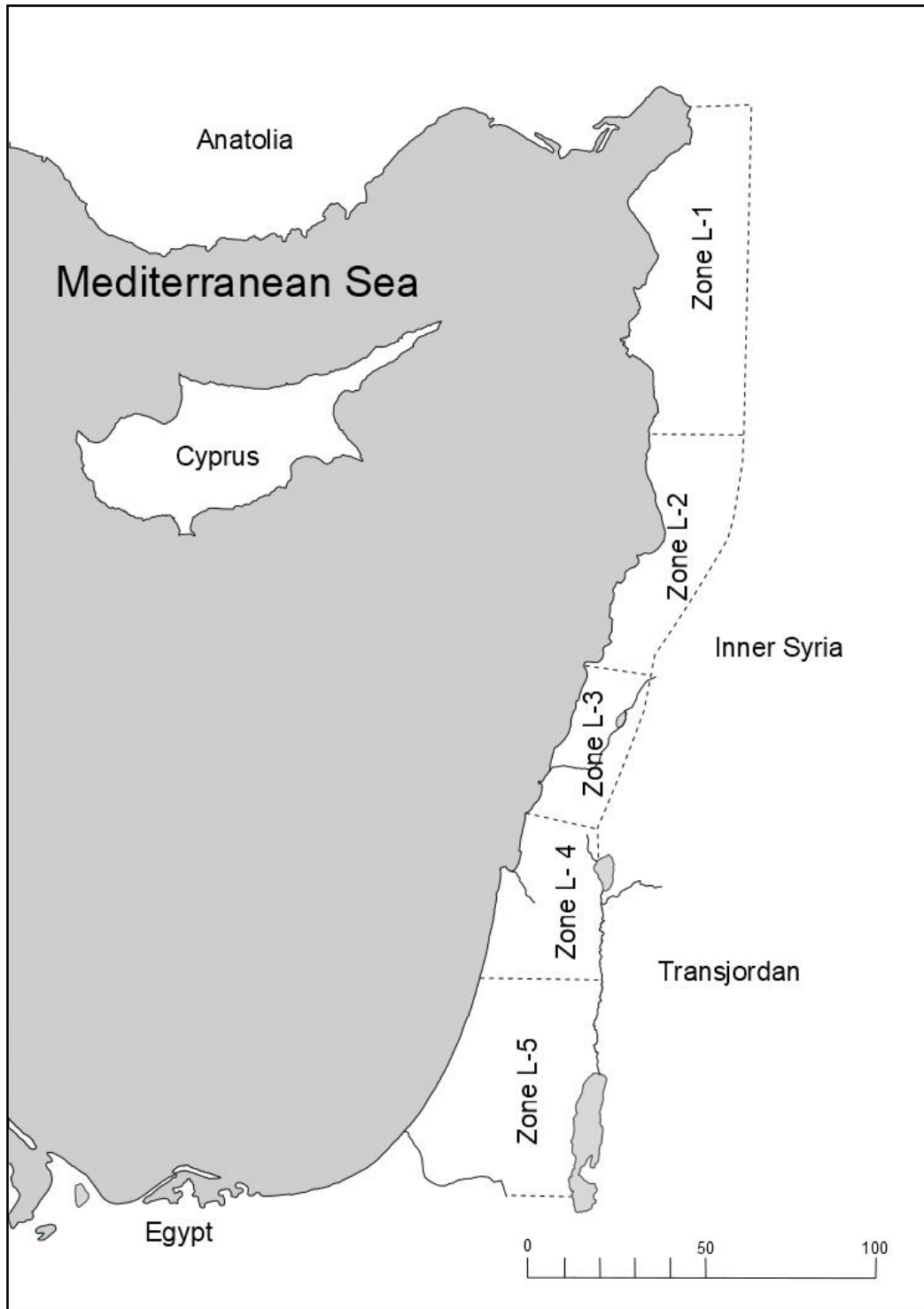


of Tell Sukas, several kilometers north of the modern border between Syria and Lebanon, because it was the southernmost area associated with the Kingdom of Ugarit during the LBA (Martín and Artzy 2018). The zone L-2 included the area situated between Byblos and Sidon, roughly the LBA territories of Byblos and Amurru. The meridional border of zone L-2 was not located in Rosh-Haniqra, as Bell suggests (2005: 19- 20), but somewhere between Byblos and Sidon. Beirut fluctuated between zone L-2 and zone L-3, depending on the geopolitical and economic situation (Martín and Artzy 2018). Contrary to what I proposed in my master thesis (Martín 2016) and article (Martín and Artzy 2018), Zone L-3 only included the hinterlands of the Canaanite and later Phoenician cities of Sidon and Tyre, in Southern Lebanon, as I will explain later. I will now consider Northern Israel as an independent region, zone L-4. I want to emphasize that zone L-3 and L-4 were culturally and economically alike, as exemplified in the similarities between the IA I and IIA (ca. 1200-900 BCE) ceramics of Tel Dor and Southern Lebanon (Gilboa 2005; 2007). There were, however, some differences between both economic zones, the southern Lebanese cities of Sidon, Tyre, and Sarepta were larger than those of Northern Israel. Both regions also differ in their material culture, the Canaanite monochrome ceramics from Tell Keisan and the northern *skyphoi* (Stern 2013), do not parallel any of the material from Sarepta and Tyre. The meridional border of zone L-4 was in the vicinity of the Yarkon outlet. I will designate the most austral region of the Levant, Bell's Zone L-4, as Zone L-5.

The absence of natural borders in the Mediterranean (Horden and Purcell 2000: 23-24) prevented the existence of permanent cultural and economic boundaries, and regional frontiers shifted over time. Some settlements oscillated between regions, as Tell Qasile situated on the Yarkon River that fluctuated between zone L-4 and L-5, or as Beirut that moved between zone L-2 and L-3. Geographically this project focuses on zones L-3 (Southern modern Lebanon) and L-4 (Northern modern Israel), with special emphasis in the Akko/Haifa bay and the Jezreel Valley.

This dissertation aims to create a model that explains how the economic system worked in the Levant during the Late Bronze Age (LBA), since the specific case of the Lower Qishon outlet. To do so, I present an overall geographical and material analysis of sites

along the Levant, a theoretical discussion, and an in-depth geographical and ceramic analysis of various sites situated on the Southern Akko/Haifa Bay and the northern part of the Jezreel Valley.



Map 1. The Five Regions of the Levant. The map was constructed by José M. Martín García after Bell's map 2 (Bell 2005: 281)

## 2.4. Transport and Routes

### A. Introduction

In this section I will first analyze the LBA modes of transport and communication; then give an overview on the most relevant routes that crossed the Levant in a north to south direction and those that crossed zones L-3 (Southern Lebanon) and L-4 (Northern Israel) in a west to east direction.

Despite the number of publications that deal with trade during the LBA Levant (Artzy 1997; Aubet 2007; Bell 2009; 2012; Liverani 1987; 2003; Monroe 2011; Pulak 2008; Sherratt 1998 and others), very few studies address the combination of maritime and terrestrial trade routes during the Bronze Age and Iron Ages (Aharoni 1967; Leonard 1987; Liverani 1987; Gal 1992; Artzy 1994; 1998; 2006; 2006a; 2013; 2018). The most in-depth publication to this day on this topic is David A. Dorsey's *The Roads and Highways of Ancient Israel* (1991). Throughout this book, Dorsey uses the term roads to refer to the routes that crossed the Levant. I think, however, that the term route is more appropriate for the LBA communication system. Hence, I will use the term road only when referring to Dorsey's monography. *The Roads and Highways of Ancient Israel* focus on zones L-4 and L-5, dealing mainly with Iron Age and Biblical topics. It only gives some LBA examples, specifically the ones mentioned in the Amarna Letters. Terrestrial routes, however, did not considerably change from the LBA to the IA. Through this chapter, I will present Dorsey's analysis of Zone L-4 routes, adding comments on Yohanan Aharoni (1967), Zvi Gal (1992), and Artzy (1998; 2018)

For the case of zone L-3, no comprehensive study has been published addressing the LBA route system. Nevertheless, some publications relating to Settlement pattern analysis, principally during the EBA (Marfoe 1978; Badreshany 2013; Safadi 2013) did present the paths that inland routes took through the Lebanese Beqaa Valley. Artzy (2006a) also analyzed the trade routes communicating the harbors of Sidon and Sarepta with the inland settlements of Kamid el-Lodz, Tel Dan, and Hazor in a booklet published in *Cuadernos de arqueología mediterránea*. Kristina Josephson Hesse (2008) dealt with the LBA routes that communicated Hazor with the Mediterranean in her PhD thesis. For the study of zone

L-3, a discussion of the main routes proposed by Artzy (2006a), Crystal S. Safadi (2013) and Hesse (2008) is presented.

## **B. Modes of transport and communication**

For understanding the paths that routes followed during the LBA in the Levant, it is important to understand how technology resolved the problems that geography presented, mainly rivers, swamps, and mountains. The most common form of crossing rivers in antiquity was to ford them; when fords were unavailable or rivers too wide; they were crossed utilizing barges, constructed bridges, or ferries (Dorsey 1991: 33-34). Bridges were a rarity in the ancient Near East, specifically the permanent ones (Casson 1974: 26), and most of the mentions to them are from military campaigns during the IA IIC and Persian periods (Dorsey 1991: 34-36). There is no archaeological or historical evidence for bridges in the Levant during the IA (Dorsey 1991: 35-36) and less so for the LBA. According to Dorsey, there is no evidence for the use of ferries during the LBA or IA in the Levant (Dorsey 1991: 36-37). Following this proposition, we should assume that fords were the only form of river crossing during the LBA in the Levant. The absence of bridges and ferries in the region is not surprising, as contrary to what happens in Mesopotamia or Egypt, Levantine rivers are not deep or wide and their river flows are commonly slow, at least during the dry seasons (Dorsey 1991: 33-34). Fording rivers during the rainy season was, however, more problematic, as during this part of the year the rain speeds up the river flow, making it impossible to cross (Dorsey 1991: 38). Swamps and marshlands also represented an important problem for communication during the LBA Levant, especially during the rainy season, when the overflow of rivers inundated the valleys and expanded the swampy areas. No technological advance allowed the LBA people to drain or overpass swamps, so they were simply avoided.

Mountains also represented a problem for communication in antiquity. As in the case of the swamps, the most common form of traveling through mountains was to bypass them, utilizing paths through valleys and lowlands, if possible following the watersheds and valleys, avoiding swampy areas, and deep narrow valleys, preferring in these cases to pass over canyons or slightly higher ground (Dorsey 1991: 40-41). Since wadis only have water during the winter months, they could be crossed or traveled along during the dry

season, which is most of the year. The wadies made up rather good routes since there was usually no thick growth along their paths, yet some water and fodder for the pack animals were available.

According to Dorsey, the most common form of land transportation during the IA and LBA was by caravan (Dorsey 1991: 5). Traders in caravans traveled mostly by foot, while their merchandise was carried on donkeys (Dorsey 1991: 7), the heavy cargo was moved on wagons and carts (Dorsey 1991: 13-16). Also, private merchants or entrepreneurs traveled and traded in the region in smaller groups, transporting their merchandise on donkeys and possibly camels (Artzy 1998). Another form of transportation, not mentioned by Dorsey, were barges on rivers and streams. Travelers that used donkeys or carts could cover an average distance of thirty to forty kilometers per day, depending on the terrain and route conditions (Dorsey 1991: 12; Artzy 2013).

Dorsey also presents an average width of the LBA and IA routes between three and a half and five meters, enough to allow two or three chariots or carts in parallel (Dorsey 1991: 21-23). There were also smaller routes, of one line (two meters) and mountain tracks of less than two meters wide, like the ones crossing the Megiddo Pass (Dorsey 1991:24), or the ones crossing the Carmel through Nahal Me'arot (Artzy 1998).

### C. North-south routes

The better known of the Levantine north-south routes is the Coastal Highway, Way of the Sea, or *Via Maris*. Several publications treated this road, as *The Land of the Bible: A Historical Geography* (Aharoni 1967) or *The Roads and Highways of Ancient Israel* (Dorsey 1991: 58-94). The Way of the Sea, in Dorsey's publication route II, followed the Levantine coastline from Egypt to Syria. It started in Egypt, crossing through Gaza, Ashkelon, and Ashdod, surrounding the Yarkon River, and passing Aphek-Antipatris. The route continued parallel to the sea until the southern Carmel Ridge when it turned east and entered the Wadi 'Ara (Nahal 'Iron) to Megiddo. From Megiddo, the route turned north-west to Yoqne'am, then to the Akko/Haifa bay. It crossed the bay northwards to Akko and followed the coast to Nahariya, Achziv, and Rosh Haniqra (Dorsey 1991: 57). From Rosh Haniqra, the highway continued north through the

Lebanese coast, passing by Sarepta, Sidon, Beirut, Byblos (*Gubla*), and Tripoli. Following the shoreline, it entered the Akkar plain, crossing through Tell Arqa (*Irqata*) and Tell Kazel (*Sumur*), to finally reach Ugarit and coastal Syria. An important alternate (Dorsey's road I14, I19, and I27), turned west at Aphek-Antipatris and reached the Egyptian harbor of Joppa (modern Jaffa), from where it followed the coastline to Tel Tanninim and the Carmel Coast (Dorsey 1991: 72-74). At the edge of the Carmel, the route continued following the shoreline towards Tel Dor and surrounded the Carmel passing through Tel Shiqmona and TAH. At TAH, this alternate incorporated into the Way of the Sea (Dorsey 1991: 82-83).

The Coastal Highway was four sure used by marching armies. For trade, however, it was not that important, since the LBA maritime transport was cheaper than the terrestrial one. Transshipping goods from sea to land was more affordable than sending them along the Coastal Highway. As a result, commodities were not carried through the Coastal Highway but shipped from harbor to harbor. The international havens transshipped the merchandise to smaller anchorages along the coast, where it was transported inland via west-east routes. Transshipment along the coast and west-east inland communication explain the high density of anchorage sites in the Levant.

Another very important north-south route was the Megiddo to Beqaa valley route, Dorsey's route B1, which branched from the Way of the Sea at Megiddo crossed the Qishon River and continued north-east to Afula, Qishion, and Tel Qishron and Qarnei Hattim; then it turned towards Tel Raqqat at the southwestern edge of the Sea of Galilee and bordered the lake to its western part up to Tel Kinrot at the northwestern edge of the lake. After bordering the Sea of Galilee, the route continued north to Hazor, Tel Abel Beth Maacah, and Tel Dan (Dorsey 1991: 95). As in the EB, the route entered Lebanon via Wadi al-Taym and continued north through Tell ez-Zeitun, situated at the southeastern edge of the Beqaa Valley (Safadi 2013: 96-105). Then, it crossed the Beqaa Valley passing near Kamid el-Loz (Ancient Kumidi), Tell Hizzine (*Hasi*), Baalbek and Hermel, and left the Beqaa through its northern edge (Safadi 2013: 96-105). After crossing the Beqaa, the route entered Syria and passed via Kadesh, Qatna, Hama, Tell Asharneh

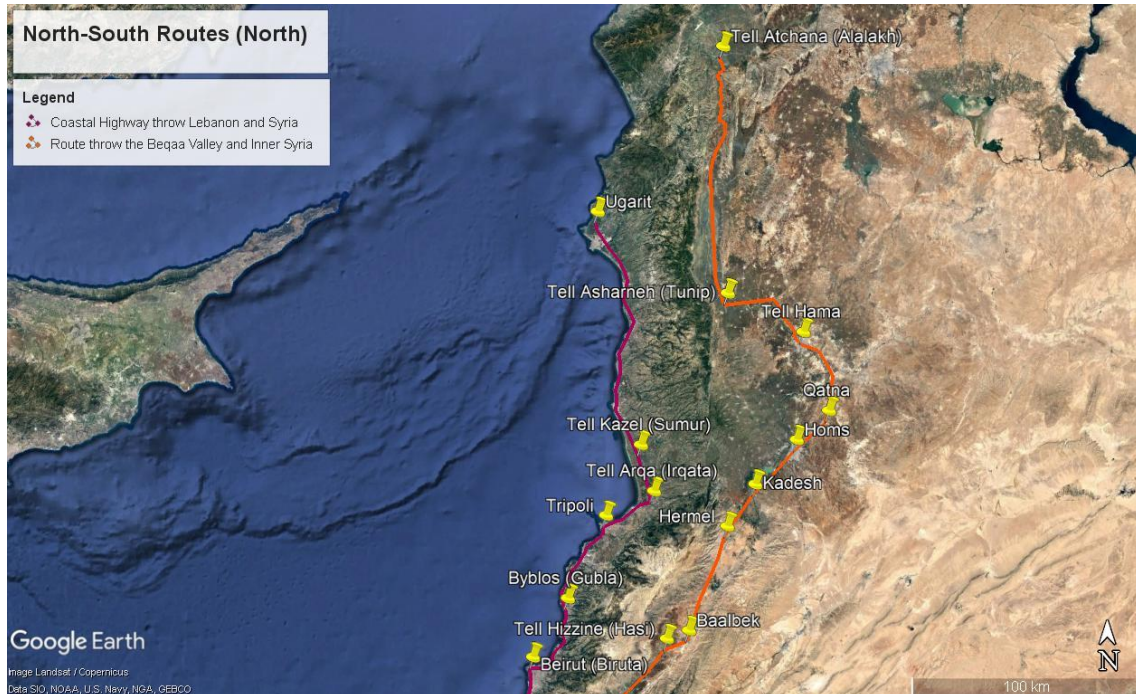
(*Tunip*) and Tell Atchana (*Alalakh*), from where it encountered the Hittite route to Hattusa.

At least as important as Dorsey's road B1, was the King's Highway. This route was not treated by Dorsey, as it mostly ran through Transjordan, but it was studied by Aharoni (1967). As the Way of the Sea, the King's Highway started in Egypt, nonetheless, instead of following the Levantine coastline, it followed an inland route. From Egypt, the route crossed the Sinai Peninsula, passing through Nekhel and continued to modern Eilat or Akaba on the Red Sea. From Eilat, the route crossed to Transjordan and turned north to Basira and Amman, bordering the eastern side of the Jordanian mountains. The King's Highway followed a path similar to that of modern Jordanian road 35. From Amman the route continued in an almost straight line to the north, passing near Tell Ashtara, identified by Albright (1943) as ancient *Ashtartu*, and lead up to Damascus (Aharoni 1967: 44, map 2). Aharoni (1967: 44, map 2) presented various alternatives to this route. I am especially interested in the alternative route that followed the inner valleys, due to its connection through the west-east routes with the harbors of Tel Nami and TAH. This route deviated from the King's Highway at Eilat, where instead of crossing the Jordanian mountains it turned north to Timna and from there to the eastern side of the Dead Sea. From the Dead Sea, the route continued north through the Jordan Valley, passing along the sites of Tell es-Sa'idiyeh, Pella, and Tell el-Madrassa. The route bordered the Sea of Galilee by its eastern edge passing near Tel Hadar and continued North to Tel Anafa, and Tel Dan. From Tel Dan, travelers could continue north towards the Hula to Beqaa Valley route or turn east towards Damascus.

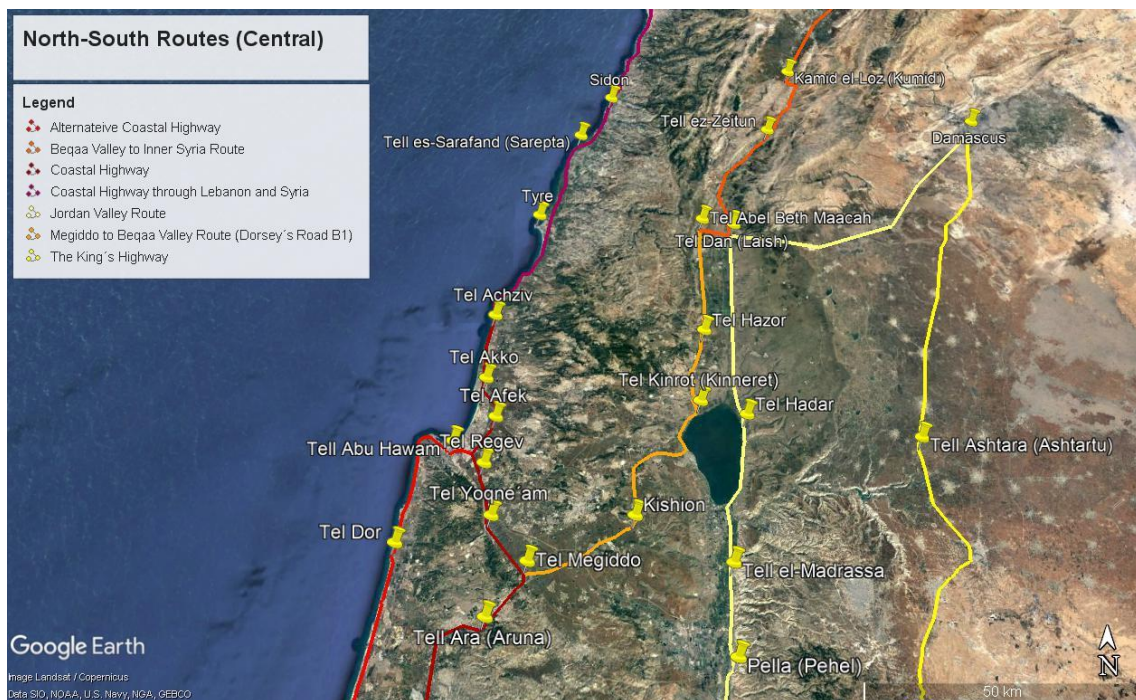
The Amarna letters indicate that the King's Highway, as well as the Coastal Highway, was used for military movements (Aharoni: 1967). In contrast to the Way of the Sea, the King's Highway, the Jordan valley route and the Jezreel to Beqaa Valley route had an important role in the LBA trading system, as they were the main connectors between the Levant, the incense trade routes of Arabia and Mesopotamia (Aharoni 1967: 54-57; Artzy 1994). Incense and other facilities imported from the east traveled south to north along the King's Highway. At specific places with good east to west communication such as Amman or Damascus, the imports were transferred to the west-east routes, and from there



to the Mediterranean Sea, where they were transhipped to other coastal sites and to the important economic centers of the Mediterranean.



Map 2. North-South Routes (Northern Levant).



Map 3. North-South Routes (Central Levant).





Map 4. North-South Routes (Southern Levant).

#### D. West-east routes

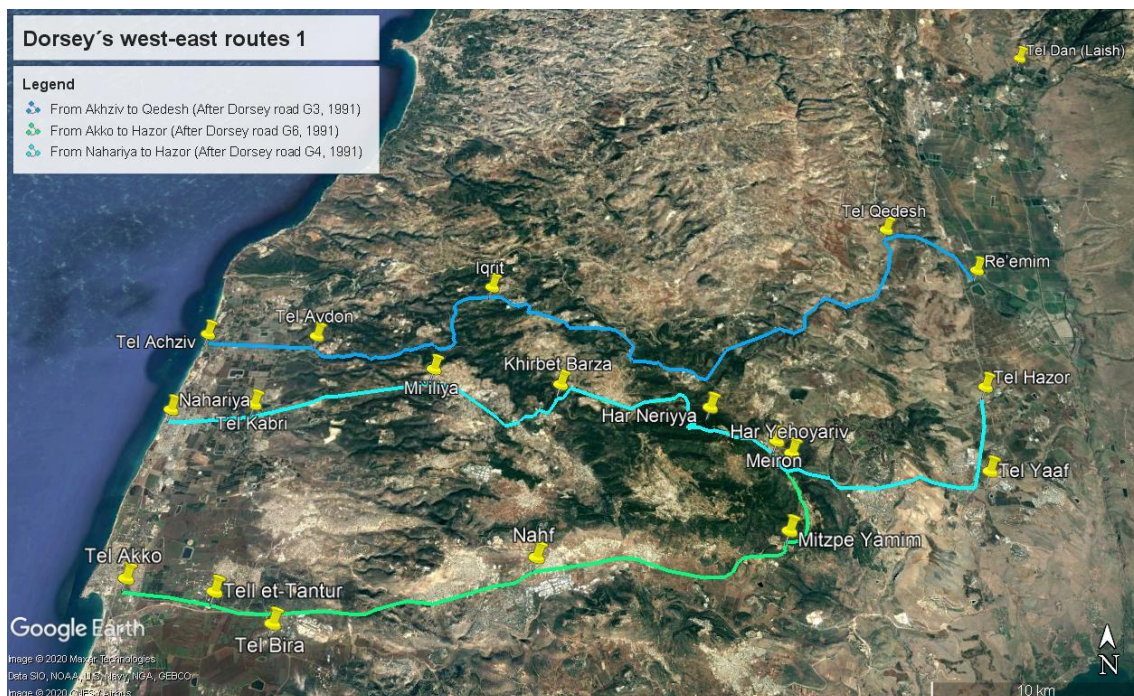
In this section, I focus on the routes connecting the anchorages and harbors of Southern Lebanon and Northern Israel with the inland sites situated along the inland north-south routes. In Southern Lebanon, the mountains made communication between the anchorage sites of Sidon, Sarepta, and Tyre with the inland difficult. Nonetheless, there is evidence of routes that connected these harbors with the Beqaa Valley and Inner Syria during the EBA (Safadi 2013: 96-97). The route connecting Sidon with Damascus and Hazor followed the Awali River inland, crossing through the river valley the Mount Lebanon range, and entered the Beqaa Valley through the Mashghara pass; Once in the Beqaa, the route turned to the north-east to Kamid el-Loz (Ancient Kumidi) and then east to the modern border crossing between Lebanon and Syria, which is the best point for crossing the Anti-Lebanon, once in Syria, it continued east to Damascus (Safadi 2013: 97-98). Also from Kamid el-Loz, the route continued South via Wadi al-Taym passing through the sites of Tell ez-Zeitun, Tel Abel Beth Maacah, Tel Dan, and Hazor; From Hazor, it took the King's highway and continued South to Transjordan (Artzy 2006a: 86-87). Josephson Hesse (2008: 171) defends that a second west-east route connected Tyre and Sarepta with Abel Beth Maacah, Tel Dan and Hazor following the Litany River, until

more or less the modern village of Deir Mimas, where it left the river valley and continued north to the Hula Valley via Abel Beth Maacah and Tel Dan and further to the southeast to Hazor (Hesse 2008: 171). The routes from Tyre and Sidon to Hazor were problematic since it was extremely hard to cross Mount Lebanon. For Tyre and Sidon, it was more convenient to use the maritime route to the harbor of TAH, and from there, the terrestrial route to Hazor (Artzy, personal communication, 2019).

The contacts between the anchorages of northern Israel to the inland was easier than that of the Lebanese harbors, as no major mountains prevented the west-east communications between the Mediterranean Sea, Inner Syria, and Transjordan. In northern Israel, the larger obstacles were the hills of the Lower and the Upper Galilee, followed by the Carmel Ridge (with a maximum height of just 546 meters), and the Jordan River. The latter one was easily fordable at the Beth Shean, Nahal Yavneel, Nahal Tabor, and Nahal Yissaskhar valleys (Dorsey 1991: 103). Dorsey identifies at least 18 routes crossing from the Mediterranean coast to the Jordan Valley and Syria (Dorsey 1991: 103). In this chapter I will comment on 8 of them; the route from Achziv to Qedesh (Dorsey's road G3); the route from Nahariya to Hazor (Dorsey's road G4); the route from Akko to Hazor (Dorsey's road G6); and various routes connecting Akko with the Jezreel and Jordan valleys (Dorsey's roads I1, I37, T1, T7, and T9). To Dorsey's routes, I will add the alternatives to the Akko to Beth Shean route proposed by Gal (1992: 8-9) and Artzy (2018).

Dorsey's road G3 communicated the anchorage site of Achziv with Tel Qedesh in the Upper Galilee and Tel Re'emim in the Hula Valley. This route crossed the coastal plain to Tel Avdon, situated at the entrance of Nahal Keziv. From Tel Avdon, the route continued east crossing the Upper Galilee hills along the natural ridges of the Nahal Keziv up to Iqrit. Then the route continued east through the Galilee hills until the entrance of the Nahal Dishon where it continued north to Tel Qedesh, from there it continued southeast to Tel Re'emim in the Hula Valley (Dorsey 1991:158-159) from Tel Re'emim it could easily reach either Hazor or Tel Dan.

Dorsey's road G4 connected Nahariya with Hazor. It started from Nahariya and continued east towards the Hills of the Upper Galilee, passing near the archaeological sites of Tel Kabri, Mi'iliya, Khirbet Barza, Har Neriyya, Meiron, and Har Yehoyariv. From Meiron the route continued east to encounter road B1 at the height of Tel Ya'af and from there north to Hazor. Except for Nahariya, Mi'iliya, and Meiron, no archaeological evidence suggests that these sites were populated during the LBA, making it difficult to assert that an LBA route followed this path. Nevertheless, the recent discovery of an LBA anchorage during salvage excavations at Nahariya suggests the existence of a west-east route entering from this anchorage to the Upper Galilee (Dorsey 1991: 159-160).



Map 5. Dorsey's West-East Routes 1.

Dorsey's, road G6 connected the large harbor town of Akko with Hazor and started at Akko and continued east to Tell et-Tantur and Tel Bira, from there it entered the Hills of the Upper Galilee through Nahf and then it continued to Meiron and Tel Yaaf, continuing to Hazor through road B1 (Dorsey 1991: 161). Contrary to Dorsey, Artzy (2013) thinks that the main route connecting Hazor to the sea in the LBA IIA-B originated at TAH and not at Akko. This route followed the plain of Akko to the north and turned east toward Hanaton at Tell Keisan or Tell Afek. From Hanaton it continued northeast towards the

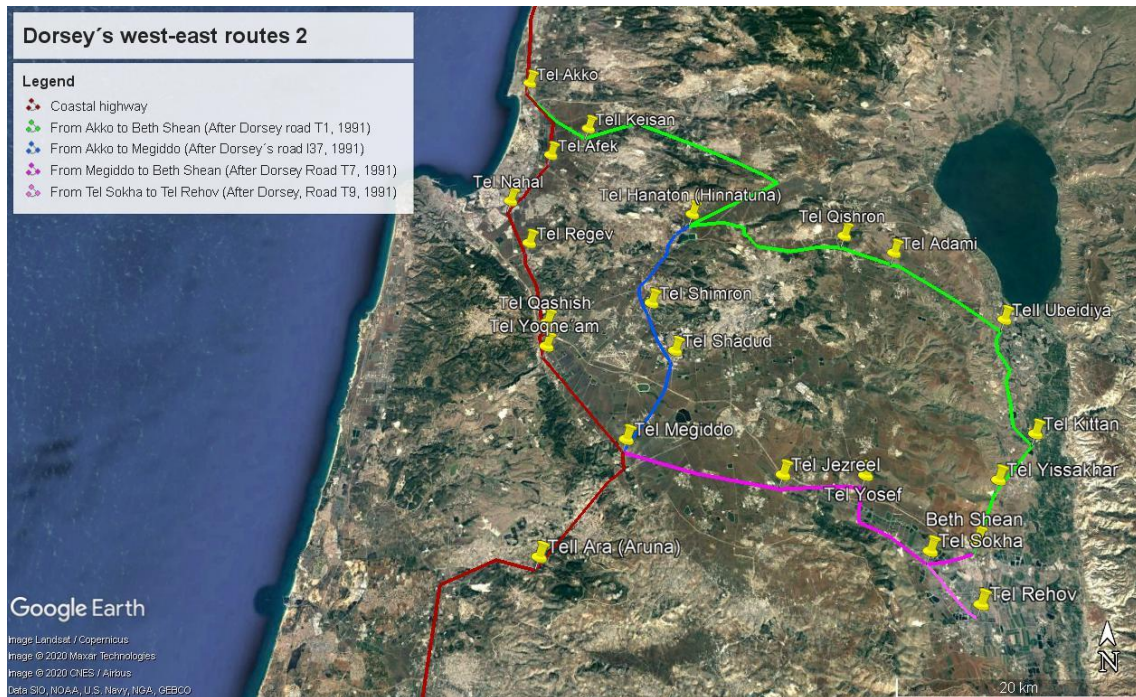
Bet Netofa Valley until Tell Yaaf and Hazor. I will present more details about this route in chapter 6.

Among the different possibilities that Dorsey proposes for connecting Akko with the Jordan valley, I will focus on three routes. The first of these routes was taking the Way of the Sea, road I1, from Akko to Megiddo, passing through Yoqne'am (Dorsey 1991: 78-81) and at Megiddo taking road T7 to Beth Shean. The second of these routes, road I37, also connected Akko with Beth Shean passing through Megiddo, it left from Akko in a southeast direction towards Tel Keisan and Hanaton, continued south to Tel Shimron, Tel Shadud and finally Megiddo, where it again met road T7 (Dorsey 1991: 91-92). The third of Dorsey's routes connecting Akko with the Jordan valley, road T1 (Dorsey 1991: 105-106), was the most popular way from Akko to the Jordan valley during the Crusader, Late Arab, and Ottoman periods (Gal 1992: 9). The route left from Akko and as in the case of road I37 took a southeast direction to Tell Keisan and Tel Hanaton, then it turned east to Tel Qishron and from there southeast to Tel Adami and Tell 'Ubediya, south of the Sea of Galilee. For Dorsey, the connection between Megiddo and the Jordan Valley was done via road T7. This route branched from the Way of the Sea at Megiddo, turned east through the Jezreel Valley to Tel Jezreel and Tel Yosef, and crossed the Harod Valley through its southern side avoiding swamps and marshlands via Tel Sokha to Beth Shean (Dorsey 1991: 110-112). At Beth Shean, the route branched into three: road 7a, road 7b, and road 7c, crossing the Jordan River to Transjordan at three different fords. An important alternate from Dorsey's road T7, is road T9, branching from road T7 at Tel Sokha, in the Harod Valley, and continued southeast to Tel Rehob, where it branched in three for crossing the Jordan River (Dorsey 1991: 113-115). After crossing the Jordan River, roads T7 and T9 continued to Transjordan to the sites of Pella and Tell es-Sa'idiyeh, which were at the crossroad with the Jordan Valley route.

In agreement with Dorsey, Gal proposed two routes connecting Akko to the Jordan Valley, the first of his routes, the Darb el Hawarna route, started at Akko and passed Tell Keisan and Hanaton, turning east through the Beit Netofa Valley and continuing southeast to the Jordan Valley via the Nahal Yavniel. The second of Gal's routes turned south at Hanaton, passing Tel Shimron and Megiddo, and then continued east to Beth Shean (Gal



1992:8-9). Contrary to Dorsey and Gal, Artzy (2018) proposed that the route that connected Akko to Beth-Shean did not pass near Megiddo, instead, it continued southeast from Tel Shimron towards Tel Shadud, Afula and Shunem. From Tel Shunem the route continued southeast via the Harod Valley to Beth Shean. The evidence shown by Artzy (2018) to defend this route will be further discussed in the next chapter.



Map 6. Dorsey's West-East Routes 2.

As for the main routes from the coast to Megiddo, Dorsey stated that the Carmel Ridge represented a serious barrier on the north to south traffic along the Way of the Sea (Dorsey 1991: 82) and did not mention any route crossing it in a west to east direction, as can be appreciated in his map number 3 (Dorsey 1991 map 3: 79). Instead, he proposed that the main routes from the coast to Megiddo surrounded the Carmel Ridge and connected it to Akko (Dorsey 1991: 78-81; 91-92). In contrast, Artzy (1998; 2006) postulates that the Carmel Ridge can be crossed via narrow paths along the river valleys of the Nahal Me'arot and Wadi Milh and proposed various routes connecting Megiddo with the coast. The first of those routes connected Megiddo with Akko, via Yoqne'am and the way of the Sea, similarly to the one proposed by Dorsey (Artzy 2006); The second route proposed by Artzy connected Megiddo with TAH, via Yoqne'am and the Lower Qishon outlet (Artzy

2006); The third route connected Megiddo to the Carmel Coast anchorages of Tel Nami and Tel Dor via Tel Shana and Nahal Tut crossing the Carmel Ridge (Artzy 1998; 2006). However, in a later article (Artzy 2013), she discarded the TAH to Megiddo and the Akko to Megiddo route. The Nami/Dor to Megiddo route will be further examined in the next chapter.

### 3. WEST-EAST TRADE ROUTES OF THE CENTRAL LEVANT

#### 3.1. Methodology

##### A. Written sources

To understand the complex geopolitical situation of the Levant during the LBA II, the analysis of the written sources is to be centered on the el-Amarna letters and the Ugaritic archives.

The el-Amarna letters are the largest LBA written archives, found at el-Amarna, the short-term capital of Amenhotep IV (Akhenaton). The letters consist mainly of diplomatic correspondence between the Pharaoh Amenhotep III and Amenhotep IV (Akhenaton), and the Babylonian, Assyrian, Hittite, and Levantine kings. They were written on clay tablets, in Akkadian. The letters originated from an illegal excavation at Tell el-Amarna, ancient Akhetaten, Akhenaton's capital. For the study of this source, I will use William L. Moran (1992) translation of the letters.

The documents from Ugarit are a series of clay tablets written in Akkadian. They consist of communication between the kings of Ugarit and nearby kings, such as the kings of Amurru or Alašiya. These letters were found during the excavations at Ras Shamra /Ugarit, in the houses of the aristocrats Urtenu and Yabinu. For this study, I will use the translations utilized by Itamar Singer (1999) and the historical analysis of the letters made by Maria Eugenia Aubet (2000).

##### B. Archaeological data

To understand how the different archaeological sites of zones L-3 and L-4 connected with each other and how geography influenced their relations, I will introduce various sites situated in both Levantine Zones. After introducing the sites, I will briefly comment on their imported ceramics. Afterward, I will discuss the economic function of each site based on its size, amount of imported materials, and geographical situation. At last, I will discuss the full regional system in which each site was embedded.

## 3.2. From the Southern Lebanese Harbors to Inner Syria

### A. Sidon

Sidon, known as Saida in Arabic, is the third-largest city in present-day Lebanon. It has around 80.000 inhabitants in the city limits and nearly a quarter of a million in its surrounding areas. It is situated in the southern part of the country, at ca. forty kilometers south of Beirut and ca. forty kilometers north of Tyre.

The modern city of Sidon is situated in an area of ca. four kilometers in the north to south direction and ca. two kilometers from west to east. The modern harbors of the city are located on a cape protected in the west by a partially submerged aeolianite sand ridge whose most characteristic feature is the long and narrow island of Zire, situated on its northern side. On the northern edge of the cape lies a constructed fisherman harbor protected by a small island, where a medieval castle is situated. South of the cape, a newly constructed breakwater closes what until recent years was a wide sandy beach enclosed in a semi-protected natural bay (Marriner *et al.* 2006). The ancient city of Sidon was divided into two, a large inland city usually referred to in the written sources as “Greater Sidon” or “Sidon of the Plain”; and a coastal city, known in the written sources as “Little Sidon” or “Sidon of the Sea” (Doumet-Serhal 2003). The LBA coastal site of “Sidon of the Sea” was situated in the center of the cape, with a large bay located on its northern part, under the modern fisherman’s harbor. Sidon’s northern bay, during the LBA, was about 30% larger than the actual fisherman’s harbor (Carayon 2011). It was protected in its northern and western sides by the aeolianite ridge (Marriner *et al.* 2006). The northern bay was used as a natural anchorage throughout most of the Bronze Age. At the end of the MBA, the first harbor features were constructed in the area, creating a proto harbor that was in use during most of the LBA, until the construction of an anchorage at around 1200 BCE (Marriner *et al.* 2006; Carayon 2011). South of the cape, there was an open small bay, which did not offer good protection for large vessels (Carayon 2011). Nonetheless, it could have been used as a shelter for small boats for seasonal sailing (Marriner *et al.* 2006). During the LBA, a second harbor was in use on the island of Zire (Carayon 2011), an area in which various harbor molls and other constructed features



belonging to the IA, Persian and Hellenistic periods were discovered (Marriner *et al.* 2006).

During the 19<sup>th</sup> century CE various archaeological discoveries in the inland part of Sidon, the ancient “Sidon of the Plain”, arose the interest of archaeologists and antique dealers. The first of these early discoveries, in 1855, was that of the Eshmunazar sarcophagus in the southeastern part of the city. The first survey project conducted at the site was directed by Ernest Renan between 1860 and 1861 and the first excavation was conducted by Hamid Bek in 1887 on behalf of the imperial museum of Istanbul, in the royal necropolis of Sidon. In the early 20<sup>th</sup> century, in 1901, Theodore Macridi Bey discovered a large sanctuary dedicated to the Phoenician god Eshmun on the outskirts of the modern city. Yet, the sanctuary was not excavated until 1960-1975 by Maurice Dunand (Doumet-Serhal 2003). The high density of constructions at Sidon’s cape, where “Sidon of the Sea” was located prevented the systematic excavation of the area. The first archaeological soundings conducted on the cape were directed by Georges Contenau, between 1914 and 1920, near the Crusader’s castle. Some decades later, during 1963, Maurice Dunand conducted surveys on the adjacent areas (Doumet-Serhal 2003). The first excavations started in 1998 when the Lebanese Directorate General of Antiquities authorized the British Museum to start excavating in three areas that the directorate acquired during 1967 (Doumet-Serhal 2003). The British Museum excavations at the site continued until 2012. The oldest archaeological materials discovered during these excavations are dated to the EBA I (Doumet-Serhal 2003), demonstrating that the site was continuously populated since at least the end of the fourth millennium BCE.

In addition to the archaeological data, Sidon is also referred to in various LBA written documents. The longest and most informative of these documents is the 14<sup>th</sup> century BCE archive of el-Amarna, where Sidon is named sixteen times. The city is also named several times in letters from Ugarit, probably written in the second half of the 13<sup>th</sup> century BCE and in Papyrus Anastasi I, also dated to the 13<sup>th</sup> century BCE. The analysis of these written sources contains important information concerning the political status and relationships of LBA Sidon as well as the range of its economic interactions during this period. In the Ugarit letters, the king of Sidon uses the title of *Lugal KUR Si-du-na*,

meaning the king of the land of Sidon. This implies that Sidon controlled an important hinterland and was the head of some form of a small territorial kingdom or city-state, like that of the kingdoms of Ugarit, Byblos, or Beirut (Aubet 2000). In the 13<sup>th</sup> century BCE correspondence between Sidon and Ugarit, the name of the king of Sidon always appears over the name of the king of Ugarit, which may imply that the status of the king of Sidon was higher than the one of the kings of Ugarit (Aubet 2000). Again, in the Ugaritic letters is stated that during the 13<sup>th</sup> century BCE Sidon had a preeminent position over the rest of the Canaanite coastal sites (Aubet 2000). Thus, it can be deduced that Sidon was, at least during the 13<sup>th</sup> century BCE, one of the most important coastal Levantine cities, possibly even an economically equal to Ugarit and Byblos. Sidon was able to maintain its preeminent economic and political position due to its easy access to a large economic inland hinterland. However, it would have been impossible for a coastal city to maintain its preeminence in the international trading networks without a sufficient fleet, which Sidon had, as can be inferred from the el-Amarna letters. Evidence of the maritime power of Sidon can be found in El-Amarna (EA) 114, 149, and 151, where it is said that Sidon was gathering its fleets. An example of the maritime capability of Sidon is to be found at EA 149, 151, 154, and 155 where it is related that Sidon blocked the connection between the island of Tyre and Usu, Tyre's inland city.

In political terms, Sidon was in permanent or almost permanent conflict with its neighbors, as we can infer from the information extracted from the el-Amarna letters. The first time that we find evidence in the el-Amarna letters of a conflict between Sidon and one of its neighbors is in EA 114, where Rib-Hadda, king of Byblos, states that the kings of Beirut, Sidon, and Tyre are gathering their fleets to attack him. The conflict continues in EA 118 where the king of Byblos informs the Pharaoh that his peasants have escaped to Beirut and Sidon. However, the major and largest conflict of Sidon was not with Byblos, but with Tyre. The conflict between these two southern Lebanese cities is named in at least six of the el-Amarna letters. In the first of these letters, EA 146, Abi-Milku, king of Tyre, complained to the Pharaoh that the king of Sidon is hostile to him and that he does not allow him to fetch water. In EA 148, the king of Tyre writes that the king of Sidon raided his lands and kidnapped his palace attendants. In EA 149, the king of Tyre informs the pharaoh that the king of Sidon blocked one of his caravans and

besieged Usu. In EA 151, the king of Tyre asks the Pharaoh for help in his war against Sidon and writes that the king of Sidon blocked his exit from Tyre and did not let him go to Egypt. In EA 152, the King of Tyre asks Egypt for soldiers for his war against Sidon. In EA 154 and 155 Abi-Milku, keeps telling the Pharaoh that Zimredda of Sidon is blocking the connection between the island of Tyre and the inland city of Usu, hence preventing Tyre from fetching water or wood.

To fulfill its hegemonic commercial ambition, Sidon also signed alliances with some of its neighbors, such as the kingdoms of Amurru, Arwad, and Qadesh. The information in this regard can be again found in the el-Amarna letters. One letter indicating the alliance between Sidon and Amurru is EA 114, where Rib-Hadda, notes that the kings of Tyre, Sidon, and Arwad are at peace with the king of Amurru, Aziru, and preparing to attack Byblos. In this same letter, it is stated that Yapah-Hadda, probably the king of Beirut, has joined Aziru against Byblos. In EA 147, the king of Tyre tells the Pharaoh that Zimredda, king of Sidon, writes daily to Aziru, the son of Abdi-Ashirta, and informs him “about every word he has heard from Egypt”. Liverani (1979) pointed out that one of the main responsibilities of the Levantine Egyptian vassals was to inform the Pharaoh. Could the information in letter EA 147 mean, that Abi-Milku is accusing the king of Sidon of being some sort of a vassal of Aziru? In EA 149, the king of Tyre informs the Pharaoh that Sumur (Tell Kazel) has fallen to Aziru and that the king of Sidon aided him. In EA 151 the king of Tyre writes that Zimredda of Sidon is preparing an army and a fleet to attack Tyre and that he is gathering them in the cities controlled by Aziru, clearly implying that at that time Sidon and Amurru were allies. In EA 162, the Pharaoh accuses Aziru of liberating some of the Pharaoh’s enemies that were hiding in Sidon. Again, this letter suggests that there was an alliance between Aziru and the king of Sidon. The relations between Sidon and Arwad are related in EA 149, where Abi-Milku informs that Sidon has made an alliance with Arwad and gathered men and boats and is about to attack Tyre. The possible relations between Sidon and Qadesh are less clear. In EA 151 it is stated that Amurru and Qadesh are at war with Biryawaza of Damascus and in EA 162 the Pharaoh accuses Aziru of being a friend of the king of Qadesh, a king with whom the Pharaoh is at war. These two letters, in which Sidon is also named, demonstrate that Amurru and Qadesh were allied and at war with Damascus. It is possible that Sidon was

also in good relations with Qadesh, as both were allied with Amurru. Overall, it could be said that Sidon was an important part of a large alliance formed by Sidon, Amurru, and Arwad, confronted by an alliance formed by Byblos and usually Tyre. It should, however, be added that both blocks were not constant. For example, letters EA 92, 101, and 114 suggest that Tyre joined the Sidon-Amurru alliance for a short time during the beginning of Aziru's reign. Changing relations was not unusual, other Canaanite cities such as Tripoli or Beirut also joined temporarily one alliance or the other, depending on economic or political motives.

In addition to the data relating to Sidon's diplomacy in the Levant, the el-Amarna letters also provide information in regard to its relations with Egypt. In EA 92 Rib-Hadda, king of Byblos, one of the most "loyal" vassals of Egypt, complains to the Pharaoh that the king of Sidon did not come to help him when he was attacked by Abdi-Ashirta. Some years later, after the death of Abdi-Ashirta, in EA 118 the king of Byblos informs the Pharaoh that the city of Sidon no longer belongs to the king (the Pharaoh) and accuses the king of Sidon of committing treason against Egypt. In EA 162, written in the time of Aziru, the king of Sidon helps Aziru free some enemies of the Pharaoh. In the same letter, it is stated that Aziru is a friend of the ruler of Qadesh with whom the Pharaoh is at war.

From the analysis of the el-Amarna letters, it can be deduced that there was constant conflict between Sidon and Byblos and between Sidon and Tyre, probably provoked by economic and commercial interests. In this form, Sidon wanted to destroy or conquer the other two harbor cities in order to destroy or appropriate their trade routes and connections. At the same time, it can be inferred that Sidon joined a large alliance formed by Amurru, Sidon, Arwad, Qadesh, and probably others. The aim of this alliance was to confront the Egyptian political supremacy in the region, aiming to enhance the importance of its members in the local scene; implying that at least during the el-Amarna period the relations of Sidon with Egypt were not those of a loyal vassal.

In conclusion, Sidon was a wealthy independent polity in control of an extended hinterland. Its large hinterland was enough to maintain the population of the capital city and maybe also to produce an agricultural surplus for export. In terms of industrial

production, the amount of locally produced ceramics discovered at the site and the presence of Sidonian materials in other harbors of the Levant imply that it had its own ceramic production. As to the metal production industry, the site surely had the capability of producing metals and was probably involved in the copper trade with Feinan via Kamid el Loz (Artzy 2006b:95-96). Sidon also played an important role in the LBA Mediterranean trade system, most probably serving as a funnel for imported and exported materials from its hinterland and beyond as an entrepôt for maritime transshipment. Politically and economically it was mainly connected with the northern powers, Ugarit (Artzy 2006b: 89), Inner Syria, and the kingdom of Amurru but also with some sites in the Carmel Coast and Jezreel Valley, as will be explained later in more detail.

## **B. Sarepta**

Tell es-Sarafand, the ancient city of Sarepta, is situated just south of the modern fisherman harbor of Rash al-Qantara, near the village of Sarafand in southern Lebanon, at ca. twenty-five kilometers north of Tyre and ca. fifteen kilometers south of Sidon. The only reference to Sarepta in the LBA historical record is to be found at Papyrus Anastasi I wrote at some point of the late 13<sup>th</sup> or early 12<sup>th</sup> century BCE. In this source, the city is named in tandem with nearby Sidon (Anderson 1988:35).

Sarepta was excavated by James B. Pritchard over five years from 1969 to 1974 and published in various volumes (Pritchard 1978; Anderson 1988; Khalifeh 1988; Koehl 1985; Pritchard 1988). Most of the LBA materials from the site were found at strata K2 (LBA IA), K1 (LBA IB), J, H (LBA IIA), G2 (LBA IIB) and G1 (LBA IIC) of area II, Y (Anderson 1988), and in the 800 square meters area II, X (Koehl 1985; Pritchard 1988). The most common ceramics from the LBA IIA strata in area II, Y are the local wares, consisting of large numbers of storage jars, some of them painted, bowls, carinated bowls, and large open vessels. Some of these large open vessels, named in the report as deep bowls, could also be locally produced, or imported Cypriot style open kraters or bassinets like the ones discovered at TAH (Artzy 2019). The possible Cypriot influence on the local wares in Strata J and H of Sarepta area II, Y, is reinforced by the paste description of some of the local wares (Anderson 1988: pl. 23; 24; 25) indicating that they could belong to the Plain White Wheel Made (PWWM) ceramic family. In addition to

the local ceramics, many imports are described in the report of the LBA IIA strata from Sarepta. The eighteen pieces described as Cypriot imports far outnumber the three Mycenaean pieces. The most common of the Cypriot imports are the White Slip (WS) II ware and the Base Ring (BR) II ware. Other imports present in the LBA IIA levels are the Cypriot Monochrome ware and one sherd of what Anderson calls Levanto-Mycenaean ware (Anderson 1988: pl. 23; 24; 25). This last type was possibly produced locally or in Cyprus, as are, for instance, Mycenaean IIIB2 at Tel Akko (Artzy and Zagorski 2012).

In stratum G2, the LBA IIB, the most common ceramics are bowls and storage jars, as in the LBA IIA, it is possible that some of them are imported PWWM vessels. Contrary to what happened during the LBA IIA, there are few Cypriot imports at LBA IIB Sarepta, contrasted with a clear augmentation of the Mycenaean III A2/B1 imports, mostly closed vessels, especially flasks and stirrup jars. In addition to the Mycenaean vessels, an almost equally large number of pieces of the Levanto-Mycenaean ware was discovered (Anderson 1988: pl. 26; 27). The larger amount of Mycenaean imports in comparison with the Cypriot ones is an interesting factor and might point to changes within the trade network in which Sarepta was integrated. In stratum G 1, the LBA IIC, the most common local materials are the bowls, followed by a similar number of storage jars, kraters, and local Levantine cooking pots. In terms of imports, the most common ones are the Aegean ones of the Mycenaean IIIB and IIIC periods. The Cypriot imports are very few and the number of Levanto-Mycenaean vessels like the Aegean imports (Anderson 1988: pl. 27; 28).

The deepest analysis of the 800 square meters large Area II, X of Sarepta, was done by Bell (2005) for her PhD. She wrote that during the LBA IIB and IIC there were, in this area, a total of 183 imports, 108 of them produced in the Aegean, and 75 in Cyprus (Bell 2005: 111). Most of the Aegean ceramics from this area are, as well as those from area II, Y, small transport containers, especially stirrup jars, with a small presence of larger containers (Bell 2005: 104). In her opinion, this type of distribution of Mycenaean ceramics reflected an elite trade, in which the products were shipped inland for their

content, suggesting that during at least the 13<sup>th</sup> century BCE, Sarepta served as an entrepôt for the distribution of Aegean wares inland (Bell 2005:108- 110).

The large size of Sarepta and its position as a privileged anchorage implies that during the LBA it was an independent political entity, possibly influenced by the larger nearby sites of Tyre and Sidon. The lack of written sources referring to the site makes it difficult to understand to which political entity Sarepta was affiliated. It is possible that its political affiliation changed within the LBA as well as its maritime and inland connections. During the LBA IIA, the major overseas partners of Sarepta were situated in Cyprus and its major role was the redistribution of Cypriot imports. During the LBA IIB, there is a clear change in the origin of the imported products found at the site, as most of them are Mycenaean. The Mycenaean imports could have arrived at Sarepta via transshipment from Cyprus, or Ugarit. The change of the main imported materials encountered at Sarepta might respond to a change in Sarepta's economic organization, probably as a response to a variation in the consumption of its main inland partners. In terms of contacts with the hinterland, it has been suggested by Bell (2005: 104-111) and by Artzy (2006b: 87-91) that at least during the LBA IIB it functioned as one of the main anchorages for Kamid el-Loz and Tel Dan.

### C. Tyre

The modern city of Tyre has today ca. 117.000 inhabitants and is situated ca. eighty kilometers south of Beirut and ca. twenty kilometers north of Rosh Haniqra, the modern border between Lebanon and Israel. The city is situated on a small peninsula attached to the continent by a sand tombolo, surrounded by sandy beaches on its northern and southern ends, with a modern fishermen harbor on its northeastern side. During the LBA, Tyre was a long island separated from the continent by more than one kilometer, very different from the way it looks today. The main causes of Tyre's environmental modifications were: sedimentation from the Litani River delta that formed a tombolo connecting Tyre with the mainland; tectonic activity during the late Roman period; and extensive human intervention from the Hellenistic period onward (Marriner *et al.* 2008). The last step in the formation of Tyre's tombolo was the construction of a sand-bridge by Alexander the Great's army to invade the city (Marriner *et al.* 2008; Carayon 2011). The

tectonic activity caused approximately 50% (470,000 m<sup>2</sup>) of the island's surface to sink three meters into the Mediterranean.

During the LBA, a semi-protected natural bay existed on the northern side of the island, where the modern fisherman's harbor, market, and part of the medieval city is situated. This bay was used as the main harbor of Tyre in antiquity and it was 50% larger than the modern fishermen harbor. From the Hellenistic period onward, it was confined by a harbor mole (Marriner *et al.* 2008; Carayon 2011). Underwater excavations in the northern bay have not shown any architectural remains belonging to either the LBA or the IA. However, massive harbor dredging during the Hellenistic and Roman periods could have destroyed the evidence of an LBA proto-harbor construction (Marriner *et al.* 2008; Carayon 2011). Two other harbors were situated on the island of Tyre; the southern or Egyptian harbor; and an outer harbor benefitting from the protection given by exposed sandstone ridges. A fourth harbor was placed on the continent, near the sites of Tell Mashuk and Tell Chawakir (Marriner *et al.* 2008).

There is no clear archaeological evidence for the second harbor, the southern one; nonetheless, various iconographic and historical sources from the IA to the Hellenistic period suggest its existence (Marriner *et al.* 2008). The discussion regarding the position of this harbor started already in the 19<sup>th</sup> century CE. The most accepted theory is that the southern harbor was situated on the southern edge of the island, where some constructions from the Hellenistic period were found (Poidebard 1939). However, modern underwater archaeological works carried on in 2002 (El Amouri *et al.* 2005) demonstrate that the constructions discovered in the area were not the remains of a Hellenistic harbor, but a submerged quarter of the ancient city that collapsed into the sea due to tectonics during the late Roman period (Marriner *et al.* 2008; Carayon 2011). In the 19<sup>th</sup> century CE, Renan (1864) hypothesized that the southern harbor of Tyre was situated in the southeastern part of the island, in an area protected by the offshore island. Modern geoarchaeological work demonstrates that during the LBA a low-energy environment existed in this area, representing a good environment for a natural anchorage (Marriner *et al.* 2008).



The island's outer harbors were exploiting the subaerial ridges and reefs for cover (Marriner *et al.* 2008) and used for smaller vessels for regional transshipment. The fourth harbor, the one situated in the continent, served as a transport hub for the inhabitants of Paleo-Tyre (Marriner *et al.* 2008), for the transport of agricultural and water supplies from the hinterland to Tyre and for the transshipment of goods from the island to the inland trade route connections.

Herodotus reported that Tyre was inhabited since ca. 2750 BCE, a date corroborated by the archaeological data (Bikai 1978: 72). Since then, the city has been populated without interruption, making it difficult for archaeologists to excavate it. Emir Maurice Chéhab conducted in the 1960s the first large archaeological excavations in the site, which except for the areas excavated by Patricia M. Bikai, were not published (Bikai 1978).

In 1997, after the discovery in the antiquities markets of various funerary items, Aubet, Francisco J. Núñez, and Laura Tresillo started an archaeological project in the al-Bass cemetery, with permission granted by the General Directorate of Antiquities of Lebanon and sponsored by the Spanish Ministry of Culture and the Palarq Foundation of Barcelona (Aubet *et al.* 2016). Since 2014, Aubet, A. Badawi, and Núñez extended the excavations to the *acropolis*, an area situated near the Crusader cathedral, in the center of the Bronze and Iron Age island city (Aubet *et al.* 2016). In addition to the land excavations, Myriam Seco Alvarez and Ibrahim Nouredine directed an underwater survey and excavation project in the surroundings of the island of Tyre at a depth of 33 meters. The underwater excavations were conducted from 2006 to 2010 and a large hoard of clay figurines from the Persian Period was discovered (Seco Alvarez and Nouredine 2010; Artzy and Sheizaf 2019).

The only archaeological materials from Tyre so far published belong to Bikai's excavations. The LBA strata are stratum XVIII, XVII, XVI, and XV. Bikai dated her LBA strata based on the Cypriot imported materials. The oldest LBA finds are from stratum XVIII, represented by three different graves dated by Bikai to ca. 1600 to 1450 BCE, the MBA III, and LBA I (1978: 64-65). The second of the LBA strata, stratum XVII, overlaps stratum XVIII and was dated by Bikai between 1600 and 1400 BCE also

during the MBA III and LBA I. Bikai feels that during the LBA I the area was not populated and that its materials belong to frequent visits (1978: 65). According to Bikai, in stratum XVII are numerous imported ceramics, 24.82% of the total stratum materials (Bikai 1978: 54). The most common imports in stratum XVII, are Monochrome ware, 10.82% of the whole, and WS II, representing 5.94% of the stratum materials. In addition to the WS II and Monochrome ware, there are also some BR I pieces, representing 1.98% of the total, BR II sherds representing 1.06%, WS I and WS I-II transition pieces representing a total of 1.32% of the stratum ceramics, and Black on Red (BoR) ware, a ceramic type that first appears on Cyprus during the MBA III and that represents 1.72% of the stratum materials (Bikai 1978: 54, pl. XLIX-LI). To the above mentioned imported materials, I would also like to add the presence on stratum XVII of some possible PWWM vessels, such as open kraters (Bikai 1978: pl. LI: 1) which could have been produced locally or in Cyprus, pointing to a relation with the island. The presence of Cypriot imports from different periods suggests that stratum XVII encompasses an exceptionally long period, spreading from the end of the MBA or beginning of the LBA until the beginning of the LBA IIA. However, the largest amount of materials from this period is those belonging to the LBA II, which means that the stratum could have lasted a bit longer than suggested by Bikai.

Stratum XVI was dated by Bikai to the beginning of the LBA IIA, ca. 1400-1350 BCE (Bikai 1978: 65). In this stratum, the imported ceramics represent 24.05% of the stratum materials. Most of the imports of this stratum are of Cypriot origin, the most common is the WSII, representing 8.88% of the total stratum material and the Monochrome representing 6.31% of the total stratum material. The BR II sherds represent 2.96 %, while the BR I, represents 1.97%. WS I and I-II transition represent only 1.18% (Bikai 1978: 54, pl. XLVII-XLVIII). In addition to these imported materials, there are also some Cypriot White Shaved (WSh) juglets (Bikai 1978: pl. XLVIIa: 1). In stratum XVI, the Mycenaean imports, LH IIIA/B, represent less than 2% of the stratum materials. The imported ceramic assemblage from this stratum matches the LBA IIA (ca. 1400-1300 BCE). The presence of some LBA I forms, such as BR I and WS I, imply that the stratum should be dated to a short period of time situated between the beginning and the middle of the LBA IIA as suggested by Bikai.

Stratum XV was dated by Bikai (1978: 64) to a long period of time, between 1350 BCE and 1180 BCE. In this stratum, the imported materials represent 10.07% of the total assemblage (Bikai 1978: 54), a much lower percentage than in the previous stratum, but still significant. The most common of the Cypriot imports at this stratum is the WS II ware representing 4.43%, followed by the Monochrome ware representing 2.74% of the total. Other types of LBA II Cypriot Imports such as BR II represent less than 1% of the stratum ceramics. In addition to the Cypriot imports, there are also some LH IIIB imports at Tyre stratum XV, representing something less than 1% of the assemblage (Bikai 1978: 54, pl. XLI-XLIII). To the imported materials in stratum XV identified by Bikai, we should add at least one possibly PWWM *pithos* (Bikai 1978: pl. XLVI), possibly imported from Cyprus. The small amount of LBA I or early LBA II materials imply that the stratum started somewhere in the middle of the LBA IIA. The presence of some WS II pieces, classified by Bikai as late WS II (1978: 65), and by Artzy as WS IIB/III (2019b), imply that the stratum lasted at least until the LBA IIC. Stratum XV was thus occupied during a long period of time situated somewhere in between 1350 to 1180 BCE, as suggested by Bikai. This latest LBA period at Tyre is contemporary with the level V of TAH (Hamilton 1935) when the anchorage was active and with the LBA IIC habitation of Tel Nami (Artzy 2006). The first of Tyre's IA strata, stratum XIV, is characterized by an important decrease of the maritime activity, reflected in the decrease of the total imports to just 4.19%, less than half of the imports in stratum XV (Bikai 1978: 54).

In conclusion, the analysis of the LBA materials extracted from the limited excavations carried out by Bikai demonstrates that during the LBA Tyre had an important role in maritime trade and that was mostly connected with the island of Cyprus. In addition, it is worth mentioning that a very small number of Egyptian imports were found in Bikai's excavations, a situation very common in the Levant, as Egypt mostly exported luxury goods and Nile perch, items that were not transported in ceramics (Zohar and Artzy 2019).

The first references to Tyre in the written sources date back to the MBA Egyptian execration texts (Bikai 1978: 72). Yet, no signs of this period were noted from the results in the archaeological excavations. It is possible that during this period the Egyptians used

the term Tyre for the city of Usu, or just repeated the name in ritual texts as a habit (Bikai 1978: 72-73). Another possibility is that during the MBA, Tyre was a relatively small site and that remains of it did not appear in the limited area excavated by Bikai. During the beginning of the LBA the city is named in the Ugaritic “Tale of Keret” and in one of the Hittite evocation texts (Bikai 1978:73). A bit later, in the middle of the 14<sup>th</sup> century BCE, Tyre is named nine times in the el-Amarna letters and in the 13<sup>th</sup> century it is named in the annals of Sethi I and Ramses II (Bikai 1978: 73), in the letters of Ugarit, and in Papyrus Anastasi I (Aubet 2000). Analyses of the written sources provide us with important data concerning the political status and the diplomatic relations of LBA Tyre (Aubet 2000). They also provide us with a hint on the role played by Tyre in the LBA Mediterranean trade system and in its economic capability and power. In reference to the political status of Tyre, its king used the title of *Lugal URU*, meaning the king of a city, as can be observed in the Ugaritic Letters. This title was, supposedly, of lower status than the title of *Lugal KUR...*, meaning the king of the land of..., used by the kings of Sidon, Beirut, Byblos, and Ugarit (Aubet 2000). I think, however, that the difference between both titles was more territorial than political. The title of *Lugal URU...* made reference to the king of a city with a very small or no hinterland, which was the case of Tyre, who during the LBA controlled only the island of Tyre. From the Ugaritic letters, nevertheless, it can be deduced that the economic sphere of Tyre greatly exceeded its direct hinterland (Aubet 2000). A good proof of the economic capability of Tyre is to be found in EA 89, in which Rib-Adda, king of Byblos, states that the prosperity of Tyre was “as great as the sea” and that its palace was as “large as that of Ugarit”. It might be for this reason that the king of Tyre addresses the king of Ugarit in his letters as brother, not as father, implying that in spite of the small size of Tyre, both kings were considered to be of comparable status (Aubet 2000).

In the regional sphere, Tyre was usually allied with Byblos against Amurru and Sidon. During the years of Abdi-Ashirta of Amurru, the royal house of Tyre had family ties with the one of Byblos, as it related in EA 89. Other important evidence of the good relations between Tyre and Byblos is in EA 77, where Rib-Hadda writes to the pharaoh that he does not have copper or *Sinu*, to send to Egypt because he sent his *Sinu* to his friend, the king of Tyre. The situation changed during the last years of Abdi-Ashirta when the king

of Tyre was assassinated by his own people, as related by Rib-Hadda in EA 89. After the assassination of its king, Tyre joined the Amurru side in the war against Byblos, as can be inferred from EA 92, where the king of Byblos tells the pharaoh that he asked Tyre for help in his war against Abdi-Ashirta but Tyre did not help; from EA 101 where Rib-Hadda complains about the cities of Sidon, Tyre and Beirut; and from EA 114, when the king of Byblos writes to the pharaoh that the ships of the kings of Sidon, Tyre, and Beirut are gathered in Tripoli preparing to attack Byblos. Was it possible that the assassination of the king of Tyre was instigated by Abdi-Ashirta, or more probably the king of Sidon to break the alliance between Tyre and Byblos? It is interesting that in EA 89, Rib-Hadda says that the people of Tyre are afraid and that Abdi-Ashirta has overtaken the sea in front of them and yet they are at peace with him. It is most probable that the passivity of Tyre was a result of the imposition of their new temporary regional overlords of Amurru or Sidon. In any case, the alliance between Tyre and Amurru was unnatural and it did not last long. At the beginning of the reign of Aziru in Amurru, Tyre is again at war with Sidon, and probably on the same side as Byblos, as it is related in EA 146, 147, 149, 152 and 155.

In EA letters 147, 150, 152, and 153, Abi-Milku seeks help and soldiers from the pharaoh, reporting some military actions in which the Egyptian army and the Tyrian fleet cooperated. The cooperation between Egypt and Tyre indicates that Tyre was a loyal Egyptian vassal. Other evidence of Tyre's loyalty to Egypt is to be found in EA 147 and 151, where the king of Tyre communicates on varied situations to Egypt. The most important proof of the good relation between Tyre and Egypt is EA 155, where Abi-Milku states that he married Mayati, one of the daughters of Amenhotep IV (Akhenaton), implying that during the second half of the 14<sup>th</sup> century BCE the royal house of Tyre was connected to the Egyptian one by marriage.

The economic function of Tyre was different from that of the nearby site of Sidon. While Sidon had a large hinterland, the hinterland of Tyre was small or non-existent. Good examples of the limited hinterland of Tyre, and its primary resources shortage, are found in EA 146, where it is stated that the people of Tyre had to fetch water somewhere out of the city, probably in Usu and its surrounding plain, and in EA 149, where Abi-Milku

states that because the king of Sidon has conquered Usu there is no water or timber in Tyre, neither is there a place to bury the dead. The shortage of primary resources implies that Tyre depended on nearby inland sites for its food and freshwater supplies. The best candidates to fulfill the function of agricultural suppliers of Tyre are the sites of Tell Mashuk, Tell Chawakir, and Tell Rachidiye, all of them situated near the coast, parallel to Tyre. In addition to its function as agricultural suppliers, these sites were coastal hubs used for trade between the island and its inland partners (Marriner *et al.* 2008). In the case of Tyre, having a small hinterland did not imply that it was poor. On the contrary, its economic prosperity was based on its privileged geographical position and its various harbors and anchorages. In this sense, Tyre functioned as one of the major harbors for Egyptian trade in the Central Levant, as a center for the transshipment and redistribution of goods, and as the main intermediary for coastal trade along the Levant. The main goods channeled from its harbors were textiles, flax, Lapis Lazuli, turquoise, wool, fish preserves, and bronze as well as silver vessels, as it is related to the 13<sup>th</sup> century BCE letters from Ugarit (Aubet 2000).

#### D. **Kamid el-Loz**

Tell Kamid el-Loz is situated in the southeastern end of the Beqaa Valley, near the modern village of the same name. It covers an area of ca. seven hectares. The site was excavated by a German expedition from the University of Saarbrücken between 1963 and 1981, directed by R. Hachmann. In 1997 Marlies Heinz from Freiburg University headed a new archaeological expedition to the site. The archaeological tell was populated from the beginning of the EBA until the Byzantine period. The archaeological reports from the University of Saarbrücken expeditions were published in German in the *Saarbrücker Beiträge zur Altertumskunde* (Hachmann and Kuschke 1966; Hachmann 1970). The Freiburg University archaeological excavations at Kamid el-Loz produced preliminary reports mainly published in the journal BAAL (Heinz *et al.* 2001; 2006; 2010; 2010b; 2011).

The archaeological site of Kamid el-Loz is identified as the LBA city of *Kumidi*. The oldest written reference to the site was found in the LBA tablets from *Kumidi* itself. During the LBA the site is named in various clay tablets from *Kumidi* dating to the

Egyptian ruler Amenhotep III (Heinz *et al.* 2010: 26). In the el-Amarna letters, *Kumidi* is named five times (Moran 1992). The information gathered in EA 117, 129, and 132 demonstrates that *Kumidi* was the site of an Egyptian official, referred to, at times, as commissioner (EA 117 and 132) and at other times as magnate (EA 129) (Moran 1992). From EA 197, we learn that in addition to having an Egyptian official, *Kumidi* was an independent political entity with its own ruler, named Hamassa (EA 198) during Akhenaton's rule. Also, from EA 198 we know that Hamassa was loyal to the Egyptians as he sent his son to Egypt, hoping that the pharaoh would send him chariots and horses in return. As a loyal vassal of the Egyptians, the relations of *Kumidi* with its disloyal neighbors were conflictive, as shown in EA 132. Rib-Hadda, king of Byblos tells the pharaoh that if he neglects the expansion of Aziru, the Egyptian official will be forced to abandon *Kumidi*. The last reference to *Kumidi* in the el-Amarna letters is in EA 197, where Biryawaza, king of Damascus, tells the pharaoh that he is guarding *Kumidi*, probably against a coalition of Syrian kingdoms that joined the Hittites. From this letter, it can be deduced that the relations of *Kumidi* with Damascus were good and that both were on the Egyptian side during this period.

The diverse archaeological expeditions in Kamid el-Loz demonstrate that the LBA city occupied the full seven hectares of the artificial mound and was strongly fortified. The site had an acropolis with a palace, in which cuneiform tablets were found; a building known as the "treasure house" and a workshop. In addition to the acropolis buildings, the site also had a relatively large temple (Heinz *et al.* 2010: 26-28) and various residential areas as the one situated in the eastern slope of the tell (Heinz *et al.* 2010: 35).

The southwestern area of Kamid el-Loz was excavated first by the Saarbrücken expedition from 1964 to 1980. The main building in the area was identified and named a palace by the members of the Saarbrücken expedition, due to its large size. In this area, the Kamid el-Loz clay tablets were discovered, indicating its bureaucratic function (Heinz *et al.* 2010: 164). In addition to the palace building, various workshops were discovered, implying that the surroundings of the palace were used as an important industrial area.

In 2002 the Freiburg University archaeological expedition reopened the excavations near the Palace, areas recorded as III-a-12-16 and I-i-15-16 (Heinz *et al.* 2010: 153). In areas III-a-15 and III-a-16, two-building “units” referred to as unit 1 and unit 3 were dated to the second part of the LBA I and LBA II and contemporary to the Saarbrücken expedition level P4 (Heinz *et al.* 2010: 164). The function of these two building units seems to be quite different from the one uncovered by the Saarbrücken expedition, as the presence of an oven and various *tannours* indicate its domestic function (Heinz *et al.* 2010: 164). Most of the LBA ceramics from the palace area are bowls, some with red paint or rope impressions, some of them carinated. Also, quite common in areas III-a-15 and III-a-16 are the typical Canaanite cooking pots with globular body, convex walls, carination, short neck, and everted rims., the storage jars and the painted biconical jugs (Heinz *et al.* 2010: 165-166; Pl. 26-28). In addition to the local pottery, some Cypriot imported ceramics, such as WS II and BR II were discovered in the area (Heinz *et al.* 2010: 166; Pl. 29). The ceramic assemblage from the palace area is mostly local, with only some Cypriot ceramics, indicating contacts with the Levantine harbor cities. Additionally, the presence of bowls with rope impressions and some specific forms of large bowls similar to the Egyptianizing bowl from Tel Dan (Martin and Ben-Dov 2007) might indicate influences from Egypt.

The LBA temple of Kamid el-Loz occupies ca. 700 square meters and was excavated by the Saarbrücken expedition in the 1970s. It was stratigraphically divided into three levels, levels 1 and 2 belong to the LBA II and level 3 to the LBA I (Bell 2005: 105-106). The LBA II imported materials from the temple, especially the Mycenaean ones, were studied by Bell (2005: 105-106). She wrote that at least 29 Mycenaean vessels of diverse types were discovered in the temple, half of them closed containers. Although no paste analysis has yet been carried out, Bell (2005: 106) thinks that they are similar in shape to the ones from Sarepta, and she assumes that they were transported inland probably for their content. The area situated northwest and west of the temple also occupies 700 square meters and was excavated by The Freiburg University expedition. During their excavations, they found an LBA I residential area connected to a “main street” and various buildings situated north and south of it (Heinz *et al.* 2010: 115). This residential area was abandoned in the latter part of the LBA I and used only sporadically as a



“squatters” settlement during the LBA II (Heinz *et al.* 2010: 150). As a result, the LBA II ceramic assemblage of the area is very scant, consisting of only one fragment of WS II, one BR I jug, one carinated bowl, various pieces of Cypriot Bichrome painted ware, various large bowls, one krater, and one *pithos* (Heinz *et al.* 2010: 130; pl. 15).

In addition to the temple and acropolis areas, the Freiburg University expedition also excavated a residential area situated in the eastern slope of the tell, recorded as area II and divided into subareas II-e-5, II-e-6, II-e-7, and the deep trench II-f-9. The LBA stratigraphic levels in this area are levels 5 to 7, all of them belonging to the LBA II (Heinz *et al.* 2010: 35) and the archaeological levels from trench II-f-9 belonging to the beginning of the LBA IIA (Heinz *et al.* 2010: 63-64) or maybe to the end of the LBA I. Until now no differentiation between the sub-levels of the LBA II has been presented for area II. The LBA II materials discovered in areas II-e-5 and II-e-6 are very scant, and only the materials belonging to level 6 have been reported (Heinz *et al.* 2010: 62). The ceramics reported from this level are various bowls, a krater, a *pithos*, and a Cypriot BR II jug (Heinz *et al.* 2010: 62; pl. 7-8). In area II-e-7, the most common ceramics the bowls, some of them with red decoration, and some carinated. In addition to the bowls, two pilgrim flask sherds and a sherd of a BR II juglet were found (Heinz *et al.* 2010: 63-64; pl. 9-10). The reported materials from the trench II-f-9 are a painted krater, like the ones at Megiddo IX and VIII and a bowl (Heinz *et al.* 2010: 74; pl.10). Overall, the population inhabiting the residential area of the eastern slope had some economic means, belonging likely to the sub-elite as they had the capability of obtaining imports and decorated wares like the ones found in the palace (Heinz *et al.* 2010: 97).

The large size of LBA *Kumidi* and the presence of various residential areas, a palace, and a temple, point to its importance during the LBA. Its geographical situation in the crossroad between the north-south route connecting the Beqaa with the Hula and Jordan Valleys and the west-east route linking Damascus with the coast suggests that the site had an important role in the LBA trading system. From the LBA IIA onwards *Kumidi* was probably involved in the Feinan mines copper trade, utilizing the above-mentioned north-south route, as already suggested by Artzy (2006b: 87-91).

In conclusion, the existence of economic contacts between the site and coastal Lebanon is demonstrated by the presence of Cypriot and Mycenaean imported materials at the site. In addition to its commercial importance, the situation of Kamid el-Loz in a rich agricultural area implies that it had a large agricultural hinterland and primary economic function. At the beginning of the LBA II, the site was an independent political entity ruled by a local king, most probably in good relations with Egypt, as can be deduced from EA 197. In the second part of the LBA IIA, the el-Amarna letters indicate that an Egyptian governor ruled in Kamid el-Loz instead of or in addition to the local king.

#### **E. Tel Abel Beth Maacah**

The archaeological site of Tel Abel Beth Maacah in Hebrew or Tell Abil el-Qameh in Arabic, identified with the biblical city of Abel Beth Maacah, is a more than ten hectares site formed by two mounds, a large flat mound in the south and a prominent small mound in the north. It is located in the Hula Valley, ca. one kilometer west from the modern border between Israel and Lebanon, in the Israeli side, between the villages of Metula (ca. two kilometers north), Yuval (ca. two kilometers southeast) and Kfar Giladi (ca. two kilometers southwest). It is also situated ca. seven kilometers north-west of Tel Dan and ca. twenty-five kilometers north of Hazor.

Until 2012, Tell Abil el Qameh remained as one of the only unexcavated large archaeological sites in Israel. Some survey projects, however, were carried on the site, the first of them directed by Yehuda Dayan from the Israel Department of Antiquities in the 1960s. In 1972, William G. Dever from the University of Arizona performed another survey and a historical-geographical analysis of the site, published in 1986 (Dever 1986). Subsequently, the Israel Antiquities Authority conducted a small salvage excavation at the base of the southeastern slope of the tell, unearthing various Byzantine tombs, and a group of MBA II-III vessels that probably belonged to a tomb assemblage (Stefansky 2005). In 2012 a joint project of Azusa Pacific University of Los Angeles and the Hebrew University of Jerusalem directed by Nava Panitz-Cohen, Ruhama Bonfil, and Robert Mullins conducted a survey followed, since 2013, by an excavation directed by Panitz-Cohen, Naama Yahalom-Mack, and Mullins.

The site is firstly mentioned in the late group of the Egyptian execration texts dated to the late 19<sup>th</sup> or early 18<sup>th</sup> centuries BCE, in which the site is referred to as *Abel* (Dever 1986). The only certain reference to the site during the LBA is in the list of cities destroyed by Thutmose III during his first Asiatic campaign ca. 1482 BCE, where it is also referred to as *Abel*. Dever (1986) thought that the city of *Yabilima* cited in EA 256, should be identified with Tell Abil el Qameh. But *Yabilima* is referred to in relation to Pella in northern Jordan, and Tell Ashtara/*Ashtartu*, (Albright 1943). Accordingly, William F. Albright (1943) proposed that the *Yabilima* of the el-Amarna letters should be identified with Tell Abil, the Abila of the Decapolis, situated in southern Syria, at ca. twenty kilometers southeast of Tell Ashtara. The biblical name of the site, Abel Beth Maacah was not used until the IA and is mentioned three times in the Hebrew Bible (Yahalom-Mack *et al.* 2018).

No final reports from Tell Abil el Qameh have yet been published; however, the results of the 2012 survey revealed that it was continuously populated from the EB II to the Ottoman period (Panitz-Cohen *et al.* 2012). In addition to the survey report, some articles and preliminary reports present the stratigraphy and some of the materials from the site (Panitz Cohen *et al.*; 2013; 2015; Yahalom-Mack *et al.* 2018). From the information regarding area F, in the lower tell, it can be inferred that the site was inhabited and strongly fortified with defensive ramparts and stone towers during the MBA. The massive fortifications constructed during the MBA were reutilized during the LBA, as the LBA strata abutted the MBA ramparts. Regarding the LBA, it was divided into three strata, stratum F5 belonging to the LBA I; F4 to the LBA IIA and F3 to the LBA IIB, demonstrating that the site was populated during the full period. The fact that the LBA strata of area F were discovered on the lower tell indicates that during the LBA the city covered the full extension of the tell (Panitz-Cohen *et al.* 2015; Yahalom-Mack *et al.* 2018). The only materials published from stratum F-4 and F-3 are a Cypriot jug containing a silver hoard (Panitz-Cohen *et al.* 2015) and a Ramses II scarab, the last one discovered in topsoil over a stratum F-1 (IA I) wall (David *et al.* 2016). The last LBA stratum, stratum F-3, was abandoned with no signs of destruction. The MBA fortifications were not reutilized during the IA I, as some silos and pits were constructed over them during this later period (Panitz-Cohen *et al.* 2015).

Regarding the political organization and economic function of Abel Beth Maacah during the LBA, Bunimovitz (1995) and Finkelstein (1996) in their LBA city-state studies situated the site within the borders of the kingdom of Hazor. Similarly, in the work of Na'aman (1997), the site does not appear as the capital of a city-state. The lack of written sources and scant published materials make it difficult to understand what the political affiliation and economic function of the site was. The same can be said about its trade relations and main economic partners. However, the large size of the settlement and its geographical position dominating the trade routes crossing the Levant from the Hula to the Beqaa Valley suggest that it was a relevant site for the LBA trade-network and capital of an independent political entity. Most probably its hinterland was limited by the nearby city of Tel Dan and its economic function mostly based on its position as an intermediary in the Hula-Beqaa Valley north-south inland trade route.

#### F. **Tel Dan**

Tel Dan is a ca. fifteen hectares archaeological site situated in the Hula Valley, ca. three kilometers south of the modern border between Lebanon, Israel, and the Golan Heights, and one kilometer north of the modern Kibbutz Dan. The nearest large archaeological sites are Tell Abil el Qameh/Abel Beth Maacah, situated ca. seven kilometers west of Tel Dan and Hazor, situated ca. twenty-five kilometers southwest of Tel Dan. The site was excavated under the direction of Abraham Biran from 1966 until 1974 on behalf of the Israel Department of Antiquities and Museums (IDAM) and later under the auspices of the Nelson Glueck School of Biblical Archaeology of the Hebrew Union College-Jewish Institute of Religion in Jerusalem. This last institution launched a new expedition in 2005 under the direction of David Ilan and Yifat Thareani, continuing until today.

Tel Dan was first populated during the Early Chalcolithic and abandoned at the beginning of the EBA. The site was resettled during the EBA III and continuously occupied until the Roman period. It is named various times in the Hebrew Bible, where it is stated that before the Israelite conquest it was known as *Laish*. In the MBA, *Laish* was mentioned in the Egyptian execration texts and during the LBA in the records of Thutmose III (Martin and Ben-Dov 2007). The LBA materials from Tel Dan were published in two of

the three volumes of the site's final report (Biran and Ben-Dov 2002; Ben-Dov 2011). The LBA occupation of the site was divided into two strata, stratum VIII, corresponding to the LBA I, and stratum VII to the LBA II. This last stratum was subdivided into two sub-strata, stratum VIIB, the LBA IIA, and VIIA, the LBA IIB (Ben-Dov 2011). The most prominent feature of LBA Tel Dan is tomb 387, initially called by Biran "Mycenaean tomb", belonging to stratum VIIB. The tomb contained a total of 108 vessels, 77 of local typology, 28 of Aegean style, among them a chariot krater, and 3 of Cypriot typology (Biran and Ben-Dov 2002; Bell 2005: 107; Ben-Dov 2011). The tomb was dated to the middle 14<sup>th</sup> to early 13<sup>th</sup> century BCE by means of typology (Biran and Ben-Dov 2002: 110; Martin and Ben-Dov 2007). The Mycenaean ceramics from the tomb were analyzed by means of NAA by Gunneweg *et al.* (1992) demonstrating that they were produced in the Argolid. Some of the undecorated local style ceramics from the tomb were also analyzed. The results indicated that they were made in the coastal area situated between Sidon and Tyre (Gunneweg *et al.* 1992). In the coastal area of southern Lebanon, the nearest parallels for the Aegean materials from tomb 387 of Tel Dan are to be found at the archaeological site of Tell es-Sarafand, ancient Sarepta (Bell 2005b). In addition to the Mycenaean imports, a small Egyptian and Egyptian style ceramic assemblage was also found at Tel Dan (Martin and Ben-Dov 2007). Among the ceramics of this group, only one carinated jar was produced in Egypt, the other Egyptian style vessels were of Levantine production, three-quarters of them were produced in the Lebanese coast (Martin and Ben-Dov 2007). The most common type among the Egyptian style ceramics was that of the flared rim bowls. The flared rim bowls are quite common in all the Levant, being the most common type at Ugarit (Monchambert 2004: Fig. 7-17). A characteristic feature of the Tel Dan flared rim bowls is that they have a red slip. Mario S. Martin and Ben-Dov (2007) state, that the red slipped flared rims are present at Kamid-el-Loz and in few quantities at Ugarit.

In contrast with the nearby site of Tel Abel Beth Maacah, Tel Dan has been published. As it was the case of Tel Abel Beth Maacah, the authors addressing the problem of the LBA Levantine political organization situate LBA Dan within the borders of the Kingdom of Hazor (Bunimovitz; 1995; Finkelstein 1996) or do not deal with it (Na'aman 1997). As

in the case of Abel Beth Maacah, the large size of Tel Dan and its wealth imply that it was the director of its own political entity.

The strong presence at Tel Dan of Mycenaean imports and of ceramics produced in the Lebanese coast demonstrates that it was linked to some of the main harbors of Zone L-3, most probably Sarepta as already proposed by Bell (2005b). In parallel, the similarities between a house model encountered at Tel Dan with the ones from Tel Hadar, Tel Hazor, Kamid el-Loz, Ugarit and, Tell Deir Alla point to a connection between these sites (Artzy 2006b: 86-87), a connection, reinforced by the similarities between the materials from Tel Dan and Kamid el-Loz. In conclusion, it could be said that Tel Dan was a pivotal site in the north-south trade route that connected the Beqaa Valley with the Jezreel Valley and in the west-east route that connected the Lebanese coast with Inner Syria and Transjordan (Artzy 2006b: 86-87).

#### **G. Tel Hazor**

Hazor is in the northeastern part of modern-day Israel, ca. six kilometers west of the Syrian border, west of Kibbutz Ayelet HaHashar. With ca. eighty hectares, divided into a ten hectares upper city and a seventy hectares lower city, it is the largest archaeological site in modern Israel, similar in size to the Syrian cities of Qatna and Kadesh. The site was populated from the EBA until its destruction during Tiglat-Pileser III 734-732 campaign. The first large archaeological expedition to the site was directed by Yigael Yadin on behalf of the Hebrew University of Jerusalem from 1955 to 1958 and again in 1968. This first extensive excavation project was published by the Israel Exploration Society in five volumes (Yadin *et al.* 1960; 1961; Ben-Tor 1961; 1989; Ben-Tor and Bonfil 1997). In 1990, the Hebrew University of Jerusalem started a new archaeological expedition under the direction of Amnon Ben-Tor and Sharon Zuckerman. The 1990 to 2009 excavations seasons were published in two volumes, Hazor VI for the IA (Ben-tor *et al.* 2012) and Hazor VII for the LBA (Ben-tor *et al.* 2017). The first references to Hazor in the written sources are in some letters discovered in the MBA archive of Mari (Zuckerman 2007). During the LBA Hazor was known as *Ḥašura* and was named four times in the el-Amarna letters.

As in the cases of Tell Abil el-Qameh/Abel Beth Maacah and Tel Dan, all of Tel Hazor was occupied during the LBA. The city was renovated several times during the LBA, expanding its acropolis and public buildings, reaching its final and most impressive stage during the LBA IIA, stratum XIV in the upper city, and 1B in the lower city (Zuckerman 2007). At the beginning of the LBA IIB, several of the public buildings were destroyed, a fact that is clearly detected in the monumental gate of area K (Zuckerman 2007). The first excavator of the site, Yadin (1972: 108), thought that the destructions detected at the end of stratum XIV/1B were provoked by the conquest of the site by the Egyptians during the reign of Seti I (Yadin 1972: 108). However, the results from the excavations directed by Ben-Tor and Zuckerman demonstrate that the destruction levels at the end of the LBA IIA were not consistent, but specific to the public buildings and that there was no evidence of violent destruction (Zuckerman 2007). For these reasons, Zuckerman (2007) proposed that the end of LBA IIA Hazor was provoked by an internal crisis. In this sense, the LBA IIB, stratum XIII, in the upper city and 1A in the lower city, show clear evidence of architectural degradation and a general decrease in the city's wealth. Hazor was finally abandoned at the end of the LBA IIB, ca. 1225 BCE and not reoccupied until the 11<sup>th</sup> century BCE (Zuckerman 2007). The results from the latest expedition, however, will give us a better picture of Hazor's LBA II strata and its final destruction.

In terms of political organization, there is no doubt that during the LBA, Hazor was the head of its own independent political entity, controlling a very large and diverse hinterland, encompassing large areas of the Golan Heights, the northern Jordan Valley, the northern area of the Sea of Galilee and large parts of the Upper and Lower Galilee (Finkelstein 1996). Another hint of Hazor's extensive hinterland during The LBA is to be found in the el-Amarna letters. In EA 364 it is written that Hazor conquered three cities belonging to the king of *Ashtartu*, a city situated at ca. fifty kilometers southeast from Hazor (Moran 1992). The use of the title of *LUGAL<sup>KUR</sup>* (king of the land of...) by the king of Hazor is additional evidence of its large territorial size. The large hinterland of Hazor and its use of the title of *LUGAL<sup>KUR</sup>* leads some scholars (Finkelstein 1996; Na'aman 1997; Zuckerman 2007) to claim that during the LBA IIA Hazor was a regional kingdom, more than just a city-state. However, as I suggested for the case of Tyre, it is

possible that the title of *LUGAL<sup>KUR</sup>* in the LBA greeting-formula system only refers to the hinterland size and it is totally unrelated to the state's status.

Contrary to what is known about Hazor's political organization, it is difficult to say what its relationship with their Egyptian overlord was, as only EA 148 and EA 227 give some information in this respect. In EA 148, Abi-Milku, king of Tyre, communicates to the pharaoh that the king of Hazor aligned himself with the *'apirû* and accuses him and the king of Sidon of being treacherous. From the analysis of EA 148, it could be said that the king of Hazor was aligned with Sidon and hence also with the kingdom of Amurru and later with the Hittites, thus, disloyal to Egypt. In EA 227, the king of Hazor seems to be happy of inviting the pharaoh to his city, implying that at that time the king of Hazor was loyal to Egypt. Or maybe, the king of Hazor was just giving a 'polite' response to avoid problems (Liverani 1979). If the king of Hazor was loyal to Egypt, the information given in letter EA 227 contradicts that of EA 148. It is possible that Hazor changed loyalties various times during the LBA IIA, or that the king of Tyre exaggerated the accusations against Hazor due to his own economic and political interests. Another possibility is that Hazor was acting as an independent entity, generally disloyal to Egypt, but that did not wish to directly confront the Egyptians on the few times that they showed their power; that is why Hazor welcomed the pharaoh to the city. As to the relations of Hazor with the neighboring political entities, from EA 148 we can deduce that it did not have very good relations with Tyre; from EA 364, where Ayyab king of *Ashtartu* tells the pharaoh that Hazor has taken three of his cities it can be inferred that it did not have good relations with that city either (Moran 1992). Overall, it could be said that Hazor was a large and an expansionist city with strong political and economic interests in Inner Syria and the Jordan Valley and, often clashed with the interests of its neighbors.

Thus, at least during the LBA IIA and early LBA IIB, Hazor was one of the most important economic powers in the region. Its large hinterland, with access to several of the region's water sources and to the rich agricultural areas of the Sea of Galilee probably made it one of the largest agricultural producers of the region. To this, it should be added the size of the tell and its large population, which probably made it one of the most important industrial producers in the Golan Heights and Southern Syria. The geographic



situation of the site, controlling some of the west-east routes that connected the sea with Inner Syria and the Jordan Valley, as well as the north-south route connecting the Jordan Valley with the Beqaa Valley made it a most important player in the commercial economy of the period. The size of the site, combined with the various examples of elite architecture, a palace, and various temples, implies that it was an important trading partner needing large numbers of imported elite goods, therefore in contact with one or several harbors for the supply of its elite goods.

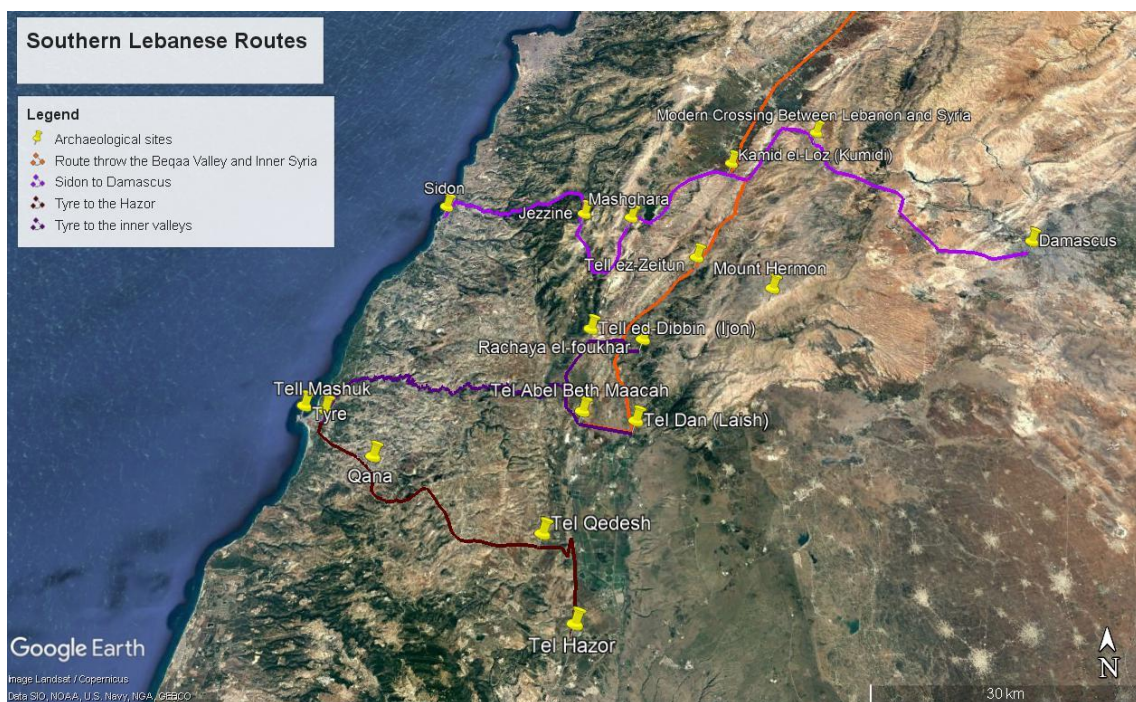
## H. Discussion

Throughout this section, I introduced three harbors/anchorages and four inland sites with the purpose of establishing the connections among them. From the material culture and geographical analysis, we can say that the inland sites of Kamid el-Loz, Tel Abel Beth-Maacah, Tel Dan, and Hazor were connected to one another through the inland north-south route crossing the Beqaa, Hula and Jordan Valleys. These inland sites, as during the EBA, were associated with the anchorage sites of Sidon, Sarepta, and Tyre through at least three different routes. The northernmost of these routes left Sidon and followed the course of the Awali River east passing near modern Jezzine and Mashghara and from there it continued North to Kamid el-Loz (Safadi: 2013). The second route, left from the inland city of Usu, normally under the control of Tyre, following the Litany River east to Metula, where it left the course of the river, continued east to Tel Abel Beth-Maacah and Tel Dan, and then north to Tell ez-Zeitun and Kamid el Loz (Safadi: 2013). Alternatively, this route continued following the Litani River course until the site of Tell ed-Dibbin, probably ancient Ijon and from there east to the western slopes of Mount Hermon, near the village of Rachaya el-Fouchar. Tyre was interested in maintaining a trade route to Mount Hermon to provide itself of high-quality clays for ceramic production, as demonstrated by paste analysis performed on various ceramics discovered at the acropolis of Tyre (Aubert, personal communication, March 2020). From the western slopes of Mount Hermon, the route could have continued North to Kamid el Loz or south to Tel Abel Beth-Maacah and Tel Dan. The southernmost route left from the coastal site of Usu to the southeast, crossing the mountains through the inner valleys at the height of Qana, then continued southeast to Tel Qedesh, situated near the modern border between Lebanon and Israel, and from there south to Hazor. In addition to the geographical

analysis, we should also analyze the material goods and written sources in order to understand which site related to each other during a specific period. In this sense, the el-Amarna letters, in which both Tyre and Kamid el-Loz seem to relate to Egypt point to contact between these two sites. The ceramic assemblage of both sites during LBA IIA, with many Cypriot imports and a small number of Mycenaean ones, does not contradict this conclusion. However, during the LBA IIB, the situation was different, in Kamid el-Loz there is an important reduction of the Cypriot imports and a high increase of the Mycenaean ones, a phenomenon that is not paralleled in Tyre. It is most probable that during this period Kamid el-Loz related to Sarepta, as already suggested by Bell (2005: 103-109) and maybe to Sidon. Other evidence of the connection between Sarepta and the inland Valleys during the LBA II is to be found at Tel Dan, where a large number of vessels parallel to those from Sarepta were discovered (Bell 2005: 103-109; Martin and Ben-Dov: 2007). The north-south inland route connecting Kamid el-Loz with Tel Dan and Tel Abel Beth Maacah continued south to Hazor. Accordingly, it is possible that Hazor also used Tyre, Sidon, or Sarepta as one of its harbors, a possibility already suggested by Josephson Hesse (2008). Following Artzy (2013), however, I think that at least during the LBA IIA-B, the main harbor of Hazor was TAH, as it will be explained in detail in the last chapter of this study.

The economic and political connections between sites went much further than the immediate hinterland. From the analysis of alliances in the el-Amarna letters, it can be stated that at least during the LBA IIA there were two large political and economic spheres, one directed by Egypt and the second one by the northern kingdoms. The first coalition, the one directed/ruled by Egypt was formed by Byblos, Tyre, Kamid el-Loz, Damascus, and maybe other sites in the Hula and Beqaa valleys. Further south this political alliance and economic network connected with the harbors of Akko and Dor and with the Jordan valley site of Beth-Shean, as will be shown later in this chapter. The second alliance, connected economically with the north, and with the kingdom of Amurru as its most visible member was formed by Ugarit, Arwad, Amurru, Sidon, and various sites from Inner Syria such as *Ashtartu*, *Busruna*, and *Halunnu*, as can be deduced from EA 197. It is probable that the major economic player in this network was Ugarit, while its major political player was the kingdom of Amurru. Politically the main target of this

coalition was the liberation from the Egyptian vassalage. During the LBA IIB, the direction of this coalition, at least economically, passed to the Hittites. The different sites that formed it were connected to each other by the north-south routes crossing Inner Syria and by sea through a series of west-east from coast to land routes. The northernmost of these west-east routes was probably controlled by Arwad or possibly Tripoli and linked to Qatna, Kadesh, and others via Tell Kazel (Sumur), Tell Arqa (Irqata), and other main towns of the Kingdom of Amurru. The second of these west-east routes was directed by Sidon, crossing the Mount Lebanon via the Awali River. Both routes were connected to one another, via the Maritime route along the Levantine coast and the inland route that crossed Inner Syria and the Beqaa Valley. To the south, the northern sphere was probably connected with TAH, Hazor, and during some periods of time with Tel Nami and Megiddo.



Map 7. Southern Lebanese Routes.

### 3.3. From Akko to Beth Shean

#### A. Tel Akko

What is nowadays called the “Old City” of Akko is situated in a peninsula in the northern side of the Akko/Haifa Bay, with a partially submerged sandstone (locally known as *kurkar*) ridge which runs parallel to the city in its western part. A modern fishermen harbor is situated in the southeastern part of the peninsula, more or less where the city’s medieval harbors were. Most of the structures of the “Old City” belong to the Ottoman period and are situated above remains dated to the Crusader period (when Akko was known as Acre and was the capital of the Crusader kingdom), which at the same time lie over earlier remains, as far back as the Hellenistic period. However, the ancient most habitation of the site was not situated under the modern “Old City”, but on a ca. twenty hectare “banana shaped” hill, known by the locals as either Napoleon Hill or Tell el Fukhar and by the archaeologist at Tel Akko (Artzy 2012; Artzy and Quartermaine 2014). Currently, Tel Akko is situated ca. two kilometers east from the coast and less than one kilometer north of the Na'aman River. During the LBA, Akko was an important harbor site. Its anchorage was situated immediately north of a closed estuary or marine lagoon formed by the Na'aman River mouth, or perhaps in a paleo-bay that extended east of the tell (Morhange *et al.* 2016; Giaime *et al.* 2018; Artzy *et al.* in press).

The shape of Tel Akko and its current position are to be attributed to the strong environmental modifications that the site suffered since the end of the last ice age, approximately ten thousand years ago (Artzy and Quartermaine 2014). At that time, the ice started melting and the sea level rising, flooding the area situated north of the Carmel Ridge, and forming what nowadays is the Akko/Haifa Bay. The period of maximum flood was at ca. 2000 to 1000 BCE; afterwards, the accumulation of sediment from the sea and the rivers started to surpass the sea level increase, making the sea to move backwards (Zviely *et al.* 2006). At ca. 250 BCE, the harbors of Akko were silted, and the site came to be far from the sea. As a result, the population moved to the “Old City” to regain access to the sea (Artzy 2015; Galili *et al.* 2010).

Sedimentation is not the only factor that affected the site of Akko; human efforts also affected the site's environment, from the moment when it was first urbanized at ca. 4000 years BCE (Kaniewski *et al.* 2013). Greater human attributed modifications, however, were noted for the past 150 years, especially during the Late Ottoman period and the British Mandate. It was assumed that the unusual "banana shape" of the site was the product of earth removal carried out during the British Mandate in order to dry the Na'aman River's swamps, however a study of various 18<sup>th</sup> century maps (Artzy and Quartermaine 2014) and modern geomorphologic studies (Morhange *et al.* 2016; Giaime *et al.* 2018) demonstrates that the British intervention was not as destructive as originally thought and that urban adaptation to geomorphologic changes in antiquity is what provoked the strange "banana shape" of the site.

Tel Akko was excavated by Moshe Dothan with the assistance of Avner Raban and Artzy in intermittent periods from 1973 to 1989 (Dothan and Goldman 1993). In 2010 Ann Killebrew and Artzy started a renewed project of excavation named "Total Archaeology" (Artzy 2012). The first possible mention of the site in the written sources was discovered at the EBA archive of Ebla (Artzy and Beeri 2009); the second reference about the site is from the MBA, when the site was named 'Akka in the Egyptian execration texts (Artzy 2015). During the LBA, 'Akka is named seven times in the el-Amarna letters, in the list of cities destroyed by Seti I and in the list of the cities conquered by Ramses II (Dothan and Goldman 1993; Artzy 2006; 2015; 2018).

The areas in which LBA materials at Akko have been found so far are areas AB, C, F, H, and PH, most of them situated on the MBA city ramparts. The only area in which some LBA stratigraphy was present was area C. In the four other areas the LBA is limited to the LBA IIC. The most common imports from LBA IIC Akko originate in Cyprus. Some Egyptian and Aegean wares were noted (Artzy 2013; 2018). While the LBA in the tell is limited thus far, LBA IIA-B materials were found in the so-called 'Persian garden' cemetery (Ben Arieh and Edelstein 1977). Among them, Cypriot and Mycenaean IIIA2/B1 imports originating in Messenia rather than Berbati (Gunneweg and Michel 1999). The ceramic materials found at both the Tel Akko and the "Persian Garden" excavations demonstrate the importance of the city in the Mediterranean trade during the

LBA II and its connection with Egypt (Artzy 2006; 2013; 2018; Artzy and Zagorski 2012).

James M. Weinstein (1981) has already suggested that at least during the LBA IIA and IIB Tel Akko's international relations were affiliated with the Egyptian Empire. The suggestion of Weinstein is further supported by the Egyptian imports found at Tel Akko and by the Egyptian written sources, which refer to it in the el-Amarna letters and at various times during the reigns of Seti I and Ramses II. For instance, in EA 234, the king of Akko compares himself with an Egyptian *Magdalu* (governor) (Moran 1992; 293). The strongest evidence of the relationship between the Egyptians and Akko is to be found in the petrographic analysis conducted on the Akko Amarna tablets, that demonstrates that they were produced with clay extracted near the Egyptian fortress of Beth Shean (Goren *et al.* 2004: 239; Artzy 2018).

Despite its evident importance, Akko seems to have controlled a rather small territory during the MBA and LBA, as the cities of *Akshapa* and Hanaton were situated in proximity (Artzy 2018). Hence, the importance of the site for the LBA spatial puzzle was not based on its agricultural or productive capability, but on its location in a privileged position in the commercial junction between the north-south maritime trade route and the west-east land trade route that connected the Mediterranean Sea with Syria and Transjordan (Artzy 2018). The access to the sea, was facilitated by its closed natural anchorage (Raban 1993; Artzy 2006; Morhange *et al.* 2016; Artzy *et al.* in press); and the inland access facilitated by the Na'aman River valley (Dothan 1976).

## **B. Tell Keisan**

Tell Keisan (Tel Kison) is a ca. six hectares oval mound, situated in a rich agricultural area in the northern side of the Akko/Haifa bay, ca. seven kilometers southeast of the modern town of Akko, and ca. fifteen kilometers northeast from the city of Haifa and the LBA anchorage of TAH.

The site of Tell Keisan was occupied from the Chalcolithic period at ca. 4000 BCE until its final abandonment in the 2<sup>nd</sup> century BCE. The first survey project and excavation at

the site was conducted by J. Garstang and A. Rowe from 1935 to 1936 (Seton-Williams 1980). Most of the material goods from the site were lost during the bombing of London during WWII. The second excavation project carried at the site, and until the moment the largest one, was directed by Jacques Briand, and Jean-Baptiste Humbert from 1971 to 1976 on behalf of the École Biblique et Archéologique Française de Jérusalem (Briand and Humbert 1980). Thirty years later, on 2006, the Israel Antiquities Authorities (IAA) conducted a salvage excavation at the site, directed by Amani Abu-Hamid and Michal Artzy. The last archaeological project at Tell Keisan started in 2016 and is being carried out by a team from the University of Chicago and the Ben-Gurion University directed by David Schloen and Gunnar Lehmann.

Some scholars identified Tell Keisan with the Bronze Age city of *Akshapa*, biblical *Akhshaph* (Ben Tor 2006; Artzy 2018). During the Bronze Age, *Akshapa* is named in the MBA execration text E-11 (Epstein 1963), the list of cities conquered by Thutmose III, the Petersburg papyrus (from the time of Amenhotep II) (Epstein 1963), the el-Amarna letters, and the Papyrus Anastasi I (Ahituv 1984: 48-49). During the IA, *Akhshaph* is mentioned in the book of Joshua (Jos 11, 1; 12, 20; 19, 25) (Ahituv 1984: 48-49). The identification of Tel Keisan with *Akshapa* is also based on the petrographic analysis of el-Amarna letters EA 366 and EA 367, in which it was demonstrated that they were made with clay from the Tel Keisan area (Goren *et al.* 2004: 231-233). The identification of Tell Keisan with *Akshapa*, however, is not accepted by all scholars, as some of them (Bunimovitz 1995; Finkelstein 1996; Aznar *et al.* 2017) think that it is too close to Tel Akko to be the head of its own independent political entity, and suggest that *Akshapa* should be identified with Tel Nahal, Tel Me'amer or other of the large sites situated in the Southern Plain of Akko or lower Qishon course.

Most of the materials discovered during Garstang's excavations belong to the MBA (Seton-Williams 1980). Briand and Humbert's project concentrated mainly in the IA strata. The only LBA materials found to date at Tell Keisan came from the 2006 IAA excavations (Artzy 2018) and remain unpublished. Contrary to Akko, which was a large settlement during the LBA, Tell Keisan was relatively small during that period. The

situation changed during the IA, when Akko seem to be poorer than Tell Keisan (Artzy 2006a: 81-82).

Due to the absence of published materials from the LBA, it is difficult to know what exactly the function of Tel Keisan was at that period. However, the location of the site near Akko, its rich agricultural hinterland, and the fact that it seems to be much smaller than Akko during the LBA might imply that it was utilized as an agricultural supplier for the harbor town of Akko. Nevertheless, if Tell Keisan was indeed the city of *Akshapa* it should not be considered as a village inside Akko's hinterland, but as an independent polity belonging to the same economic system. In political terms, *Akshapa* was one of the cities "loyal" to the Egyptians, as can be inferred from letter EA 366, where the king of Qiltu tells the pharaoh that the only kings that helped him chasing the 'apirû were those from Jerusalem, Akko and *Akshapa*.

### C. **Tel Hanaton**

The ancient site of Tel Hanaton is quite large, ca. ten hectares, and is situated in the western part of the Lower Galilee, in the western edge of the Beit Netofa Valley, two kilometers south of the modern town of Kafr Manda and one kilometer northeast from the modern Kibbutz Hanaton.

Tel Hanaton was populated since the EBA, ca. 3000 BCE, until its destruction by the Assyrians in 732 BCE. During the Persian and Hellenistic period, a small town called Shikhin was established in the low hills, south of the Bronze Age site and was destroyed during the Early Islamic period, probably during the 8<sup>th</sup> century CE. During the late 11<sup>th</sup> century CE, the crusaders constructed a small castle on its top, which was reused as a fortified garrison by the Mamluks during the Late Arab period.

The site of Tel Hanaton is identified with ancient *Hinatuna*, a city named in the el-Amarna letters, EA 8, and EA 245 (Artzy 2013; 2018). EA 8 is a letter from Babylon in which Burnaburiash complains about the king of Hanaton and the king of Akko for robbing a Babylonian caravan and murdering its merchants. In EA 245 Hanaton and Akko are named together again, in this case in a business concerning the release of Labayu by the



king of Akko and his escape via Hanaton. In the light of these two letters it is not risky to state that both sites were in good terms during the LBA IIA (Artzy 2013; 2018).

In my opinion, the large size of Tel Hanaton, and the fact that it was named various times in the el-Amarna letters imply that during the LBA it was the capital of an independent political entity contrary to what Finkelstein (1996) suggested. Nevertheless, its proximity to other independent political entities such as Tell Keisan and Tel Shimron imply that it must have had a small hinterland. Although the site has not yet been excavated and hence it is impossible to assert what was its function during the LBA II, its geographical situation in a good agricultural area, controlling the route that crossed from the northern part of the Akko/Haifa Bay to the Beit Netofa and Jezreel Valleys implies that it had an important role in both agricultural production and trade.

#### D. **Tel Shimron**

Tel Shimron is a fifteen hectares artificial hill, situated in the northwestern side of the Jezreel Valley, between the modern villages of Manshiya Zabda (west), Timrat (east) and Nahalal (south). It is located eight kilometers north of the Qishon River and five kilometers south of the Nahal Zippori. The site was surveyed in the 1980's by Avner Raban (1982) and excavated in various salvage excavations by Nurit Feig and Yardenna Alexander of the IAA between 2004 and 2009 (Feig 2007; 2009), demonstrating that the site was populated from the Chalcolithic to the Roman period. In 2016, an American and Israeli team directed by Daniel M. Master of Wheaton College and Martin from the University of Tel Aviv started an extensive excavation project at the site. Most scholars believe that Tel Shimron was the biblical city of *Shim'on*, Bronze Age *Shamhuna* (Finkelstein 1996; Artzy 2018).

No materials from the LBA Tel Shimron have yet been published, making it difficult to estimate the economic function of the site, its political affiliation, and its relation to its neighbors during that period. The only possible information available now is in EA 224 and EA 225, where the site is named *Shamhuna*. In both letters, Shamu-Adda, king of *Shamhuna* pledges alliance to the Egyptian pharaoh implying that Shimron might have been a “loyal” Egyptian vassal (Artzy 2018). The analysis by means of petrography of

EA 224, demonstrated that as in the case of the Akko letters it was produced at the Egyptian fortress of Beth-Shean (Goren *et al.* 2004: 236; Artzy 2018). But the el-Amarna letters do not only provide political information about Shimron; there is a hint of what its economic function might have been in EA 224. In this letter, the king of the city tells the pharaoh that the grain he was to send to Egypt was destroyed and reminds the Egyptian that the city had sent grain over a long period, namely since his ancestors' times, implying that the site had an important agricultural role.

During the LBA Shimron was undoubtedly the head of an independent entity controlling the rich agricultural lands situated between the Qishon River and the Nahal Zippori (Bunimovitz 1995; Finkelstein 1996; Savage and Falconer 2003). Again, as in the cases of Hanaton and Tell Keisan, its proximity to other independent polities did not allow it to have a large hinterland. The main function of the site within a larger economic system was most probably agricultural.

#### E. **Tel Shadud**

The site of 'En Shadud (Arabic) or Tel Sarid (Hebrew) is a small ca. two hectares site, situated in the Jezreel Valley, near the junction of Migdal HaEmek and Kefar Baruch, ca. four and half kilometers southeast of modern Nahalal, ca. eight kilometers northwest of modern 'Afula and ca. five kilometers southeast of Tel Shimron. The site was excavated during various salvage excavations, the first of them directed by Elliot Braun on behalf of the IDAM during the 1980s (Braun 1985). A second salvage excavation was directed by E. van den Brink, Ron Beeri and D. Kirzner, from the IAA, (Van den Brink *et al.* 2017) prior to an installation of a gas pipe in April 2014. Van den Brink *et al.* (2017) proposed that Tel Shadud was ancient Sarid, a city mentioned in the book of Joshua (*Joshua 19: 10*). It was populated from the MBA until the end of the Hellenistic period.

During the 2014 salvage excavation, a clay sarcophagus dated to the 13<sup>th</sup> century BCE in which a gold Egyptian scarab bearing the name of Pharaoh Seti I (1294-1279 BC) was discovered (Van den Brink *et al.* 2017). The nearest parallels to the Tel Shadud sarcophagus are to be found at the LBA Egyptian fortress of Beth Shean (Oren 1973: figs. 81–84), and at the cemetery of Deir el-Balah near Gaza. Artzy thinks that the Tel Shadud

Sarcophagus was probably produced in Beth Shean (Artzy 2018). In any case, both Beth Shean and Gaza were fortresses under Egyptian control during the LBA II, and both the sarcophagus and the scarab are Egyptian style artifacts. Hence, the existence of these items at Tel Shadud implies a strong Egyptian presence at the site during the LBA II.

It is difficult to draw any conclusion determining the status and function of the site based on the excavated materials. The small size of the site and its proximity to the larger towns of Tel Shimron and 'Afula imply that it was probably not a head of an independent polity. Nevertheless, it is impossible to assert if it was politically dependent of Tel Shimron or 'Afula or if it was a small Egyptian fortress or outpost.

#### F. **Tel 'Afula**

The modern city of 'Afula is situated in the eastern part of the Jezreel Valley, near the entrance to the Jordan Valley. The Bronze Age site known as Tel Afula covered an area of ca. three hectares and is placed in the southern part of the city, west of the Jerusalem to Nazareth highway.

The site's history of surveys and excavations is long, as it was first surveyed during the 19<sup>th</sup> century by Claude R. Conder and Herbert Kitchener (1882), and later by Victor Guérin, who documented the Crusader fortress on the top of the tell (M. Dothan 1955). During the 20<sup>th</sup> century, the first excavations in the 1920s and 1930s were directed by Eleazar L. Sukenik, on behalf of the Hebrew University of Jerusalem, (Sukenik 1948). Later, in the 1950s Immanuel Ben-Dor and Moshe Dothan excavated the site (M. Dothan 1955). During the last part of the 20<sup>th</sup> century and the beginning of the 21<sup>st</sup> century a number of salvage excavation projects have been conducted at 'Afula due to the development of the modern town in the surroundings of the tell. The first salvage excavation project was conducted in 1986 by Karen Covello-Paran and Zvi Gal (Gal 1991), a second excavation project was directed in 1989 by Gal and Nissim Najar (Gal and Covello-Paran 1996). In 1999, Gal and Butros Hana excavated the western fringes of the tell (Gal and Hana 2002), while Michael Eisenberg excavated the eastern slopes (Eisenberg 2006). During the 21<sup>st</sup> century six small salvage excavations were conducted at the tell, the first two were conducted in 2006 by Edna Dalali-Amos and Nimrod Getzov

(Dalali-Amos 2009; 2012), the third and fourth one in 2011 by Nurit Feig (2012; 2016) and Hendrick Bron (2013), and the last two again by E. Dalali-Amos in 2012 (Dalali-Amos 2014).

The site was populated from the Chalcolithic, at ca. 4000 BCE, to its destruction in the IA I (M. Dothan 1955). During the Roman Period, a flourishing settlement was established in 'Afula and during the Byzantine and Early Islamic periods an agricultural village existed at the site. During the Crusader, Ayyubid and Late Arab periods a fortress existed on the top of the Bronze Age tell.

Although no significant architectural remains have yet been excavated in 'Afula, the diverse excavations carried out at the site have produced an important number of LBA ceramics, among them large quantities of Cypriot and Mycenaean imports (M. Dothan 1955), demonstrating the importance the site had in the LBA trading networks. The importance of 'Afula during the LBA was its control of a rich agricultural hinterland and its situation in the important east-west route between the Jezreel and Jordan Valleys.

#### **G. Tel Beth Shean**

Beth Shean is situated in the Beth Shean Valley, near the Harod Stream, close to the modern town of the same name, five kilometers west of the Jordan River. Although the overall size of the site is of approximately five hectares, during the LBA only one and a half or two hectares were populated (Mazar 2010).

The first excavations at the site were carried out from 1921 to 1933 on behalf of the University Museum of the University of Pennsylvania Expedition (UME); the team was consecutively directed by C.S. Fisher from 1921 to 1923; A. Rowe from 1925 to 1928; and G.M. Fitzgerald from 1930 to 1933 (Rowe 1930; 1940). Fifty years later, in 1983, a one-year excavation season was conducted by Yadin and Shulamit Geva from the Hebrew University of Jerusalem (Yadin and Geva 1986). Finally, a large expedition to Beth-Shean was directed by Amihai Mazar, from the Hebrew University, from 1989 to 1996 (Panitz-Cohen and Mazar 2009).

Tel Beth Shean was populated from the Late Neolithic or early Chalcolithic until its destruction by the Assyrian king Tiglat-Pileser III in the middle 8<sup>th</sup> century BCE. During the Hellenistic period, a city called *Scythopolis* was built on the plains surrounding the Bronze and Iron Age mound; *Scythopolis* was continuously inhabited until its destruction by an earthquake in 748 CE (Mazar 1993). In the MBA, Beth Shean was named in the Egyptian execration texts (Mazar 2010). In the LBA, Beth Shean was known as *Bit Shaani* and mentioned in the cities conquered by Thutmose III, the topographical lists of Seti I and Ramses II, and the Papyrus Anastasi I (also from the period of Ramses II) (Mazar 1993; 2010). During the IA, Beth Shean was cited at least five times in the Hebrew Bible, with the name of Beth Shean (Mazar 1993; 2010).

The LBA IIB UME stratum VII settlement was small, ca. two hectares, a Canaanite town with a strong Egyptian influence. This one is visible in the various temples and in an administrative building like the one at Deir el Balah (Mazar 2010). The ceramic repertoire has many locally made Egyptian-style vessels, which were most probably made by Egyptian or egyptianized potters mixed with the local forms (Martin 2004; Mazar 2010). The presence of two stele of Seti I, various cartouches of Ramses II (Mazar 2010) and numerous graves with anthropoid coffins (Oren 1973) accentuate the Egyptian influence at Beth Shean. The anthropoid coffins discovered in the Northern cemetery of Beth Shean have close parallels to the ones found at Deir el Balah (T. Dothan 1973), and as mentioned above, the one from Tel Shadud (van den Brink *et al.* 2017). The first interpretation regarding this type of coffin was given by Trude Dothan (1973), who identified them as Aegean-influenced Philistine materials. Nowadays, however, most scholars believe that they were used by Levantine egyptianized bureaucrats (van den Brink *et al.* 2017; Namdar *et al.* 2017). In addition to the Egyptian influence, a strong connection with the coast can be deduced on the basis of the presence of large numbers of imported Cypriot and Mycenaean ceramics in stratum VII (Mazar 2010).

Overall, during the LBA II, Beth Shean functioned as an Egyptian fortress (Martin 2004; Mazar 2010). Its importance for the Egyptians lay in its geographical position controlling several of the major Jordan River fords (Dorsey 1991: 111), and consequently being a crossroad between the north-south Jordan Valley route and the west-east route that

connected the Northern Coastal Plain with Transjordan (Mazar 2010). It is difficult to know if Beth Shean controlled some form of an agricultural hinterland or if it depended entirely on the neighboring sites for obtaining its food supplies. Mazar and Uri Davidovich (2019), who excavated at Beth Shean and the neighboring site of Tel Rehov, think that both sites had a symbiotic relationship during the LBA. If that was the case, we should assume that Beth Shean did not have an agricultural economic function and that it worked as an intermediary for trade with Transjordan, an industrial producer of ceramics, and a bureaucratic center for the Egyptian administration and its communication with the local rulers.

#### H. **Tel Rehov**

Tel Rehov is situated in the Beth Shean Valley, ca. five kilometers south of Beth Shean, six kilometers west of the Jordan River and ca. ten kilometers west of Pella. It is a ca. ten hectares large site divided into an upper and lower mound, and the largest LBA site in the valley (Mazar and Davidovich 2019). The site was excavated for eleven years, from 1997 to 2008, by a team directed by Amihai Mazar from the Hebrew University of Jerusalem.

Tel Rehov was first populated during the EBA III and abandoned during the MBA II. It was repopulated during the 16<sup>th</sup> century BCE and inhabited without break until at least the end of the IA IIA (Mazar and Davidovich 2019). The ancient name of Tel Rehov, was *Rehov*, meaning wide place, the site is mentioned in various LBA Egyptian sources such as the stele of Seti I, found at Beth Shean, papyrus Anastasi I, papyrus Anastasi IV and a 20<sup>th</sup> dynasty papyrus kept at Torino (Mazar and Davidovich 2019). As to the el-Amarna letters, there is no clear mention of the site, however Goren *et al.* (2004: 248-255) think that a certain king called Ba'lu-meḥir and mentioned in EA 245, EA 257, EA 258 and EA 259 could have been the king of Rehov, as one of the letters sent by this king was produced of clay from the central Jordan Valley “between Beth-She'an and Wadi Zarqa”.

Up to date, the material culture at Tel Rehov is mainly local, with limited imports. Contrary to the nearby site of Beth Shean where Egyptian influence is clear, at Tel Rehov the only Egyptian style material goods are one stele from the time of Seti I, a 19<sup>th</sup> dynasty

scarab, and some bronze recycling furnaces with close parallels at Ramses II capital Piramesse (Yahalom-Mack 2015; Mazar and Davidovich 2019).

As to the status of Tel Rehov, Bunimovitz (1995), Finkelstein (1996), Na'aman (1997) and the excavators of the site believe that it was the head of an independent political entity controlling a large hinterland with “at least thirty small sites in the Beth-Shean valley” (Mazar and Davidovich 2019). If this is true, we suggest that Tel Rehov had a multifunctional economy, combining industry (metal and ceramics) and agricultural production as well as the control of part of the trade routes that connected the Mediterranean Sea with Transjordan. If Ba‘lu-meḥir was, indeed, the king of Rehov, we could infer some information regarding its political relation with the other Canaanite towns and Egypt. In EA 245 Ba‘lu-meḥir is named together with Labayu, in a letter sent to the pharaoh by the king of Megiddo. In this letter is stated that both Ba‘lu-meḥir and Labayu were liberated by the king of Akko and sent home via Hanaton. The other three letters in which Ba‘lu-meḥir is mentioned are stereotyped sentences in which Ba‘lu-meḥir tells the pharaoh that he is very loyal, which could very well not imply anything. From EA-245 it can be inferred that Ba‘lu-meḥir was not in good relations with Megiddo, but that it was in good relations with Hanaton, Akko, and Shechem (Labayu’s city).

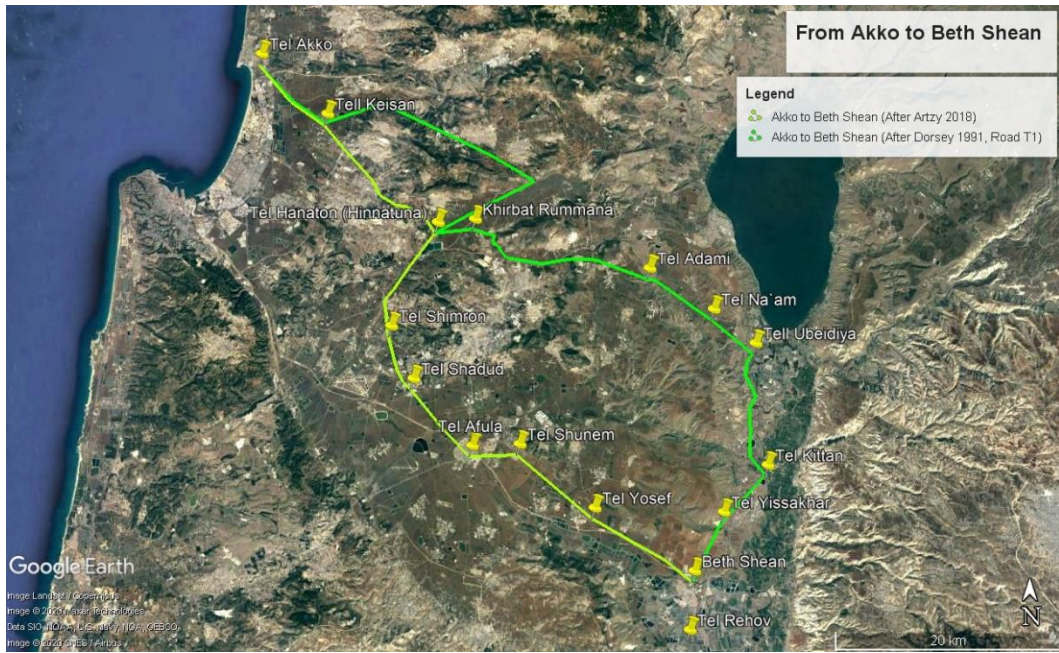
## I. Discussion

As commented in the previous chapter, Dorsey suggested a route connecting Akko with the Jordan Valley via Tel Hanaton (1991: 105-106), and Gal (1992: 8-9) a route connecting Akko to Beth Shean via Megiddo. Considering the similarities between Akko and Beth Shean, especially the strong Egyptian presence in both sites, I totally agree with Gal in his suggestion of an important trade route connecting both sites during the LBA. However, in contrast with Gal, I think that the route from Akko to Beth Shean did not include Megiddo, as already suggested by Artzy (2013; 2018). Through this chapter, I described the political relations and material culture of various sites connected with Egypt or Akko. An exception is Tel Rehov, which was included due to its possible symbiotic relation with Beth Shean, and to the possibility of being the hometown of Ba‘lu-meḥir. In agreement with Artzy (2013; 2018), I think that the route connecting Akko with Beth Shean passed through the sites of Tel Keisan, Tel Hanaton, Tel Shimron, Tel Shadud,

‘Afula or Tel Shunem, Tel Yosef, and finally Beth Shean. The route could be covered by walking in three journeys of ca. twenty-five kilometers as suggested by Artzy (2018), stopping at Tel Hanaton, ‘Afula or Tel Shunem, and Beth Shean or maybe in just two days, through a journey of 35 to 40 making just one stop, likely at Tel Shimron or possibly Tel Shadud.

In addition to the fact that the trade route connected Akko to Beth Shean, it should also be pointed out that at least in the Northern Akko/Haifa Bay and, in the Jezreel Valley large independent sites were situated very close to one another, making it impossible for them to have large hinterlands. The small size of the hinterlands prevented those sites from having large populations resulting in a shortage of manpower. Contrary to what might look like, the shortage of manpower did not imply a problem for the development of these small-size political entities, as they could maintain hired manpower (Artzy 2018), as already suggested by Na'aman (1997: 605) in the case of harbor sites. In addition to the hired manpower, these sites probably also benefited from the alliance with neighboring sites, such as the one suggested between Akko, Keisan, and Hanaton. Partners in such an alliance lent each other their labor force in exchange of agricultural products, industrial goods, or manpower, creating symbiotically organized economic systems and relations such as the one suggested by Mazar and Davidovich (2019) for Tel Rehov and Beth Shean.





Map 8. From Akko to Beth Shean. Comparison between Dorsey's (1991) and Artzy's (2018) routes from Akko to Beth Shean.

### 3.4. Tel Dor/Tel Nami to Transjordan

#### A. Tel Dor

Tel Dor is situated on the Mediterranean coast, ca. four kilometers west of the southern part of the Carmel Ridge, within modern Kibbutz Nachsholim, five kilometers northwest of the modern town of Zikhron Ya'akov, about twenty-five kilometers south from the modern city of Haifa and ca. twenty kilometers north from modern Hadera. This almost fifteen hectares archaeological site is surrounded by three different small bays (South Bay, Love Bay and North Bay) and protected by a north to south *kurkar* ridge protecting the coast from the sea, providing an excellent position for one or more anchorages (Raban 1987).

James Garstang directed the first excavations at the site between 1923 and 1924 on behalf of the British School of Archaeology. The second excavation project conducted at the site was directed by J. Leibowitz from the IDAM in 1950 and 1952. The next excavation season at the site started in 1979 and ended in 1983 and was directed by C. Dauphin, also from the IDAM, who excavated the church situated on the eastern slope of the tell (Stern 1993). In addition to the land excavations, from 1979 to 1984 Avner Raban from the University of Haifa conducted various coastal and underwater excavation projects at Dor's Southern Bay (Raban and Artzy 1982; Raban 1987; 1995). The longest and largest excavation project conducted at Tel Dor was the one directed by Ephraim Stern on behalf of the Hebrew University from 1980 to 2000 (Stern 1995). A new expedition at Dor is continuing the excavation under the direction of Ayelet Gilboa from the University of Haifa and Ilan Sharon from the Hebrew University. Since 2013 Assaf Yasur-Landau from the University of Haifa conducts an underwater and coastal archaeological excavation in parallel to the terrestrial one.

The almost fifteen hectares site of Tel Dor was populated from the beginning of the MBA to the late Roman period (Stern 1995). The site is named *D-jr* in the Egyptian papyrus of Wenamun and other Egyptian written sources from the Early Iron Age. It is also mentioned in the Bible as Dor and in various Greek and Roman sources as Dor or Dora. The site of Dor is well known for its extraordinary thick IA I layer, its importance for the

LBA/IA transition chronology discussion and its importance for the understanding of Southern Phoenicia during the IA (Gilboa *et al.* 2008; Gilboa *et al.* 2014).

Despite this, its importance during the LBA remains unknown, as the wealth of the IA strata prevented the excavation of the LBA layers in all areas except for area G, where Garstang found an ash deposit and interpreted it as a “Sea Peoples” destruction layer (Gilboa and Sharon 2008). To fill this gap in the archaeological record, various 14-meter-deep geoarchaeological cores were extracted in areas B1, D2 and D5. These cores demonstrated that the IA I layers from areas D1 and D2 were situated directly over kurkar, while the IA layers of area B1 were situated over beach sand dunes (Gilboa and Sharon 2008; Gilboa *et al.* 2018). It must be said that a rich LBA deposit did appear in area B1; however, the lack of architecture makes its stratigraphic association unclear (Gilboa *et al.* 2018). To understand the function of the LBA site two deep archaeological probes were dug into area G, encountering an LBA ceramic assemblage inside an area containing large amounts of scrap metal and other industrial wastes (Gilboa and Sharon 2008; Gilboa *et al.* 2018). Ragna Stidsing and Yossi Salmon, the LBA specialists, divided the LBA strata of area G into horizons 1 to 4, belonging to two chronological phases. Horizons 1 and 2 are the oldest and belong to phase 12, the LBA IIB. Horizons 3 and 4 are the youngest and belong to phase 11, the LBA IIC (Stidsing and Salmon 2018).

Among the LBA materials from area G, there are numerous imports, ca. 31%, with substantial differences between both phases, in terms of quantity, type, and origin. In phase 12, the imported materials were 37.5% of the total assemblage. The most common imports in this phase are the ones from the island of Cyprus, representing 81.7% of the total imports. Most of the imported ceramics, 79.7% are Cypriot wares such as WS II and III, BR II, Monochrome, WSh, and PWWM. Other 2% are Cypriot-made Aegean-style ceramics (Stidsing and Salmon 2018). The second most common imports in phase 12 are the Northern Levantine imports, representing 5.9% of the phase's imports. Percentage wise the Egyptian imports in phase 12 are 5.1% of the imported materials. In this phase, the least represented imported materials are the ones originated in the Aegean, which represent only 1% of the total imported materials. In phase 11, the imported materials represent 25.1% of the total assemblage, 12.5% less than in the previous phase. As in

phase 12, the most common imports in phase 11 are the ones originating in Cyprus, representing 60.7% of the total imports, a much lower percentage than that of phase 12. In addition to the quantitative disparities among the Cypriot imports, there are also differences in types. Probably the most outstanding difference between the Cypriot imports in both phases is that while in phase 12 the Cypriot-made Aegean-style imports represented just 2% of the total imports, in phase 11 they represent 17.5% of them. Other differences in the types of Cypriot imports between both phases are the larger presence of WS III and WSh jugs in phase 11. Contrary to phase 12, where the Egyptian imports represented 5.1% of the total imports, in phase 11 they are the second most common imported materials, counting 17.4% of the total imports. In phase 11, the Northern Levantine imports represent 9.2% of the total imports, a percentage almost double than 5.3% of the previous phase. Finally, the Aegean imports represent only 1.5% of phase's 11 imported ceramics (Stidsing and Salmon 2018). It is to be pointed out that in contrast with other sites like Beth Shean, that had a strong Egyptian influence, no locally-made Egyptian style vessels have been found at Tel Dor (Stidsing and Salmon 2018). Other peculiarity of the Egyptian assemblage at Tel Dor is the wide representation of Egyptian fabrics, while for example at Akko only three types of fabrics can be found, at Dor all the possible imported fabrics are present (Stidsing and Salmon 2018). Both the wide representation of fabrics and the large amount of imports made Stidsing and Salmon (2018) think that Dor might have been utilized as an entrepôt for Egyptian facilities and a counterpart for the harbor of Akko, which they think was economically attached to the northern powers.

In conclusion, at this juncture the size and status of Dor's LBA is not clear, but the information already available does give us a hint of what the site's main economic function might have been. The chemical analysis of sediments in both phases of area G demonstrates that the area was used for the industrial production of metals, implying that the site had an industrial function (Stidsing and Salmon 2018). Secondly, the large number of imports found among the materials from area G suggests that the LBA Dor was used as a harbor for international trade, with a strong connection with Cyprus, Ugarit (or maybe some other harbor in areas L-1, L-2 or L-3), and Egypt. In terms of its Egyptian connection it should be noted that up to date it is the site in which the largest number and

variety of Egyptian imports have been found. This implies that as suggested by Stidsing and Salmon (2018), the site functioned as an entrepôt for the distribution of Egyptian imported goods in the Levant, especially via the route to Megiddo and Yoqne'am. The function of Dor as a consumer and distributor of Egyptian imports continued in the IA (Waiman-Barak *et al.* 2014). It should be remarked that the strong presence of Egyptian imported goods at the site did not necessarily imply that it was under Egyptian control as Beth-Shean, or allied with the Egyptian forces as Akko, as already suggested by Paula Waiman-Barak *et al.* (2014) for the IA. The status of Beth-Shean as an Egyptian fortress is based on the presence at the site of many locally produced Egyptian-style ceramics (Martin 2004) and the political association of Akko with the Egyptians is based on the written sources. In the case of Dor, there are no locally-produced Egyptian-style ceramics that can suggest a direct Egyptian control over the site, neither written sources to indicate its affiliation with Egypt or for that matter, any other regional power. It is likely that LBA Dor was a small independent Canaanite site and its relation with the Egyptians was merely economic, as the site had a good natural harbor and it was situated in a convenient geographical position for the maritime-terrestrial transshipment of the Egyptian goods. As to the commercial function of Tel Dor, it is assumed that in addition to its function as a distributor of Egyptian goods it also functioned as the main anchorage/harbor of one or more inland sites. At last I would like to point out that the important changes detected between the imported materials in phase 12 and 11 did not necessarily imply a change in the function of Dor between the LBA IIB and the LBA IIC. Instead, these changes should be understood as the result of the important economic and geopolitical transformations that affected the Mediterranean world at the end of the LBA II, as already suggested by Artzy and myself (Artzy 2006; 2013; Martín and Artzy 2018).

## **B. Tel Nami**

Tel Nami is a very small site of less than one hectare situated ca. five kilometers north from Tel Dor, five kilometers northwest from the Me'arot Caves (in the Carmel Ridge), fifteen kilometers south from the modern city of Haifa, and twenty kilometers south of TAH. The main site is positioned on a small peninsula, created by a sunken *kurkar* ridge, attached to the coast by a sand tombolo near the Nahal Me'arot mouth (Artzy 1995). Nowadays Nahal Me'arot is a small stream with little water because of modern utilization

of the water upriver. During the Bronze Age the situation was different, and the river was wider, creating a small estuary that could have been used as an anchorage (Artzy 1995). Other difference between the modern landscape surrounding the site and that of the second millennium BCE is that the sand tombolo was much smaller. In the western part of what today is the sand tombolo is an area known as Nami East, settled during the MBIIA followed by a cemetery dated to the LBA. There was probably a natural swamp, marshland, or closed lagoon (Artzy 1995; Salmon 2014). Further east, on yet another kurkar ridge, an MBIIA site was noted in a survey of the area (Sharp and Artzy 2017).

Tel Nami was excavated by Artzy, on behalf of the University of Haifa, between 1986 and 1992. The site was occupied during the MBA II (Marcus 1991; Artzy 1995) and the LBA II (1995; 2006), both of which were periods of intensive commercial activity. At the end of the LBA Nami was destroyed and never reoccupied (Artzy 1995; 2006).

Contrary to what could be expected for such a small site, Tel Nami presents a multi-ethnic population, having elements of material culture from all along the Eastern Mediterranean. The only difference between the local material culture from Tel Nami and that of the other LBA II sites in the region, is the presence at Nami of the collared-rim *pithoi*, which seems to be an indicator of the LBA IIC material culture (Artzy 2006). In general terms, the material culture from Tel Nami is like that of Dor's phase 11. As in Dor phase 11, the most common imported materials from Nami originated in Cyprus, being the most frequent ones the WS III and WSh juglets. Also, as in Dor phase 11, most of the Aegean-style ceramics discovered at Tel Nami belong to the Late Helladic IIIB and were made in Cyprus (Artzy and Zagorski 2012). Contrary to what happened at Dor, there are few Egyptian imports at Tel Nami, suggesting that the site was mostly connected with northern maritime sites. In addition to the imported ceramics, other northern-oriented elements discovered at the site are three bronze incense burners and some bronze scepters with close parallels in Ugarit and Cyprus (Artzy 1995). Besides the incense burners and scepters an unusual number of bronze objects was found. Also, some lamps, bowls, jugs, metalworking tools, bronzes obviously ready for recycling, and some possible parts of bronze ingots were discovered at Tel Nami (Artzy 1994; 1995; 2006).

The northern oriented and multi-ethnic nature of the site is reflected in the presence of diverse cultic paraphernalia in the summit sanctuary, where figurines of a Mitanni influenced goddess, a Theran-Cretan goddess and, a traditional Canaanite goddess were found (Artzy 1995). As mentioned above, the site was situated only five kilometers from the Nahal Me´arot caves, a geographical feature that can be easily detected from the (Artzy 1997; 1998), near the Nahal Me´arot mouth, and surrounded by a sea lagoon, and various marshlands. Most of these geographical elements offered sheltered areas for the positioning of an anchorage (Artzy 1995). The presence of the various marshlands prevented the site from having a decent agricultural hinterland (Artzy 1995; Salmon 2014).

Overall, the geographical position of Tel Nami and the large presence of northern-oriented imported goods at the site suggest that during the LBA IIC it was used as an anchorage for international trade. In addition to its function as an anchorage, the site of Nami also had an industrial function, focused on the recycling of metal objects, a similar function to that of the nearby harbor of Tel Dor. In terms of agricultural production, Tel Nami lacked an agricultural hinterland, hence, making its agricultural supply dependent on one or more sites situated inland.

### **C. Mount Carmel**

Mount Carmel is a coastal mountain range that encompasses an area of ca. thirty kilometers north to south and a maximum of ca. twenty kilometers west to east in its southernmost point, stretching for no more than two kilometers in its northernmost point. To the north the mountain range is situated near the Akko/Haifa bay while its southernmost point reached as far as the modern town of Binyamina. The range is generally low with its highest pick at only 546 meters above sea level. Its northwestern side is rather steep due to a geological fault and the Qishon River which runs below it. In its western side, the riverbeds form some habitable valleys as the ones formed by the Nahal Me´arot (Wadi el-Mughara), home to the Natufian culture, as well as Nahal Tut which cuts through the Carmel Ridge, and Nahal Oren.

Some archaeological settlements can be found inside the Carmel Mount valleys as is the case of the unexplored site of Khirbet Shana in the Kerem Maharal (Igzim) or of Nahal Hagit in the Nahal Tut area (Artzy 1998). One of these sites, Nahal Hagit was excavated in various IAA salvage excavations, first by S. Wolff from 1991 to 1992 (Seligman 1997; Wolff 1997), in 2005 by Gerald Finkielsztein and Amir Gorzalczany (2010), and in 2009 and 2015 by Marwan Massarwa (2010; 2016). During Wolff's 1991 to 1992 excavations, various LBA materials were discovered, among them various pieces of Cypriot BR II, various Collared-rim *pithoi*, and a bronze dagger (Wolff 1997). All of them similar to the LBA IIC materials from the nearby coastal site of Tel Nami (Artzy 1998). In addition, the excavator contended that an IA I building from the site was comparable to a building from Megiddo VI (Wolff 1997); the building was interpreted by Artzy (1998) as a way station.

Another indicator of LBA activity inside the Carmel Ridge is the presence of various graffiti representing LBA IIB-C ships, carved on the Nahal Me'arot caves (Artzy 1998). Artzy thinks that these rocks could easily be detected from the sea and that they served as guideposts for the anchorage at Nami. Also, the Nahal Me'arot served as part of the route crossing the Carmel ridge towards Megiddo and eventually to the Jordan River and beyond, which might have given Nami an ancient name appearing in the Egyptian execration texts, *Mughar*, meaning cave (Artzy 1995).

#### **D. Tel Megiddo**

Tel Megiddo is a ca. ten hectares site, situated near the modern Kibbutz of Megiddo, in the intersection between Wadi 'Ara and the Jezreel Valley. The nearest modern towns to the archaeological site are Yoqne'am situated at ca. ten kilometers southeast and 'Afula situated at ca. ten kilometers west.

The first excavation project at Tel Megiddo was directed by Gottlieb Schumacher of the German Society of Oriental Research from 1903 to 1905. From 1925 to 1939, the site was excavated by Clarence S. Fisher, and later by Philip L.O. Guy, Robert S. Lamon, and Gordon Loud on behalf of the Oriental Institute of Chicago (Lamon and Shipton 1937; Loud 1948). In the 60s and early 70s a team of the Hebrew University of Jerusalem



directed by Yadin carried out a series of short-season excavations at the site (Zarzecki-Peleg 2016). The latest excavation project at Tel Megiddo is being conducted by the University of Tel Aviv and a consortium of various universities from the United States and Europe. The project started in 1994 and continues until today. From 1994 to 2000 the excavations at Megiddo were directed by Finkelstein, David Ussishkin, and Baruch Halpern (Finkelstein *et al.* 2006); from 2002 to 2004 by Finkelstein and Ussishkin; from 2006 to 2012 by Finkelstein, Ussishkin, and Eric H. Cline (Finkelstein *et al.* 2013); in 2014 directed by Finkelstein, and Cline; and from 2016 to 2020 by Finkelstein, Mathew J. Adams, and Martin.

Tel Megiddo was populated at least from the middle of the fourth millennium BCE, the Chalcolithic period, and was already a large town with a temple complex during the EBA. The site was then continuously inhabited until its destruction during the Persian Period, in the mid first millennium BCE (Aharoni and Shiloh 1993). Megiddo was known by the Egyptians as *Makitu*, and named in various LBA Egyptian sources, from which the oldest is the Annals of Thutmose III. In the el-Amarna letters, Megiddo was known as *Magidda*, and it was mentioned five times.

The different excavations conducted at Megiddo unearthed a great number of ceramics from all the periods of the settlement. The LBA includes strata X-IX (LBA I), stratum VIII (LBA IIA), stratum VIIB (LBA IIB) and stratum VIIA (LBA IIC-IA IA). Stratum VIIA persisted into what it is traditionally known as the IA demonstrating that the LBA culture of the site continued without interruption into the Iron Age. The large amount of materials excavated at the site and its hasted publication (Loud 1948), makes Megiddo a guide for the ceramic typology of the Jezreel Valley and more. Most of the LBA II ceramics excavated at the site are of local typology and origin. However, there are imports, especially from Cyprus, consisting of WSh juglets, BR jugs and bowls, WS bowls, and Cypriot bar handled bowls (Loud 1948: pl. 57- 66). By contrast, the number of Egyptian imports at the site is significantly low.

In all the papers dealing with the political organization of the LBA Levant, Megiddo is classified as the head of an independent political entity (Bunimovitz 1995; Finkelstein

1996; Na'aman (1997). Its importance is attributed to its vast agricultural hinterland and its privileged strategic position in the crossroad between the Jezreel Valley and Wadi 'Ara, a situation that allowed it to control the communication between the coast and the routes to the Beqaa Valley and Inner Syria as well as the routes from Egypt to Mesopotamia, along the maritime route. As to the economic function of the site, it had an agricultural and an industrial function. In addition to this, the large number of imported materials, especially the Cypriot ones, found at the site demonstrates that it had an important role in the commercial networks and that it was closely connected to, at least one anchorage site.

#### **E. Tel Yoqne'am**

The ca. five hectares site of Tel Yoqne'am is situated in the Jezreel Valley, in the eastern side of the Carmel Mount Ridge and ca. three kilometers west of the Qishon River. The ancient tell lies to the north of the modern town of Yoqne'am Illit and ca. sixteen kilometers southeast from Haifa.

The first archaeological project held at Tel Yoqne'am was a survey conducted by Claude Reignier Conder on behalf of the Palestine Exploration Fund in 1878 (Conder and Kitchener 1882: 69-70). A second survey at the site was directed by Avner Raban in the 1970s (Raban 1982). The largest excavation project conducted at Tel Yoqne'am was directed by Amnon Ben-Tor from the Hebrew University in Jerusalem between 1977 and 1988 as a part of the Yoqne'am Regional Project (Ben-Tor *et al.* 2005). In summer of 1993, Miriam Avissar from the IAA directed a salvage excavation project on a medieval structure located in the western areas of the tell (Avissar 1995). The last archaeological project, conducted in 2014 was again a salvage excavation on behalf of the IAA, directed by Nurit Feig. During the 2014 excavation season, Feig excavated the southeastern foothill of the mound, discovering the remains of an Iron Age dwelling (Feig 2016b). The oldest archaeological remains discovered at the site date to the beginning of the Chalcolithic period. The site was continuously occupied, with small gaps until the Ottoman period.

During the LBA, Yoqne'am was named in the list of cities conquered by Thutmose III. The LBA layers of the site were reached only during Ben-Tor's excavations in areas A1, in the northern slope of the tell, and A4, in its western slope (Ben-Tor *et al.* 2005). The LBA layers at areas A-1 and A-4 were dated on the basis of the ceramic typology, and divided into four strata, stratum XXb (MBA III - LBA I transition), XXa (LBA I), XIXb (LBA IIA), and XIXa (LBA IIB) (Ben-Ami 2005). The division between the LBA I and LBA II strata were based on the chronology of the Cypriot imported materials, especially of the Cypriot BR wares. The Cypriot BR I showed up for its first time at Tel Yoqne'am in stratum XXb, disappearing from the ceramic typology in stratum XIXb (Ben-Ami 2005). Since the chronological framework of this PhD is restricted to the LBA II, only the materials from stratum XIXb and XIXa will be commented on in this section.

The most common ceramics in stratum XIXb (LBA IIA) are the local plainwares and cooking pots. No paste analyses were carried out on the local plainwares and paste descriptions do not indicate if there were any examples of PWWM as those from Dor and TAH. It is, thus impossible to estimate whether some of the local plainwares were imports from the coast or not. Nevertheless, the general typology and the small number of imports indicate that most of the plainwares from Tel Yoqne'am were of local type clays with pink to buff pastes and no self-slip. The most common ceramic forms in this stratum are the local bowls, followed by storage jars. Other types of containers, such as the *pithoi* are quite infrequent during this period (Ben-Ami 2005). During the LBA IIA, imported ceramics are quite infrequent, at least if we compare them with the nearby site of Tel Megiddo. All the imported ceramics from stratum XIXb originated in Cyprus. The most common type of import is the Monochrome ware followed by WS ware, all of the classical lattice style decoration like that from Kalavassos-Ayios Dhimitrios, Maroni, and Hala Sultan Tekke, and by BR II ware. Only one WSh juglet was reported from this stratum (Ben-Ami 2005).

The LBA IIB phase at Tel Yoqne'am stratum XIXa is, in terms of ceramics, wealthier than that of the previous period (Ben-Ami 2005). The local plainwares are, again, the most common ceramics in stratum XIXa, but during this period the number of storage jars and *pithoi* increased (Ben-Ami 2005), implying that the site had a more important

role in the trade activity than during the previous period which agrees with the increase of imports and the first appearance of Mycenaean imports (Ben-Ami 2005). Again, the most common imports in stratum XIXa are Cypriot. However, contrary to stratum XIXb, the most common type of import during stratum XIXa was WS II bowls. They were followed by Monochrome ware and by the BR II ware. Only two sherds of WSh juglets were noted (Ben-Ami 2005). In terms of Mycenaean imports, all of them belong to the LH IIIA-B period and most of them are closed vessels such as stirrup jars and others (Ben-Ami 2005).

As we can see from the previous analysis of imports, no LBA IIC indicators, such as WS III or LH IIIB late ceramics were found at Tel Yoqne'am, implying that the site was abandoned during the LBA IIB. In this sense, Ben Tor *et al.* (2005: 5) write that it was violently destroyed, somewhere at the end of the 13<sup>th</sup> century BCE and not reoccupied until several decades later, well into the IA I (Ben Tor *et al.* 2005: 5). Politically, Na'aman (1986; 1997) suggested that Tel Yoqne'am was probably the capital of a Levantine city-state. By contrast, Finkelstein (1996) thought that Tel Yoqne'am was just a large town within the Megiddo territory. Finkelstein decided to exclude Yoqne'am from his list of city-states because it does not appear in the el-Amarna letters and because it is situated too close to Megiddo, *Akshapa*, and Tel Shimron (Finkelstein 1996). In agreement with Na'aman I think that the large size of the site implies that during the LBA II it was the capital of a small independent political entity. The economic function of the site was mainly based on agricultural production, as it was situated in the Jezreel Valley, an area with rich agricultural lands. Industrially, no evidence found so far shows that bronze was recycled at the site, hence, the only industrial function that the site seems to have had was that of ceramic production. As to its importance within the regional trade-networks, I think that the small amount of imported materials detected at the site and the reduced number of their types suggest that it did not have an important role in the east west terrestrial route or in the north south coastal maritime one.

## F. Discussion

The strong presence of LBA imports at Megiddo suggests that it was in direct contact with at least one harbor site during the LBA II. The nearest and most easily accessible

harbors to Megiddo are Tel Dor and Tel Nami. Some components of the LBA IIC material culture of Megiddo are like those at Tel Nami, specifically the presence of WS III materials at both sites and the similarities between the metal objects from both settlements during this period (Artzy 2006b: 73-75). As to Tel Dor, the strong presence of LBA IIA-B imports, like those of Megiddo make it the best candidate for being the LBA II anchorage of the city. Hence, it is most likely that Megiddo used one of these harbors for the supply of its imported materials. Until recently I believed that Tel Nami and Tel Dor were not populated at the same time and that one site was replacing the other as harbor of Megiddo depending on geomorphologic situations (Martín 2016: 44-46). Nonetheless, the report on the LBA materials of Dor published by Stidsing and Salmon (2018), shows that Dor's phase 11 was mostly concurrent with the LBA IIC habitation of Tel Nami. It is difficult to explain why two sites situated at ca. five kilometers from one another, and an almost exact economic function should function as harbors during the same period.

One possible explanation is that one of the sites functioned as a harbor for another inland site situated in the vicinity. The nearest large site to Megiddo in the Jezreel Valley is Tel Yoqne'am, a site that Dorsey (1991: 79) situated along various important trade routes, among them the *Way of the Sea*. The analysis of the imported ceramics at Tel Yoqne'am clearly indicates that, in contrast with Tel Nami and Tel Dor, it was not populated during the LBA IIC. Additionally, the scattered amount of imports and small range of imported types suggest that it was not in direct contact with any important anchorage site during most part of the LBA II, and that its imports arrived in an indirect way, via some of the inland sites situated near it. Other possibility is that both anchorages functioned in tandem with Megiddo during the same period but with different functions within the trade-network. The fact that Tel Dor was populated during the LBA substantially longer than Tel Nami, and the strong presence of Egyptian imports at Tel Dor indicate that it was indeed the head of some form of independent political entity, working at the same time as an entrepôt for the transshipment of Egyptian goods and as the main harbor of Megiddo. It is possible that the local elites of Dor, or their Egyptian overlords, imposed strong tariffs over the imports passing via the harbor. By contrast, the geographical position of Tel Nami and its multiethnic population suggests that it was some form of commercial outpost directed by "independent traders" (Artzy 1997). These "independent

traders” probably used the anchorage of Tel Nami to smuggle metals and imported materials from the northern regions of coastal Syria and Cyprus evading the Egyptian and local taxation (Artzy 1997; 1998), an activity from which Megiddo benefited, as it lowered the prices of metals and imports in the city.

The route connecting Tel Nami with Megiddo crossed the Carmel Ridge via the Nahal Me’arot and crossed the Nahal Tut, passing through Nahal Hagit. This last one have shown strong similarities in terms of material culture with Tel Megiddo, Tel Nami, and Tel Dor (Artzy 1998). It is possible that instead of Nahal Me’arot, Dor used the Wadi Milh route, the entrance of which is situated between modern Fareidis and Zikhron Ya’akov, to cross the Carmel Ridge (Artzy 1998). Either of these routes is much shorter than the more than fifty kilometers route proposed by Dorsey via Wadi ‘Ara (Dorsey 1991:79).

Megiddo was the main agricultural and industrial producer and the major site within a larger economic system. The local system directed by Megiddo crossed the Carmel through two routes and reached the Mediterranean Sea. The two main anchorages serving Megiddo, and the other sites situated within the system, were Tel Dor and Tel Nami. In addition to it, Megiddo was a pivotal site in a larger trade route crossing the Jezreel Valley eastwards to Tel Rehov or Tel Beth-Shean, and from there to Tell es-Sa’idiyeh and/or Tell Deir Alla in Transjordan, with a trajectory similar to the one suggested by Artzy for the LBA IIC (Artzy 2006b: 73-86). In the international sphere, the Megiddo economic system related to Egypt, Sidon, and Cyprus via the harbors of Tel Dor and Tel Nami. It was also linked to the inland sites of the Beqaa Valley first via the maritime route that connected Tel Dor to Sidon and then via the terrestrial route that connected Sidon with the Beqaa Valley, in addition to via the terrestrial route that connected Megiddo with Kamid el-Loz. The connection between the Sidon to Beqaa Valley, the Tel Dor/Tel Nami to Megiddo, and the Megiddo to Beqaa Valley routes, is suggested by the similarities between the materials from Sidon, Tel Nami, Megiddo, Tel Dan, and Kamid el-Loz (Artzy, 2006b: 73-86). Trade between these routes was carried out, both by sea and land, using the harbors of Sidon, Tel Nami, and Tel Dor for the transshipment of goods along the coast, and the inland sites of Megiddo and Kamid el-Loz as inland intermediaries.



## 4. THE LBA CENTRAL LEVANT SOCIO-ECONOMIC ORGANIZATION: THEORY AND MODELS

### 4.1. World Trade System Theory

The world system analysis is a multidisciplinary approach to world history that focuses on the global economy as the primary unit of social analysis. It was first proposed by Immanuel Wallerstein (1974) in his book *The Modern World-System: Capitalist Agriculture and the Origins of the European World-Economy in the Sixteenth Century*. The world system analysis divides nations and regions into three categories: core, periphery, and semi-periphery. While the economic function of core countries focuses on high-skill and capital-intensive production, the peripheral countries focus on low-skill, labor-intensive production, and extraction of raw materials. Thus, the core countries are modern capitalist societies and the peripheral one's pre-capitalist societies. The differences in the economic function and social organization between the core and periphery constantly reinforce the economic and political dominance of the core countries. The peripheral states can, nonetheless, gain semi-peripheral or core status due to advances in technology, social, or economic transformations (Wallerstein 1974).

High-skill and capital-intensive production is the hallmark of the capitalist economy, which for Wallerstein (1974) is an exclusively modern phenomenon that can be traced only after 1450 A.D. following the collapse of the feudal society. The world trade system assumes that the ancient economies depended on low-skill and labor-intensive production and could not create global economies because they lacked a strong economic and political distinction between the core and periphery. Pre-capitalist economies, in contrast, expand by political conquest to grow into empires.

Wallerstein's defense of the world trade system theory as an exclusively modern phenomenon was criticized by many ancient historians and archaeologists (among them: Kohl 1987; Trolle Larsen 1987; Liverani 1987; Zaccagnini 1987; Gunder-Frank 1993; A. Sherratt 1993; 1994), who argued that the division between the ancient and modern economy is founded on primitivist and substantivist ideas. Wallerstein's assertion that expansion in the ancient world was only based on conquest and that supra-regional



economy was always under the direct political control of empires is not entirely true. For instance, centers did not have the capability of effectively control the peripheral regions, but they did control their economy, as it could be the case of late 5<sup>th</sup> century BCE Athens and the Delian League or the MBA Assyrian trade in Anatolia.

#### **4.2. The LBA Eastern Mediterranean Trade System**

Although a world trade system was present in the LBA, it was significantly different from the one of the Modern Age, in both extension and form. In contrast to the Modern Age world system economy, based on a global-wide single world system, the LBA world system encompassed the Indus Valley, the Near East, the Mediterranean, Atlantic Europe, and parts of Eastern and Central Europe (Kohl 1987). Also, in disparity with the Modern Age world systems in which the core region was circumscribed to Western Europe:

The Bronze Age world system of the late third and early second Millennia BCE was characterized not by a single dominant core region economically linked to less developed peripheral zones, but by a patchwork of overlapping, geographically disparate core regions or foci of cultural development, each of which primarily exploited its immediate hinterland (Kohl 1987: 16).

These regional core-periphery systems were then connected creating a world system (Gunder-Frank 1993). In this study, I will examine how the Eastern Mediterranean trade system worked during the LBA.

The core regions of the LBA Eastern Mediterranean were at the same time the larger economic and political powers, semi-peripheries were economically strong but politically weak powers, and finally, the peripheral regions were weaker economic and political powers. The peripheries were economically dependent on at least one of the core or semi-periphery regions; the semi-peripheries were at the same time under the economic or political control of the core regions. In this form, all the area was directly or indirectly connected to some of the core regions. One of the most curious features of this LBA model is that peripheries could be attached to the various core or semi-periphery regions. Accordingly, the core regions were Egypt, Hatti, and mainland Greece, the semi-peripheries Cyprus, Crete, and the large trading cities of coastal Syria and Northern

Lebanon, especially Ugarit. The peripheries of the system were the rest of the attached areas. At the same time the Eastern Mediterranean trade system related to the Near-Eastern trade system with Mesopotamia as main core regions and with the Eastern European and Central Mediterranean system.

Contrary to the Modern Age trade systems, in which the differences between core and periphery lied on technology and model of production, during the LBA these differences were based on the productive capability and economic strength, as the technological differences between core areas, semi-peripheries and peripheries were minimal. Hence, the LBA Eastern Mediterranean trade economy was much more flexible and unstable than the Modern Age trade world economy, as “Unless conquered, Peripheries could have followed one of several options ranging from withdrawal from the exchange network to substitution of one core partner for another” (Kohl 1987).

### **4.3. The City-State Model**

In the words of Thomas H. Charlton and Deborah L. Nichols:

A city-state is a small, territorially based, politically independent state system, characterized by a capital city or town, with an economically and socially integrated adjacent hinterland. The whole unit, city plus hinterland, is relatively self-sufficient economically and perceived as being ethnically distinct from other similar city-state systems (Charlton and Nichols 1997b: 1) .

Commonly city-states appear in groups, creating a characteristic settlement pattern, a territory divided into a multiplicity of polygonal or circular independent states of similar sizes, around 20 to 60 km diameter (Renfrew 1975; Rihll and Wilson 1991; Charlton and Nichols 1997b). City-states tend to have a concentrated population, in some cases over 80% residing in the capital (Wenke 1997); a decentralized or at least not over-centralized government, with public institutions and a certain amount of political liberty of citizens; and a very high development of the capital city, with public buildings such as agora and theaters (Trigger 1993; Wilson 1997). The high concentration of population in the capital city is due to large numbers of farmers residing on it, as their fields are situated in the

proximity of the city, and the city walls give higher protection against bandits or other city-states raids (Trigger 1993; Wilson 1997).

The term city-state appears for the first time in the late 19<sup>th</sup> century in the book *The City State of the Greeks and the Romans* of the British classicist William W. Fowler (1893) defining the ancient Greek and Roman state (Burke 1986; Charlton and Nichols 1997b). Shortly after, the term city-state was exported by Anglo Saxon historians to the study of Medieval and Early Modern Italy, specifically for the case of the cities of Florence and Venice (Charlton and Nichols 1997b). The model was then exported to define similar political organizations in other parts of the world and different periods of preindustrial history, such as Mesopotamia (Stone 1997); Southwestern Asia (Kenoyer 1997); China (Yates 1997); Mesoamerica (Webster 1997; Charlton and Nichols 1997); and the Peruvian valleys (Kolata 1997). Neal R. Peirce (1993) proposes to use the model for contemporary states such as the Vatican or Qatar. Some scholars, however, have criticized the model as having been abused stating that not every petty kingdom or small size political entity in world history has been a city-state. Charlton and Nichols (1997b) disagree with Peirce's (1993) suggestion of contemporary city-states, as most of the contemporary small states do not have an integrated economic hinterland and their economic system is embedded and dependent on the contemporary world trade system economy. David J. Wilson (1997) also criticizes the abuse of the city-state model and suggests that the political and economic organization of the Peruvian valleys was another type of organization, based on valley relations.

In terms of settlement pattern, in a city-state model, we should expect to find a polygonal or circular distribution of settlements, with large central sites surrounded by smaller settlements, approximately half of the population of the polygon should be concentrated in the central site. Routes should radiate from the central site to the hinterland and from the center of each city-state to the center of the neighboring city-state (Sugerman 2000: 43). When inspecting the material culture of such a settlement pattern distribution it should be expected to find at the central site a larger amount of materials, with imported artifacts from all the settlements of the hinterland and the other city-states of the region.

The materials found at the satellite towns or villages should show less variation in both precedence and type (Sugerman 2000: 43-44).

#### 4.4. The Dendritic Market System Model

The dendritic market system model was first proposed by Bennett Bronson (1977) to explain the economic structure of coastal states in Malaysia and Indonesia, and later applied and elaborated by Hall (1985). The model focuses on river line economic systems constrained by swamps, forests, or mountains, in which major harbor sites situated in the river mouths, controlled exchange upstream and downstream. For this model to function properly the harbor sites should have had poor or small hinterlands that did not allow the development of a sufficient agricultural economy, making the harbor site directly dependent on trade for both food supply and economic revenue (Bronson 1977). Following Bronson's (1977: 43-44) scheme dendritic systems contained these elements:

A: Center at the river mouth.

B and C: Second and third-order centers located upstream and at primary and secondary river junctions.

D: Most distant upstream center to participate in the A-based system of market exchange and the initial concentration point for products originating in more remote parts of the watershed.

E and F: Ultimate producers of these products and perhaps centers on a separate exchange system based on non-market institutions, involving goods only part of which come from or go to the marketized system centered on A.

X: Overseas center which serves as the main consumer of goods exported from A and the principal supplier of its imports.

A2: Another river-mouth center some distance along the coast, controlling a hinterland like that on A.

(Bronson 1977: 43-44)

To get agricultural goods to maintain the harbor population and industrial and agricultural surplus for export, site A needed the "collaboration" of various B and C type sites, the populations of those sites were at the same time dependent on A for the supply of overseas imports. The power relations between the A sites and the B/C sites were usually unequal,

as site A applied coercive politics over the inland sites to secure the trade monopoly. The political intervention of A over B/C was normally based on an indirect rule, establishing garrisons or fortresses; in some cases, however, intervention could end up in the imposition of governors or annexation. Nonetheless, if the strength of site B or C was like that of site A; B was transformed into a rival of A and tried to get equal status within the system. In some cases (Java), competition between B and A was resolved in favor of B, and the “capital” of the system was moved inland (Bronson 1977).

The D sites, situated at the end of the system were, at least in Southeastern Asia less developed than those situated near the coast (Bronson 1977). The relations between A and D were more egalitarian than the ones between A and B/C, because A did not have the control capability to directly intervene in D’s affairs. D was somehow part of two systems at the same time, the dendritic market system directed by A and another economic system directed by E or F, from which it could also get goods (Bronson 1977).

Site X was a strong overseas power, with a larger political, military, and economic capability than site A. The relationship between X and A was unequal, as A was dependent on X for obtaining the imports supplying the system, while X could obtain imports from a large variety of places. As a result, X traders changed tariffs and partners between the different A sites depending on their economic or political interests, sometimes bringing the A sites and the full related systems to bankruptcy (Bronson 1977).

To secure trade or get commercial advantages with X, or even create a regional economic monopoly, A sites competed and tried to get rid of all the possible competitors. Competition between A sites led to an augmentation of piracy, naval conflict, and other types of coastal instability. Wars of conquest and extermination were also normal between different systems, as the economic benefit of destroying the competitors was higher than the costs of war. Also, the administrative cost of controlling a competing system was low, as it was only necessary to control the harbor site to control the full system. The permanent competition and conflict between the economic systems made the region politically unstable, alliances, and borders between polities shifted in short periods (Bronson 1977).

When dealing with dendritic systems we should expect to find a specific type of settlement pattern and archaeological material distribution. In terms of settlement pattern, sites should be distributed linearly along a riverbed; the larger sites should be situated on the coast, with some medium-large sites in the main river intersections (Bronson 1977). As for the distribution of archaeological materials, it should be expected that the harbor site holds the greatest variety and larger amounts of artifacts in the system, having goods from all the sites along the route. In addition to the local materials, site A should have the largest number of imports from X in the system. Local imitation from the X site should also be found in the A site, as it had direct contact with X traders (Bronson 1977; Sugerman 2000: 44). Architecturally, in the harbor site many industrial areas and storage facilities should be concentrated, although not in Southeast Asia, where they were constructed from wood and did not survive (Bronson 1977).

The range and provenance of the artifacts discovered at the B/C sites should be similar to those encountered at A, except for the local imitations of X products, and a lower presence of imports from X (Bronson 1977; Sugerman 2000: 44). The production of local imitations was normally monopolized by A, the production of local imitations of imports in a B site will hence imply that the A site of the system was too weak to impose that monopoly (Bronson 1977). Trade in the D level sites, which were normally less developed than the sites situated downstream, was carried out in an inter-village level, hence, the only products from the rest of the system that should be expected here are some luxury items, the main imports from X and their local imitations. Sites E and F were situated out of the system itself, and might contain traded goods that reached D, but with a different distribution (Bronson 1977; Sugerman 2000: 44).

#### **4.5. State of the Field**

After analyzing both models, the city-state model and the dendritic system model, I will discuss how different scholars have applied one or other model to the specific case of the LBA Levant. Although only a few papers (Bunimovitz 1994; Finkelstein 1996; Na'aman 1997; Savage and Falconer 2003; Sugerman 2009) have been published dealing with the size, distribution, and economic organization of the LBA Levantine political entities.

Discussion concerning the city-state was carried out during the 1990s and 2000s (Bunimovitz 1994; Finkelstein 1996; Na'aman 1997; Savage and Falconer 2003) and focused on the city-state size and number in LBA Israel and Palestinian Territories. The first two authors who calculated the number of LBA city-states in areas L-4 and L-5 are Bunimovitz (1994) and Finkelstein (1996). They divided the area into 19 city-states with an average 15-20 km hinterland. This territorial division was based on cluster analysis and the el-Amarna letters. Finkelstein (1996) concluded that the whole region was under Egyptian control during the LBA and that every city-state was named in the el-Amarna letters. He also noted that the social organization of the Levantine states was like the Egyptian one, with a highly centralized government and strong control over the hinterland. In this sense he stated that the city-states were, at least officially, controlling the whole region, including semi-deserts, highlands, and swampy areas. Contrary to Finkelstein, Na'aman (1997) argued that the el-Amarna archive is incomplete and that as a result, some of the city-states' names were not preserved or were not part of the correspondence. Accordingly, some sites that were not named in the letters could also have been city-state capitals. Additionally, Na'aman defended the notion that the sedentary states were not controlling the totality of the region, thus some areas as deserts or mountains were out of state control and populated by semi-nomadic tribes or even independent farmers. He proposed that LBA Israel and Palestinian Territories were divided into 20 to 27 city-states, with smaller hinterlands and uncontrolled areas between their borders. At last, Savage and Falconer (2003) proposed that the region was divided into 24 city-states.

When studying the settlement pattern of the MBA Levant, various scholars (Raban 1985; Marcus 1991; Ilan 1995; Stager 2000) detected that the archaeological sites were oriented along rivers and wadies running west-east from the Mediterranean to the inland highlands and deserts, a type of settlement pattern more representative of a dendritic market system than of a city-state system. The first author who tried to create a suitable model for this type of settlement pattern in the Levant was Ilan (1995), suggesting that each of the lines that run along a valley represented a unified polity, similar to what Wilson (1997) suggests for early Peruvian states. The first to adopt Bronson's model for the EBA and

MBA Levant was Stager (2000), who referred to it as the “port power” model. The application of the dendritic market system model to the LBA Levant was suggested by Sugerman in his PhD dissertation (2000) and a later article (2009).

#### 4.6. Discussion

The distribution of city-states proposed by Finkelstein (1996) agrees almost perfectly with the city-state model, in both settlement pattern and hinterland size. However, various inconsistencies can be found in Finkelstein’s argument, as already noticed by Na’aman (1997). Finkelstein (1996) states that every settlement named in the Amarna letters was a city-state capital and that every city-state capital was named in the Egyptian archive. Nonetheless, the Amarna Letters were extracted from illegal excavations or even chance find, and the archive is surely incomplete. Hence, the letters naming some of the regional capitals may be missing (Na’aman 1997). Secondly, there are several contradictions, for example, the case of *Hinnatuna* (most probably Tel Hanaton) cited in EA-8 and EA-245 (Moran 1992 16-17; 299-300), which he dismisses as a city-state capital, arguing that it was too near to the site of Tel Shimron. Thirdly, Finkelstein (1996) also included within a specific city-state various sites of similar size, as is the case of Tel Shimron and Hanaton, or Akko and Tell Keisan. Fourthly, he does not consider geographical settings in his political distribution and placed in a territory of the same city-state areas situated on both sides of the Carmel Ridge. Lastly, he suggests that the entire Levant was under the official rule of a city-state king (Finkelstein 1996), nevertheless, most of the urban centers of zones L-4 and L-5 were not large enough to control extended hinterlands (Sugerman 2009). Thus, during the LBA Levant, there seems to have been more independent political entities than the ones suggested by Finkelstein (1996), as already suggested by Na’aman (1997). Highlands and deserts escaped the control of kings and states and were populated mainly by semi-nomadic tribes. I suggest a similar situation for some coastal areas, which were not under the control of the cities and were populated by what Artzy (1997) refers to as ‘Nomads of the Sea’, mainly independent traders positioned on harbor sites such as Tel Nami.

If this was the case, the city-state model explains the political organization of the coastal-oriented Levant, as most of the LBA political entities were indeed cities and states. But it



does not explain its economic organization, as the economic hinterlands of the Levantine political entities were too small to maintain independent economies. Hazor, with its more than eighty hectares, represents an exception as it could control medium size sites and a large hinterland, proper for the city-state model. Hence, the economic organization of Hazor was more like that of the large sites in Inner Syria and Transjordan, where the average size of settlements and hinterland was bigger.

The application of the dendritic market system to the Levant exhibits some problems; it was developed for explaining economic systems in the specific geographical environment of Malaysia and the island of Java. One of the principal features of the system is the usage of rivers as the only possible mean of communication; a situation that does not match that of the Central Levant, where, as commented in chapter 2, an extensive route system existed. Another important element that defines the dendritic systems is the linear, along the riverbeds, settlement pattern distribution. There is no clear evidence for such a settlement pattern in the LBA Central Levant. However, the studies carried out by Ilan (1995) and Stager (2000) on the MBA Southern Levant do indicate a linear distribution of the settlement pattern from coast to inland. Also, settlement pattern analysis of the Bronze Age Beqaa Valley, demonstrates that sites were distributed linearly, in a North to South direction, following the main route crossing it (Marfoe 1979; Safadi 2013). I suggest that as in the MBA Southern Levant, in the LBA coastal-oriented Levant sites were distributed linearly along the routes that communicated the Mediterranean Sea with the inland centers of Inner Syria and Transjordan. The main routes followed the river valleys and wadies, creating a settlement pattern distribution and system of communication similar, but not equal, to the one suggested by Bronson (1977) for Southeast Asia.

In my opinion, the world trade system economy existed in both Early Modern Southeast Asia and the LBA Central Levant. Yet, there were important differences between the economic models of both regions. In Malaysia and Java, the technological development and economic structure directly depended on the contact with overseas powers (the X site), and the technology and economic structure of the coastal sites were more advanced than those of the inland sites (Bronson 1977). By contrast, in the LBA Levant, the

technological development and economic structure were independent of the overseas powers and similar in the entire region. The similarity in technological development and economic organization between the harbor and inland sites and the low control capability of most sites in the region provoked a much more equal distribution of power than the one proposed by Bronson (1977) for Malaysia and Java.

In conclusion, in Inner Syria and Transjordan, the political entities were city-states. By contrast, the small states from the coastal-oriented Levant were politically city-states, mainly independent cities with a state range society, but economically, variations of the dendritic market system model, as already suggested by Sugerman (2000; 2009). Mainly dendritic market systems, in which the main lines of communication were not rivers but sea to land trade routes following the river valleys, and in which the economic and political relations between the different sites within the system were relatively equal. The equal distribution of power between the inland and harbor sites created an important regional variation of system organizations along the Central Levant; in zone L-3 the major coastal sites of Beirut, Sidon, Sarepta and Tyre probably controlled their lineal economic hinterland, in a similar form to that in Malaysia and Java. In zone L-4, the only large harbor site was Tel Akko, which probably had to share power with its inland associates of Tel Keisan, Tel Hanaton, etc.; the other harbor sites of the area, Nahariya, TAH, Tel Nami...were small sites with an almost null control capability. In their cases, the major economic powers of the system were the B sites situated inland, which at the same time had to share power between them. Counting with the regional variations between the different zones of the Levant and with the control capabilities of the regions' sites, I propose a modified dendritic system scheme, adapted to the LBA coastal-oriented Levant, that worked as follows:

A: Harbor/anchorage sites at the coastal end of the system, mainly worked as a funnel for imports/exports and as the main contact with X and other A sites; in the specific cases of large harbor sites they also functioned as industrial and agricultural producers within the system.

B: Large sites located upstream at primary and secondary route junctions; their main economic function was industrial, and they were the main producers and packers of products for export.

C: Small sites situated along the route, in some cases they were dependent on one of the B sites; their main economic function was agricultural, and they were the main extractors of raw materials.

D: Small sites situated in the route connecting B with E, in some cases they were dependent on E; their economic function was like that of C, additionally serving as small scale intermediaries between E and B.

E: Large sites situated in Inner Syria and Transjordan. They had a three-level economic function: agricultural, industrial, and commercial. They are the last consumers of the Mediterranean imported materials of A and the distributors of inland imported materials, as incense and others, transported along the north-south trade routes. E was not dependent on A, as it could find a different linear system to supply its imports, and as a result not exactly inside the system.

X: "Overseas centers which serve as the main consumers of goods exported from A and the principal supplier of its imports" (Bronson 1977). The relations between A and X are identical to the ones suggested by Bronson, in the case of the Levant the main X sites were Egypt, coastal Syria, and Cyprus.

A2: Other coastal sites situated at some distance along the coast, participating in a route-based system like that on A.

## 5. METHODOLOGY OF PRESENT RESEARCH

### 5.1. Data Set

In the previous chapter, I suggested that during the LBA the economic model of the Levant worked as a variation of the dendritic market system model. In the next chapters, I will apply the model to the Lower Qishon outlet (For the description of the Lower Qishon sites see chapter 6). To check the economic relationships existing between the various sites situated along with the Lower Qishon outlet I will analyze the ceramic materials from the small agricultural village of Tel Risim, situated in the northern part of the Jezreel Valley, and from various sites situated on the Southern Akko/Haifa Bay. I will then compare these materials with the ones from the anchorage of TAH.

The study of Tel Risim focuses on an LBA ceramic assemblage comprising 162 sherds discovered during a salvage excavation carried out by Walid Atrash of the Israel Antiquities Authority (IAA) in 2005. For Tel Risim, the material analysis will be divided into three parts: first, the creation of a typology, second, in-depth morphological analysis and comparative study of the 162 sherds, and third, comments on the petrographic analysis carried out on 23 of the Tel Risim LBA sherds. The analyses were done by Anastasia Shapiro at the IAA Petrographic Laboratory.

The study of the Southern Plain of Akko (SPA) will focus on a 28 pieces LBA ceramic assemblage found in a survey project conducted by Carolina Aznar, Shalom Yanklevitz, and Michal Artzy in 2010. It will also focus on a 118 pieces LBA ceramic assemblage unearthed during an archaeological project conducted at Tel Regev by Carolina Aznar, Shalom Yanklevitz and Michal Artzy from 2011 to 2014 (Martín *et al.* in press). The analysis of the Southern Plain of Akko materials will be divided into two sections: first the creation of a typology using the materials from both the survey and the Tel Regev excavations, second an in-depth morphological analysis, and comparative study of the survey and excavation materials separately.

## 5.2. Methodology

The best method for understanding economic connections between sites is to perform a large-scale paste analysis over their common use ceramics, as suggested by Sugerman (2000: 41). Unfortunately, at present, there are not enough petrographic, NAA, or other provenance data from all the sites situated along with the Qishon outlet. To quantify the relation between the sites along the Qishon outlet and the coast, a simple paste analysis of their ceramics was performed, differentiating between two different fabrics of plainwares: the plainwares in local tradition and the PWWM. The ceramics belonging to these two types of fabric present the same typology, however, the plainwares in local tradition do not bear any type of burnishing or slip, while the PWWM wares are covered by a white or pale tan self-slip (Artzy 2019: 345-346). The self-slip or “scum” is created by the evaporation of soluble salts during the cooking of the vessel, a similar process to the one used to produce the Egyptian Nile clay ceramics (Ownby and Griffiths 2009). To produce the PWWM, clay with a high content of soluble salts such as calcium sulfate, magnesium sulfate, potassium sulfate, sodium sulfate, or sodium chloride is needed. The presence of the whitish self-slip could have originated in the natural presence of high content of soluble salts in the clays, however, the presence of both fabrics in all the sites situated along the Qishon outlet points to a conscient production. The amount of PWWM at the sites situated inland is relatively low, by contrast at TAH is the most common type of plainware. The NAA and petrography analysis carried out on the TAH PWWM demonstrates that they were produced locally and in Cyprus and the Syro-Lebanese coast (Artzy 2006; 2013; 2016). The petrographic analysis made over the Tel Risim PWWM ceramics shows that they were produced in the Southern Plain of Akko and Cyprus (Shapiro, personal communication, 2018).

To see if some specific forms could be indicative of harbor influence, an in-depth typological and comparative analysis of the ceramics from Tel Regev and the Southern Plain of Akko is carried out. Additionally, the morphologic analysis will help to understand the specific function that each site had within the system. These analyses will be reinforced, when available, by paste analysis.

### **A. Typological comparison study**

To comprehend the cultural and economic relation between Tel Risim, the sites situated in the Southern Plain of Akko, and the anchorage site of TAH, the material culture of Tel Risim and the Southern Plain of Akko will be compared to one another and to that of TAH.

To understand the connection between Tel Risim and the Southern Plain of Akko with the agricultural lands of the Jezreel valley, the materials from Tel Risim, the Survey and Tel Regev will be compared to those of Tel Qashish (Ben-Tor *et al.* 2003), Tel Yoqne'am (Ben-Tor *et al.* 2005) and Tel Megiddo (Loud 1948; Finkelstein *et al.* 2010; Finkelstein *et al.* 2013).

To understand the relationships of the Lower Qishon drainage system with the nearby systems, the PWWM materials from the Southern Plain of Akko Survey, Tel Regev, and Tel Risim will be compared to those of the nearby anchorage sites of Tel Akko (Zagorski 2004), Tel Dor (Stidsing and Salmon 2018), Tel Nami (Artzy 2006), Tel Mevorakh (Stern *et al.* 1984), Tel Michal (Herzog *et al.* 1989), Tyre (Bikai 1978), and Sarepta (Anderson 1989).

To understand the Lower Qishon drainage system international contacts, the imported and PWWM materials from the Southern Plain of Akko Survey, Tel Regev, and Tel Risim will be compared to those of the Northern Levantine sites of Tell Arqa (Thalmann 2006) and Ugarit (Monchambert 2004), and with those of the Cypriot sites of Kalavassos - *Ayios Dhimitrios* (South *et al.* 1989), Enkomi (Dikaios 1971), and Nitovikla (Hult 1992).

### **B. Criteria for pottery description and classification**

To create a comprehensive typology and data set for comparison, the ceramics from Tel Risim, Tel Regev, and the Southern Plain of Akko Project survey will be classified as follows:

## ■ **Criteria for pottery description**

For describing the vessels, I will use the standardized descriptive system of the excavations at Sarepta as proposed by Anderson (1988: 453-463), adding minor changes. I will first describe the vessel's general body form, followed by the walls, neck, rim, handles, and base.

### • **Body description**

I will divide the vessel bodies into cylindrical, conical, biconical, globular, and S-profile (Anderson 1988: 456-458).

### • **Wall description**

I will divide the vessel walls into straight, concave, and convex. If the vessel is carinated (with a "wall contour broken by a keel-shaped projection or crest") I will divide its carination position into high, middle, or low (Anderson 1988: 458; Mullins and Yannai 2019: 155) and its carination form into round or sharp (Mullins and Yannai 2019: 155).

### • **Neck description**

I will first classify the neck sizes as very short, short, medium, and long. Then I will classify their form as straight and concave (Anderson 1988: 458-459).

### • **Mouth description**

Most of the vessels have simple mouths, and I will not describe them. I will divide the especial mouth forms into pinched ("pinched spout or nozzle formed by compressing the side of the rim towards the front of the vessel between the fingers) and trefoil (trifoliate or clover-leaf form) and indicate when they appear (Anderson 1988: 456).

### • **Rim description**

For the rim descriptions, I will first describe the rim size, long or short. Then the rim orientation divided into vertical (vertical), direct ("with no distinct deviation from the vessel line"), flared (gradually deviating outwards from the vessel line), everted (abruptly deviating outwards from the vessel line), pendant (the rim edge projects downwards), upturned (with a slightly closing curvature), incurved (gradually deviating inwards from

the vessel line), and inverted (abruptly deviating inwards from the vessel line). Then I will describe the thickening as simple (unthickened), indeterminate (slightly thickened), internally thickened, and externally thickened. Afterward, I will describe the general form of the rim as rounded, oval, rectangular (rectangular or square), triangular, t-shaped, profiled (irregular), and flanged (rail-shaped). At last, I will describe the form of the lip, in case it is different from the rim form, as rounded, flattened, and tapered (narrowing to a point) (Anderson 1988: 454-456).

- **Handle description**

For the handle descriptions, I will first describe their orientation, vertical or horizontal. Then I will classify the handle shape like round, oval, straight, bar, ledge, or wishbone (Anderson 1988: 460-462).

- **Base description**

I will divide the bases into pointed, round, flat, protruded (“projecting downward from the surrounding surface of the body”), knobbed (solid, rounded or dislike long protuberance), disc, and ring (Anderson 1988: 459-460).

- **Criteria for pottery classification**

- **The vessel types**

The primary and most important criterion for our pottery classification will be the vessel type and use. Pottery will be divided firstly into the domestic ware, common ware, and fine wares categories. Afterward, it will be divided by the general shape (cooking pot, basin, bowl, krater, *pithos*, jar, jug...) illustrated from the most open vessels to the closed ones.

- **The dimensions**

The main categories are also divided according to their diameter size and depth. Size can be very important to ascertain the function of the vessels, while maritime transport containers could be used for maritime or land transport, *pithoi* were likely more useful for terrestrial storage, although they were also used for maritime transport, as demonstrated by the Uluburun cargo (Pulak 1998; 2008). Similarly, large bowls/basins



could be used for the storage of food supplies, while those similar in shape, like smaller bowls, had a different function.

- **The shape of the body**

This is another important category, as it can aid in the identification of the function of the vessel. Unfortunately, there are few, if any complete vessels in the anchorage excavations of TAH or the Southern plain of Akko survey.

- **The rim shapes**

The rims have traditionally been the principal ceramic indicator for typological classification, as they are normally well preserved and the easiest to classify. For the specific case of TAH and the SPA, this feature is almost the only indicative part of the vessel preserved. Therefore, the rim shape will be used as the principal indicator to designate the pottery types.

- **The neck shapes**

Necks are also well preserved, especially in the cases of *pithoi* and storage jars. They will be used alongside with the rim shapes as the main indicators for the ceramic classification.

- **The base shapes**

When bases appear attached to the rest of the vessel, they will be used to identify vessel sub-types. When a base is everything that remains, it will be included in a base typology.

- **The handles**

The handles will not be used for the typological classification, except in the cases in which the handle form can be related to a specific vessel form. Nevertheless, it will be indicated if a type had handles.

- **Paste analysis**

The typological analysis will not be solely based on pottery morphology, but also ware composition, utilizing for Tel Risim thin section petrography analyzed by Anastasia Shapiro in the Israel Antiquities Authority (IAA) and for TAH, NAA analysis, carried out

by Prof. H. Mommsen in the Bonn laboratory in Germany and thin section petrography, analyzed by Shalom Yanklevitz at the University of Haifa. The paste analysis is important for the understanding of the trading networks between the sites situated along the Qishon River, as well as for determining the long-distance contacts.

## 6. THE LOWER QISHON DRAINAGE SYSTEM: SITE ANALYSIS



Map 10. Sites Mentioned in Chapter 6.

### 6.1. Tel Risim

#### A. Site description

The ca. half a hectare site of Tel Risim is situated on the northwestern side of the Jezreel Valley, at ca. twenty kilometers southeast of the modern city of Haifa, on the southwestern edge of modern Ramat Yishai and ca. one kilometer north of Kefar Yehoshua. Tel Risim is five km west of Tel Shimron, a large MBA and LBA site whose ruler participated in the el-Amarna correspondence (Goren et al. 2002; Artzy 2018). During the LBA, the nearest anchorage site to Tel Shimron and thus to Tel Risim was TAH located ca. twenty kilometers from it. Tel Risim is positioned amid a rich agricultural area, known for its fertility and high agricultural production at least in the 2<sup>nd</sup> and 1<sup>st</sup> Millennia BCE. The only fieldworks conducted at the site were salvage excavations carried out in the past fifteen years by the IAA.

In the past, Tel Risim was known by two names, Tell el-Rish and Tell el-Muwajeh and listed with the last name in the 1882 publication of Conder and Kitchener, *Survey of Western Palestine*. Raban called it in the IAA survey of the Nahalal Region site 42 and mentioned ceramics belonging to the EBA, MBA, LBA, and IA I (Raban 1982). Further IAA salvage excavations revealed graves from the Intermediate EB-MB period, as well as remains from the Hellenistic, Roman, Byzantine, Crusader, and Late Arab periods. In 2005, the IAA conducted a salvage excavation directed by Walid Atrash in the northern area of Ramat Yishai, to prepare for the construction of a new neighborhood. During the 2005 excavations at Tel Risim, the team led by Walid Atrash discovered a burial cave dating to the Intermediate EBA-MBA period as well as remains dating to the LBA, Persian, Hellenistic, and Roman periods (Atrash, personal communication). The LBA remains were revealed in a two rooms building of a stratum divided into eight loci (L-111, L-124, L-133, L-135, L-136, L-137, L-141, and L-142) (Atrash, personal communication).

## **B. Chronology**

The LBA stratum of Tel Risim can be accurately dated by its ceramic materials, especially its Cypriot imports. The best chronological indicator among the Tel Risim Cypriot imports is the BR Ware. The BR I appears for its first time in the Southern and Central Levant at the beginning of the LBA I. The BR II appears during the LBA IIA and continues until the end of the LBA IIC. The two BR styles coincide during a short period at the beginning of the LBA IIA (Artzy 2019b). At Tel Risim all the BR ware pieces belong to the second type, the BR II, suggesting that the LBA population of the site occurred during the second half of the LBA IIA. Another strong chronological indicator discovered at Tel Risim is the WS. All the WS from the site belongs to the WS II style, which typically appears in the LBA IIA and IIB periods in the southern and central Levant (Artzy 2019b). While there may be remains from earlier LBA strata, these finds indicate that Tel Risim was populated during the period comprehended between the second half of the LBA IIA (ca. 1350 BCE) and the end of the LBA IIB (ca. 1225 BCE).

### **C. Ware types and technology**

#### **■ Cookware**

All the Tel Risim cookware is produced of local cooking pot fabric, with a sandwich paste, grey or dark grey core, reddish exterior paste, and white (calcareous) grits. Most of the vessels made of this fabric are burnt, as they were used for cooking. At Tel Risim there are two main cookware types made of this fabric: the local Canaanite cooking pots, common to most of the sites in the Southern and Central Levant and some form of a shallow globular cooking vessel with convex walls, high round carination, no neck, and slightly everted long simple tapered rim. This last form has its only parallels in the Jezreel valley sites of Tel Qashish (Ben-Tor and Bonfil 2003) and Tel Yoqne'am (Ben Ami 2005).

#### **■ Plainwares in local tradition**

The utilitarian wares in local tradition found at Tel Risim are wheel-made and do not show any slipping or burnishing signs. Their pastes vary since their production centers, apparently located in the Jezreel Valley, are different. In Atrash's excavations, a total of 105 indicative sherds of plainware in local tradition, representing ca. 65% of the total assemblage were discovered.

#### **■ Plain White Wheel-Made (PWWM) ware**

In addition to the plainwares in local tradition, 11 indicative pieces of PWWM, representing ca. 7% of the total assemblage, were discovered at Tel Risim. The PWWM discovered at Tel Risim presents an almost identical typology to that of the plainwares in local tradition, except for some open kraters that only appear in the PWWM production. The petrographic analysis conducted on the Tel Risim PWWM ceramics demonstrates that all of them (except for jar base B-1085/3, L-133) were produced in the Southern Plain of Akko and some in Cyprus (Shapiro, personal communication, 2018).

## D. Typology

### ■ Cookware

#### • Cooking pots group 1, Canaanite cooking pots

Most of the cooking pots from this family have a globular body, convex walls, carination, very short or short concave neck, and different forms of everted or pendant rims. Typologically they belong to the local Canaanite cooking pot tradition, a tradition that started during the MBA and continued throughout the entire LBA and parts of the IA (Mullins and Yannai 2019: 159). The black burn marks on most of these vessels imply that they were used for cooking.

- **1a.** Cooking pots with everted thickened triangular or t-shape rims. SPA CP 1a.
- **1b.** Cooking pots with everted thickened rounded rims. SPA CP 1b.
- **1c.** Cooking pots with everted short thickened externally flanged rims. SPA CP 1c.
- **1d.** Cooking pots with everted simple rims. SPA CP 1d.
- **1e.** Cooking pots with upturned rims. Not at SPA.
- **1f.** Cooking pots with everted externally thickened profiled rims. Not at SPA.

#### • Cooking pots 2, open cooking pots/pans

The vessels from this family are shallow vessels with globular body, convex walls, high round carination, no neck, and slightly everted long simple tapered rim.

### ■ Bowls (B)

The bowls are the most common vessels in the Levant, they can have convex or straight walls, they can also be carinated (Yannai and Mullins 2019: 153-154). The most common bowls in the Levant are the medium size bowls with straight or convex walls and direct simple rims (Yannai and Mullins 2019: 153-154). Other frequent forms are the ones with flared rims, which have frequently been identified as Egyptianizing (Martin 2004) but are also frequent in various sites along the Levant, such as Ugarit (Monchambert 2004). As a result, they should not be considered as Egyptian unless they show some distinctive Egyptian technological features such as straw or chaff temper, rope marks, or finishing techniques (Oren 2019: 267). At Tel Risim, the most common bowls are the medium ones with convex or straight walls and various forms of direct rims.

- **Type 1.** Bowls with convex walls and direct simple rims. Like SPA B 1
- **Type 2.** Bowls with straight or slightly convex walls and direct simple rims. SPA B 2.
- **Type 3.** Bowls with straight or slightly convex walls and flared or everted rims. SPA B 3.
- **Type 4.** Bowls with straight or convex walls and upturned or slightly incurved simple rims. SPA B 4.
- **Type 5.** Bowls with convex walls and direct internally thickened rims. SPA B 5.
- **Type 6.** Bowls with direct thickened t-shape rim. Not in SPA.
- **Type 7.** S-profile. When they are complete, bar handles are noted. SPA B 8.
- **Type 8.** Carinated bowls. SPA B 9.

■ **Large bowls (LrB)**

In Tel Risim, there are four types of large bowls. The rims and bases of the first two types are almost identical to those of the Cypriot open kraters and basins, and I think that their general form was influenced by Cypriot potters. The other two types of large bowls present rope marks, which normally indicate Egyptian influence (Martin 2004; Oren 2019: 267). The large bowls were probably used for the storage of grains, in communal meals, and maybe for the transport of agricultural produces by land or river barges.

- **Type 1.** Large bowls with convex walls and internally thickened rims. SPA LrB 1.
- **Type 2.** Large bowls with convex walls and everted rims. They sometimes have a bar handle. Not at SPA.
- **Type 3.** Large bowls with convex walls, high round carination, everted rims, and rope marks in the upper part of the body. This type of large bowl is quite common in Egypt. It may be a local imitation of the Egyptian types of bowls (Martin and Ben-Dov 2007). Not in SPA.
- **Type 4.** Large shallow bowls with convex walls, direct thickened externally profiled rims, and rope marks. This type of large bowl is quite common in Egypt. It may be a local imitation of Egyptian types (Martin 2004; Shalvi *et al.* 2019). Not at SPA.

## ■ **Kraters (K)**

Kraters are large, open, multi-purpose vessels. When complete, they usually have two vertical handles (Mullins and Yannai 2019: 157). In Tel Risim, as in most places of the Levant, kraters can be divided into more open and more closed vessels (Mullins and Yannai 2019: 157), the more close types are always carinated, by contrast, some of the more open kraters are not carinated.

- **Type 1.** Open kraters with convex walls, inverted or incurved thickened rims, and vertical oval handles. Not at SPA.
- **Type 2.** Kraters with upturned thickened rims and rim to shoulder vertical oval handles. Not at SPA.
- **Type 3.** Closed kraters with a concave neck and everted simple rims. They sometimes have rim to shoulder vertical handles. Not at SPA.
- **Type 4.** Closed kraters with everted externally thickened triangular or t-shape rims. SPA K 1.
- **Type 5.** Closed kraters with short concave necks and direct or everted thickened rims. SPA K 4.
- **Type 6.** Closed kraters with very short concave or no neck and vertical rims. SPA K 2.

## ■ **Jars (Jr)**

Jars were used for storage and maritime and terrestrial transport. As a result, they are common in most places of the Levant. Most of the LBA jars have an oval or elongated form that originated during the MBA and two vertical handles in the upper body that facilitated their transportation (Mullins and Yannai 2019: 161). At Tel Risim, the most common jars are the ones with everted long thickened oval rims and the ones with everted short thickened round rims.

- **Type 1.** Jars with everted long thickened oval rims. SPA Jr 1.
- **Type 2.** Jars with everted long thickened profiled rims. Not at SPA.
- **Type 3.** Jars with everted short thickened round rims. SPA Jr 2.
- **Type 4.** Jars with concave necks and everted simple rims. Not at SPA.



- **Type 5.** Large diameter jars with concave necks and everted thickened T-shape rims. Not at SPA.
- **Type 6.** Jars with different types of rims and rim to shoulder vertical oval handles. SPA Jr 7.

#### ■ **Jugs (Jg)**

The jugs are small vessels, used for pouring liquids or as tableware (Mullins and Yannai 2019: 164). In Risim there are two differentiated types of jugs.

- **Type 1.** Cylindrical body, medium concave neck, pinched rim, and vertical handle. Not at SPA.
- **Type 2.** Biconical body, everted rim, 2 vertical handles, and decoration. Not at SPA.

#### ■ **Cypriot imports**

##### • **Base ring II**

The BR ware was the second most common Cypriot import in the Levant during the LBA. The BR vessels are always handmade, made from clay that varies in color from black-brown to reddish-brown and slipped with a red-orange slip. The most common BR forms are jugs and bowls, all of them with a characteristic ring-base. Chronologically, the BR is divided into BR I (LB I and LB IIA) and BR II (LBA IIA-B) (Artzy 2019: 343-344). At tel Risim all the BR pieces are from the later BR II.

##### - **Bowls**

##### - **Jugs**

##### • **Monochrome bowls**

The monochrome vessels are always handmade, have a brown-buff fabric, and a red-orange slip. They were common in the Levant, at coastal sites and inland sites along the west-east trade routes, from the LBA I to the LBA IIB. Most of the monochrome vessels are shallow bowls with wishbone handles, and rarely appear as deep bowls and jugs. The fabric and typology of the monochrome ware are very similar to those of the BR ware;

hence, it is often difficult to tell them apart (Artzy 2019: 341-342). At Tel Risim, all the monochrome vessels are shallow bowls.

- **White slip II bowls**

The WS ware was the most common Cypriot import in the Levant from the MBA III to the LBA IIC. Chronologically the WS is divided into proto-WS (MBA III), WS 1 (LBA I and early LB IIA), WS2 (LBA IIA-B), and WS 3 (LB IIC). The WS ceramics are always handmade, and their most common types are the hemispherical bowls with a wishbone handle, known in the Levant as milk bowls, rarely the WS can show up as tankard-like jugs. WS bowls are white slipped in the interior and the exterior and decorated with brown or black painting in the exterior and the handles (Artzy 2019: 342). At Tel Risim, all the WS sherds are hemispherical bowls with a lattice-type decoration.

- **Mycenaean imports**

#### **D. Material analysis**

- **Cookware**

- **Risim cooking pots group 1, Canaanite cooking pots**

With 29 cooking pots out of 162 sherds, the cooking pots represent something less than 18% of the total assemblage.

- **Risim cooking pot 1a.** Everted thickened triangular or T-shape rims:

**B-1076/7, L-133** has short concave neck and everted thickened T-shape rim. Paste: sandwich, Grey core, and reddish-brown 2.5 yr. 5/4n exterior paste. It has some small and medium white and grey grits.

**B-1120/3, L-142** has, short concave neck, and everted thickened triangular rim. Paste: Pink 7.5 yr. 8/3. It has some small white grits.

**B-1099/1, L-135** has a globular body, convex walls, middle round carination, very short concave neck, and everted thickened triangular rim. Paste: black core and reddish-brown 5 yr. 5/4 exterior paste. It has a large quantity of small and medium white, grey, and pale brown grits. Was burnt.

**B-1114, L-141** has a globular body, convex walls, middle sharp carination, short concave neck, and everted thickened triangular rim. Paste: sandwich, grey 5yr. 5/1 core and light reddish brown 5 yr. 6/4 exterior paste. It has a lot of small and medium-size white grits.

- **Risim cooking pots 1b.** Everted thickened rounded rims:

**B-1118/2, L-141** has a globular body, middle round carination, very short concave neck, and everted externally thickened rounded rim. Paste: very dark grey 5y. 3/1 core and inner face and light red 2.5 yr. 6/6 outer face. It has a lot of small and medium white grits.

- **Risim cooking pots 1c.** Short everted thickened externally flanged rims:

**B-1074/2, L-133** has a globular body, middle sharp carination, very short concave neck, and short everted thickened externally flanged rim. Paste: sandwich, gray 7.5 yr. 6/1 core and pink 7.5 yr. 7/4 exterior paste. It has some medium and big white grits.

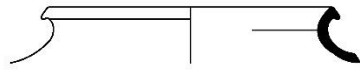
**B-1080, L-133** has a globular body, convex walls, middle round carination, very short concave neck, and short everted thickened externally flanged rim. Paste: sandwich, dark grey 5 yr. 4/1 core and reddish-brown 2.5 yr. 5/4 exterior paste. It has some small and medium white grits.

**B-1087/6, L-133** has a globular body, very short concave neck, and short everted thickened externally flanged rim. Paste: Sandwich, grey core, and light red 5 yr. 6/6 exterior paste.

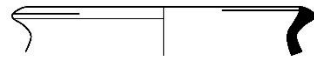
**B-1106/1, L-136** has a globular body, middle round carination, short concave neck, and short everted thickened externally flanged rim. Paste: pink 7.5 yr. 7/4. It has some small white grits and small and medium grey grits.

Vessel	Parallels
Risim CP 1a B-1076/7	TAH anchorage (L-558 B-5517/13) Tel Qashish (Ben-Tor and Bonfil 2003: Fig.108: 10, 11) Tel Yoqne'am (Ben-Ami 2005: Fig. III. 14: 29; Fig II. 16:20)
Risim CP 1a 1120/3	TAH anchorage (L-564 B-5528/2-3) Tel Yoqne'am (Ben-Ami 2005: Fig. III. 14:23)
Risim CP 1a 1099/1	TAH anchorage (L-565 B-5534/4) 'En Yivka' (SPA survey 1109/4)

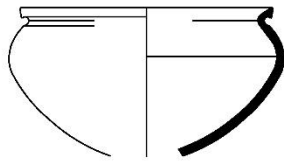
	Tel Qashish (Ben-Tor and Bonfil 2003: Fig.108:10) Tel Megiddo (Martin 2013: Fig. 10.17:8)
Risim CP 1a 1114	TAH anchorage (L-565 B-5534/4) 'En Yivka' (SPA survey 1109/4) Tel Qashish (Ben-Tor and Bonfil 2003: Fig.108: 10, 11; Fig. 112: 10) Tel Yoqne'am (Ben-Ami 2005: Fig. III. 23:13)
Risim CP 1b 1118/2	TAH anchorage (L-529, B-5076/11) TAH settlement (Hamilton 1935: 160) Tel Akko (Zagorski 2004: Fig. 9:2) Tel Me'amer (SPA survey 1001/3)
Risim CP 1c 1074/2	TAH anchorage (L-557; B-5515/5) Tel Yoqne'am (Ben-Ami 2005: Fig. III. 19: 13, 15)
Risim CP 1c 1080	TAH anchorage (L-557; B-5515/5) Tel Qashish (Ben-Tor and Bonfil 2003: Fig.108: 14) Tel Yoqne'am (Ben-Ami 2005: Fig. III. 19: 13, 15) Tel Megiddo (Martin 2013: Fig. 10. 17: 10)
Risim CP 1c 1087/6	TAH anchorage (L-563; B-5524/1) Tel Regev (SPA survey 1101/7); (excavation L821, B8091/6) Tel Qashish (Ben-Tor and Bonfil 2003: Fig 107: 13; Fig.108: 14) Tel Yoqne'am (Ben-Ami 2005: Fig. III.19: 17)
Risim CP 1c 1106/1	TAH anchorage (L-557; B-5515/5) Tel Yoqne'am (Ben-Ami 2005: Fig. III.6: 21)



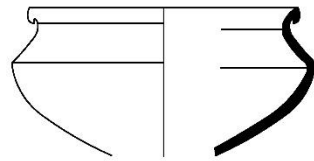
Risim B - 1076/7 L - 133



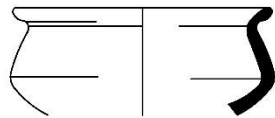
Risim B - 1120/3 L - 142



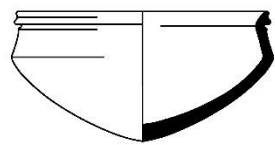
Risim B - 1099/1 L - 135



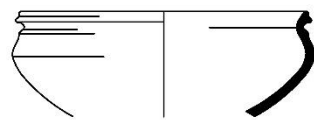
Risim B - 1114 L - 141



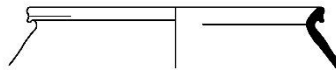
Risim B - 1118/2 L - 141



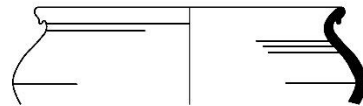
Risim B - 1074/2 L - 133



Risim B - 1080 L - 133



Risim B - 1087/6 L - 133



Risim B - 1106/1 L - 136

Plate 1. Tel Risim cooking pots 1a-1c. Ceramics were drawn at the IAA Beth Shean laboratory.

- **Risim cooking pots 1d.** Everted or indeterminate simple rims:

**B-1072/1, L-133** has a globular body, middle round carination, very short concave neck, and everted simple flattened rim. Paste: sandwich, dark grey 5 yr. 4/1 core and reddish-brown 5 yr. 5/4 exterior paste.

**B-1113/4, L-142** has a short concave neck and everted indeterminate triangular rim. Paste: sandwich, dark grey core, and reddish yellow 7.5 yr. 6/6. It has some dark grey grits.

- **Risim cooking pots 1e.** Upturned rims:

**B-1082/3, L-133** has a globular body, convex walls, middle sharp carination, very short concave neck, and upturned simple rim. Paste: dark grey 5 yr. 4/1 core and yellowish red 5 yr. 5/6 exterior paste. It has some medium size white and light grey grits.

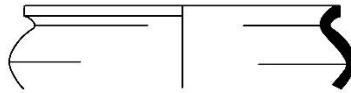
**B-1113/3, L-142** has a short diameter, globular body, very short concave neck, and upturned simple rim. Paste: pink 7.5 yr. 7/4. It was burnished.

**B-1116/1, L-141** has a very short diameter, very short concave neck, and upturned simple rounded rim. Paste: pink 5 yr. 7/4. It has very few big black grits and medium brown grits.

- **Risim cooking pots 1f.** Everted thickened profiled rims:

**B-1060/4, L-124** has a short concave neck and everted thickened profiled rim.

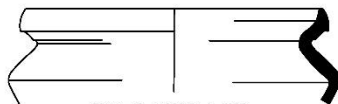
<b>Vessel</b>	<b>Parallels</b>
Risim CP 1d 1072/1	TAH anchorage (L-569; B-5557/14a) Tel Yoqne'am (Ben-Ami 2005: Fig. III. 26: 19) Tel Megiddo (Martin 2013: Fig. 10.12:3)
Risim CP 1d 1113/4	TAH anchorage (L-555; B-5523/1) Horvat Govit (SPA survey 1101/71) Tel Regev (Excavations L-108 B-1027/9) Tel Yoqne'am (Ben-Ami 2005: Fig. III. 12: 35)
Risim CP 1e 1082/3	TAH anchorage (L-525; B-5521/2a) Tel Yoqne'am (Ben-Ami 2005: Fig. III. 17: 12; Fig. III.23: 15)
Risim CP 1e 1113/3	TAH anchorage (L-525; B-5521/2a) Tel Yoqne'am (Ben-Ami 2005: Fig. III. 17: 12; Fig. III.23: 15)
Risim CP 1e 1116/1	
Risim CP 1f 1060/4	TAH settlement (Hamilton 1935: 160)



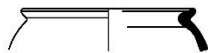
Risim B - 1099/1 L - 135



Risim B - 1113/4 L - 142



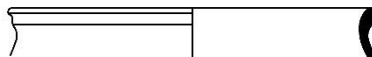
Risim B - 1082/3 L - 133



Risim B - 1113/3 L - 142



Risim B - 1116/1 L - 141



Risim B - 1060/4 L - 124

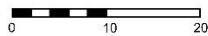


Plate 2. Tel Risim cooking pots 1d-1e. Ceramics were drawn at the IAA Beth Shean laboratory.

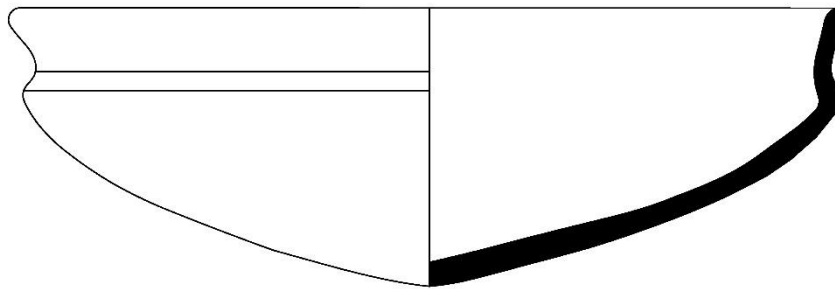


- **Risim cooking pots group 2, open cooking pots/pans**

The Risim cooking pots of group 2 are shallow open vessels with globular body, convex walls, high round carination, no neck, and slightly everted long simple tapered rim. The paste of these cooking bowls/pans is identical to that of the local cooking pots, however, the form of these vessels is different from that of the Canaanite cooking pots, and their diameters much bigger, varying between 40 and 50 cm. They have a globular body, convex walls, strong high carination, and long almost vertical simple tapered rim. The rim shapes are quite different from the Levantine cooking pots but are like the Anatolian Grey Ware kraters, as the one found at TAH (Artzy 2006; 2019: pl. 4.3.1:3). All of them are wheel finished or smoothed. With 3 cooking pans out of 162 total sherds, the cooking pans represent something less than 2% of the total assemblage.

**B-1116-1106/2, L-111-136** has a globular body, convex walls, high round carination, no neck, and slightly everted long simple tapered rim. Paste: very dark grey 10 yr. 3/1 core and reddish-brown 5 yr. 4/3 exterior paste. It has some medium and large grey, white (calcium), and very pale brown grits. It was wheel finished or smoothed. It has burn marks.

<b>Vessel</b>	<b>Parallels</b>
Risim CP 2	Tel Qashish (Bonfil 2003: Fig. 119:13. CP IV)
1116-1106/2	Tel Yoqne'am (Ben-Ami 2005: Fig. III.4:36. CP VI)



Risim B - 1106/2 L - 136

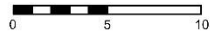


Plate 3. Tel Risim cooking pots 2. Ceramics were drawn at the IAA Beth Shean laboratory.

## ■ **Bowls**

With 36 bowls out of 162 total sherds, the bowls represent something more than 22% of the total assemblage.

- **Risim bowls 1.** Convex walls and direct simple rims:

**B-1087, L-133** has convex walls, direct simple tapered rim, and a ring base. Red decoration in the form of an X in the inner part. Paste: reddish yellow 5 yr. 6/6. It has some big white (calcium) and medium-size brown grits.

**B-1075/2, L-133** has convex walls, direct simple flattened rim, and a ring base. Paste: pink 7.5 yr. 7/4.

**B-1112/1, L-141** is a shallow bowl with convex walls and direct simple tapered rim. Paste: reddish yellow 7.5 yr. 7/6. It has a few small pale brown grits.

- **Risim bowls 2.** Straight or slightly convex walls and direct rims:

**B-1082/1, L-133** has straight walls and direct indeterminate oval rim. Paste: reddish yellow 5 yr. 7/6.

- **Risim bowls 3.** Straight or slightly convex walls and flared or everted rims:

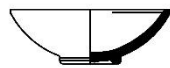
**B-1106/3, L-136** has slightly convex walls, everted indeterminate rounded rim, and disk base. Paste: pinkish-gray 7 yr. 6/2 core and pink 7.5 yr. 7/4 exterior paste.

- **Risim bowls 4.** Convex walls and upturned or slightly incurved rims:

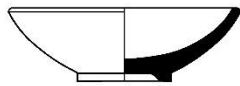
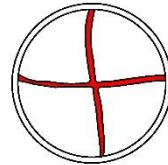
**B-1084/3, L-133** has slightly convex walls and direct internally thickened rounded rim. Paste: very pale brown 10 yr. 7/3. It has some small and medium white (calcium) grits.

**B-1098/1, L-135** is a shallow bowl with convex walls and upturned simple rounded rim. Paste: light red 2.5yr. 6/6. It has some small white grits.

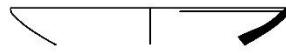
<b>Vessel</b>	<b>Parallels</b>
Risim B 1 1087	Tel Qashish (Ben-Tor and Bonfil 2003: Fig.108:1) Tel Yoqne'am (Ben-Ami 2005: Fig. III.18:20)
Risim B 1 1075/2	Tel Qashish (Ben-Tor and Bonfil 2003: Fig.112: 2) Tel Yoqne'am (Ben-Ami 2005: Fig. III.18:20) Tel Megiddo (Loud 1948: Pl 61:14) Tel Megiddo (Martin 2013: Fig. 10.16: 1, 3)
Risim B 1 1112/1	Tel Yoqne'am (Ben- Ami 2005: Fig. III.17:5) Tel Megiddo (Martin 2013: Fig. 10.16: 1, 3)
Risim B 2 1082/1	TAH anchorage (L-517 B-5100/23) Tel Regev (Excavations L-120 B-1083/1; L-761 B-7501/12) Tel Qashish (Ben-Tor and Bonfil 2003: Fig.111:1, 14) Tel Yoqne'am (Ben- Ami 2005: Fig. III.16:2; Fig III. 26: 2)
Risim B 3 1106/3	TAH anchorage (L-640 B-6122/15) Tel Regev (Excavations L-878 B-8171-2) Tel Qashish (Ben-Tor and Bonfil 2003: Fig. 108: 2; Fig.111: 1, 15) Tel Yoqne'am (Ben- Ami 2005: Fig. III.14:15, 16, 18) Tel Megiddo (Loud 1948: Pl 61:16) Tel Megiddo (Martin 2013: Fig. 10. 11: 10)
Risim B 4 1084/3	Tel Yoqne'am (Ben-Ami 2005: Fig. III.24:2, 3; Fig. III. 26: 6)
Risim B 4 1098/1	Tel Yoqne'am (Ben-Ami 2005: Fig. III.18:24) TAH anchorage (L-681 B-6541/5)



Risim B - 1087 L - 133



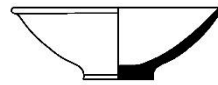
Risim B - 1075/2 L - 133



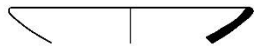
Risim B - 1112/1 L - 141



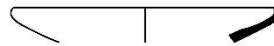
Risim B - 1082/1 L - 133



Risim B - 1106/3 L - 136



Risim B - 1084/3 L - 133



Risim B - 1098/1 L - 135



Plate 4. Tel Risim bowls 1-4. Ceramics were drawn at the IAA Beth Shean laboratory.

- **Risim bowls 5.** Convex walls and direct internally thickened rims:

**B-1084/2, L-133** has straight walls and direct indeterminate tapered rim. Paste: sandwich, grey core, and reddish yellow 5 yr. 6/6 exterior paste. It has some white (calcium) grits.

**B-1085/2, L-133** has convex walls and direct simple rounded rim. Paste: pink 7.5 yr. 7/3. It has some very small dark brown grits.

**B-1087/2, L-133** is a PWWM bowl with convex walls and direct internally thickened triangular rim. Paste: gray 5 yr. 5/1 and very pale brown 10 yr. 8/2 self-slip. It has a lot of very small grey and white grits.

**B-1087/3, L-133** has convex walls and flared indeterminate rounded rim: Paste: pink 5 yr. 7/4. It has very few small white grits.

- **Risim bowls 6.** Direct thickened t-shape rim:

**B-1070/1, L-133** has straight walls and direct thickened T-shape rim. Paste: light brown 7.5 yr. 6/4. It has some medium brown grits.

- **Risim bowls 7.** S-profile:

**B-1116/3, L-141** has convex walls and S-profile, upturned simple profiled rim. Paste: sandwich, grey 5 yr. 5/1 core and reddish-brown 2.5 yr. 5/4 exterior paste. It has some very small white grits.

- **Risim bowls 8.** Carinated:

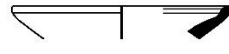
**B-1064/1, L-124** has a low sharp carination and upturned simple rounded rim. Paste: light brown 7.5 yr. 6/4. It has some medium white (calcium) and pale brown grits.

**B-1065/2, L-133** has a middle sharp carination and direct simple rounded rim. Paste: sandwich, grey core, and light red 2.5 yr. 6/6. It has a few medium white (calcium) grits.

<b>Vessel</b>	<b>Parallels</b>
Risim B 5 1084/2	TAH anchorage (L-600 B-6041/4) Tel Regev (L-303 B-3028/19) Tel Qashish (Ben-Tor and Bonfil 2003: fig. 108:7)
Risim B 5 1085/2	Tel Qashish (Ben-Tor and Bonfil 2003: Fig. 112: 9) Tel Yoqne'am (Ben-Ami 2005: Fig. III. 18: 16, 17, and 21)
Risim B 5 1087/2	TAH anchorage (L-600 B-6041/4) Tel Qashish (Ben-Tor and Bonfil 2003: Fig. 108:7; Fig 106: 2.) Tel Yoqne'am (Ben-Ami 2005: Fig. III. 14: 4)
Risim B 5 1087/3	TAH anchorage (L-600 B-6041/4) Tel Regev (L-327 B-3091/2) Tel Qashish (Ben-Tor and Bonfil 2003: Fig 106: 2) Tel Yoqne'am (Ben-Ami 2005: Fig. III. 14: 4; Fig. III. 26: 12.) Tel Megiddo (Martin 2013: Fig. 10.21: 2)
Risim B 6 1070/1	Tel Yoqne'am (Ben-Ami 2005: Fig. III. 26: 8)
Risim B 7 1116/3	TAH (L-538 B-5544/2) Tel Yoqne'am (Ben-Ami 2005: Fig. III. 24:7, 8; Fig. III.26: 13, 14) Tel Megiddo (Martin 2013: Fig. 10.16: 5)
Risim B 8 1064/1	TAH anchorage (L-528 B-5073/4a) Tel Qashish (Ben-Tor and Bonfil 2003: Fig. 112:16) Tel Yoqne'am (Ben-Ami 2005: Fig. III.4:2; Fig. III. 18:4)
Risim B 8 1065/2	Tel Yoqne'am (Ben-Ami 2005: Fig. III.4:2; Fig. III. 18:4)



Risim B - 1084/2 L - 133



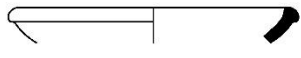
Risim B - 1085/2 L - 133



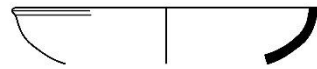
Risim B - 1087/2 L - 133



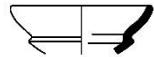
Risim B - 1087/3 L - 133



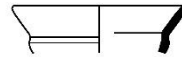
Risim B - 1070/1 L - 133



Risim B - 1116/3 L - 141



Risim B - 1064/1 L - 124



Risim B - 1065/2 L - 133

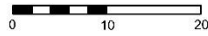


Plate 5. Tel Risim bowls 5-8. Ceramics were drawn at the IAA Beth Shean laboratory.



## ■ Large bowls

With 7 large bowls out of 162 sherds, the large bowls represent something more than 4% of the total assemblage.

- **Risim large bowls 1.** Convex walls and internally thickened triangular rims.

**B-1076/8, L-133** has convex walls and incurved internally thickened triangular rim.

Paste: light reddish brown 5 yr. 6/4. It has some very small white and light brown grits.

**B-1114/1, L-141** has convex walls, upturned internally thickened triangular rim, and disk base. Paste: pink. 7.5. yr. 7/4. It has some very small and small white and black grits.

- **Risim large bowls 2.** Convex walls and everted rims. They sometimes have a bar handle.

**B-1098/2, L-135** has convex walls, everted simple rounded rim, and a decorated bar handle.

- **Risim large bowls 3.** Convex walls, high round carination, and everted rims. This type of bowl is classified by Martin and Ben-Dov (2007) as Egyptianizing.

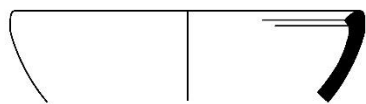
**B-1055/1, L-124** has convex walls, high round carination, everted simple tapered rim, and rope marks in the upper body. Paste: sandwich, grey core, and light reddish brown 2.5 yr. 6/4 exterior paste. It has some small and medium white (calcium) and black grits.

**B-1072/5, L-133** has convex walls, high round carination, and everted simple tapered rim. Paste: yellowish red 5 yr. 5/6.

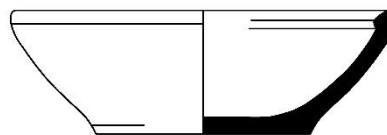
- **Risim large bowls 4.** Shallow with convex walls and direct thickened externally profiled rims. This type of bowl is classified by Martin (2004) as Egyptianizing.

**B-1121/1, L-142** is a shallow bowl, with convex walls and direct thickened externally profiled rim. Paste: Sandwich. Pink 5 yr. 7/4 and grey 5 yr. 6/1 core. It has some medium and large white and light brown grits.

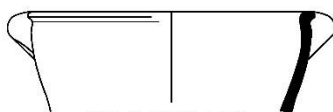
<b>Vessel</b>	<b>Parallels</b>
Risim LrB 1 1076/8	TAH anchorage (L-512 B-5097/23)
Risim LrB 1 1114/1	TAH anchorage (L-512 B-5097/23)
Risim LrB 2 1098/2	Tel Qashish (Ben-Tor and Bonfil 2003: Fig. 104:10)
Risim LrB 3 1055/1	Tel Dan (Martin and Ben-Dov 2007: Fig. 4: 3)
Risim LrB 3 1072/5	
Risim LrB 4 1121/1	Tel Esur (Shalvi et al. 2019 : Fig. 6 :1) Tel Mor (Martin 2004: Fig. 3:9)



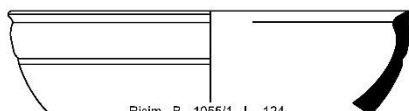
Risim B - 1076/8 L - 133



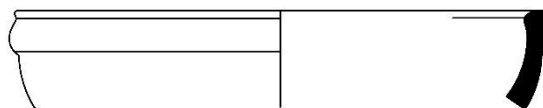
Risim B - 1114/1 L - 141



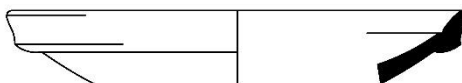
Risim B - 1098/2 L - 135



Risim B - 1055/1 L - 124



Risim B - 1072/5 L - 133



Risim B - 1121/1 L - 142



Plate 6. Tel Risim large bowls. Ceramics were drawn at the IAA Beth Shean laboratory.

## ■ **Kraters**

With 14 kraters out of 162 total sherds, the kraters represent something less than 9% of the total assemblage.

- **Risim kraters 1.** Open with convex walls, inverted or incurved thickened rims and oval vertical handles:

**B-1078, L-133** is a PWWM open krater with convex walls, incurved thickened oval rim; vertical round handles in the upper body, and disk base. Paste: sandwich, grey core, red 2.5 yr. 5/8 exterior paste and a pale brown 2.5 y. 8/2 self-slip.

- **Risim kraters 2.** Uprturned thickened rims and rim to shoulder handles:

**B-1078/1, L-133** is a PWWM krater with upturned thickened rectangular rim and rim to shoulder vertical oval handle. Paste: light red 2.5 yr. 6/8 and a very pale brown 10 yr. 8/3 self-slip.

- **Risim kraters 3.** Concave necks and everted simple rims. They sometimes have rim to shoulders vertical handles:

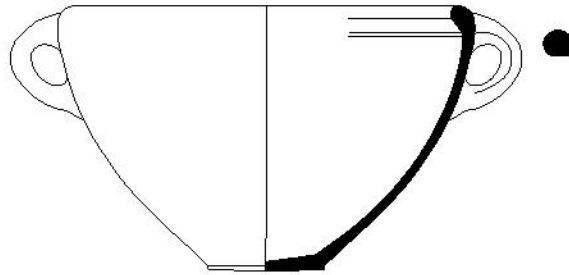
**B-1060/3, L-124** has a medium concave neck, everted simple rounded rim, and vertical rim to neck oval handle. Paste: dark grey 5 yr. 4/1 core and very pale brown 10 yr. 8/2 exterior paste.  
grits.

- **Risim kraters 4.** Concave necks and everted triangular or externally thickened rims:

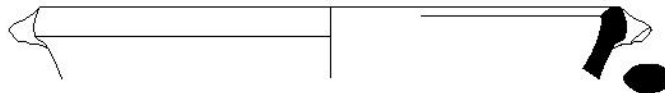
**B-1083/1, L-133** has a medium concave neck and everted externally thickened triangular rim.

**B-1123/2, L-142** has a short concave neck and everted externally thickened flattened rim. Paste: pink 7.5 yr. 7/4 core, very pale brown 10 yr. 7/3 exterior paste and brown decoration on rim and neck. It has some very small dark brown grits and small white

<b>Vessel</b>	<b>Parallels</b>
K 1 1078	TAH anchorage (L-559 B-5509/25) Megiddo grave 63 (Guy and Engberg 1938: Pl. 60: 13)
K 2 1078/1	TAH anchorage (L-559 B-5522/79)
K 3 1060/3	Tel Yoqne'am (Ben-Ami 2005: Fig. III.19: 2)
K 4 1083/1	TAH anchorage (L-517 B-5039/28; L-559 B-5501/1) Tel Megiddo (Martin 2013 Fig. 10. 12: 1)
K 4 1123/2	



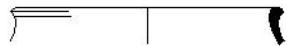
Rsim B - 1084/2 L - 133



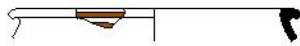
Rsim B - 1078/1 L - 133



Rsim B - 1060/3 L - 124



Rsim B - 1083/1 L - 133



Rsim B - 1123/2 L - 142

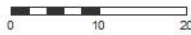


Plate 7. Tel kraters 1-4. Ceramics were drawn at the IAA Beth Shean laboratory.

- Risim kraters 5.** Closed with a very short concave neck and everted rims:

**B-1064/3, L-124** has upper round carination, very short concave neck, and everted thickened rounded rim. Paste: reddish yellow 5 yr. 6/6. It has a lot of small and medium white (calcium), grey, and pale brown grits.

**B-1054/5, L-124** has upper round carination, very short concave neck, and everted simple rounded rim. Paste: reddish yellow 5 yr. 6/6. It has some small and medium white (calcium) grits.

**B-1072/4, L-133** has a very short concave neck and everted thickened rounded rim. Paste: light red 2.5 yr. 6/6. It has some small and medium white (calcium) and pale brown grits.

**B-1076/3, L-133** has middle-round carination, short concave neck, and slightly everted simple rounded rim. Paste: grey 7.5 yr. 5/1 core, reddish-yellow 5 yr. 7/6 outer face and reddish yellow 7.5 yr. 7/6 inner face. It has some grey and black grits
- Risim kraters 6.** Closed with very short concave or no neck and vertical rims:

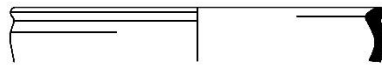
**B-1126/1, L-141** has no neck and vertical thickened rectangular rim. Paste: very dark grey 10 yr. 3/1 core and reddish-brown 5 yr. 5/3 exterior paste.

<b>Vessel</b>	<b>Parallels</b>
K 5 1064/3	TAH anchorage (L-514 B-5040/16; L-568 B-5564/13) Tel Megiddo (Martin 2013 Fig. 10. 14: 11)
K 5 1054/5	
K 5 1072/4	TAH anchorage (Artzy 2019: Pl. 4.2.19: 9. L-514 B-5509/9) Tel Megiddo (Martin 2013 Fig. 10. 17: 2)
K 5 1076/3	TAH anchorage (L-514 B-5040/16) Tel 'Alil (SPA survey 1101/10) Tel Regev (Excavations L-107 B-1036/7) Tel Yoqne'am (Ben-Ami 2005: Fig. III.23:8)
K 6 1126/1	Tel Hanan (SPA survey 529-0083) Tel Regev (SPA survey L-303 B-3033/6) Tel Megiddo (Loud 1948; Pl. 61: 23) Tel Megiddo (Martin 2013 Fig. 10. 11: 18)

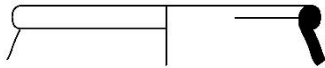




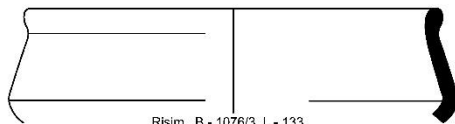
Risim B - 1064/3 L - 124



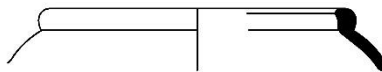
Risim B - 1054/5 L - 124



Risim B - 1072/4 L - 133



Risim B - 1076/3 L - 133



Risim B - 1126/1 L - 141

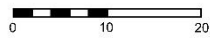


Plate 8. Tel Risim kraters 5-6. Ceramics were drawn at the IAA Beth Shean laboratory.

## ■ Jars

With 32 jars out of 162 total sherds, the jars represent something less than 20 % of the total assemblage.

- **Risim jars 1.** Everted long thickened oval rims:

**B-1072/2, L-133** has a short concave neck and everted long thickened oval rim. Paste: sandwich, gray 7.5 yr. 6/1 core and pink 7.5 yr. 7/4 exterior paste. It has some medium and big white (calcium) grits.

**B-1076/4, L-133** has a medium concave neck, inner gutter, and everted long thickened oval rim. Paste: sandwich dark grey 5 yr. 4/1 core and pink 5 yr. 7/4 exterior paste.

**B-1082/2, L-133** has a medium concave neck and everted long thickened oval rim. Paste: light reddish brown 5 yr. 6/4. It has a few medium white (calcium) and black grits.

**B-1087/5, L-133** has a medium concave neck and everted long externally thickened oval rim. Paste: reddish yellow 5yr. 6/6. It has some medium and big white (calcium) grits.

- **Risim jars 2.** Everted long thickened profiled rims:

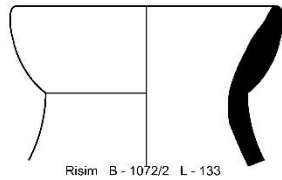
**B-1058/3, L-124** has a very short concave neck and long everted thickened profiled rim. Paste: pink 7.5 yr. 7/3. It has some small and medium white (calcium) grits.

**B-1060/1, L-124** has a medium concave neck and everted thickened profiled rim. Paste: pink 5 yr. 7/4.

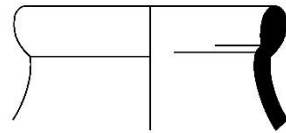
**B-1065/1, L-124** has an external ridge under the rim and everted thickened round rim. Paste: reddish yellow 5 yr. 6/6. It has some small white grits.

**B-1124/1, L-142** has a medium concave neck and direct externally thickened rectangular rim. Paste: sandwich, reddish grey 10r. 5/1 core and light red 2.5 yr. 6/6 exterior paste. It has some light brown grits.

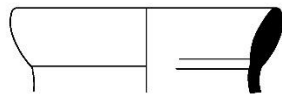
<b>Vessel</b>	<b>Parallels</b>
Risim Jr 1 1072/2	TAH anchorage (L-535 B-5104/44) Tel Regev (Excavations L-303 B-3021/50) Tel Qashish (Ben-Tor and Bonfil 2003: Fig 110:4; Fig 106: 4) Tel Yoqne'am (Ben-Ami 2005: Fig. III.21:2)
Risim Jr 1 1076/4	TAH anchorage (L-533 B-5090/5a) Tel Regev (SPA survey 1101/20) Tel Regev (Excavations L-303 B-3028/12) Tel Qashish (Ben-Tor and Bonfil 2003: Fig 110: 3) Tel Yoqne'am (Ben-Ami 2005: Fig. III.22:4) Tel Megiddo (Martin 2013: Fig. 10. 19: 4)
Risim Jr 1 1082/2	TAH anchorage (L-535 B-5104/44) Tel Regev (Excavations L-303 B-3021/50) Tel Yoqne'am (Ben-Ami 2005: Fig. III. 20: 7; Fig. III. 21: 2)
Risim Jr 1 1087/5	TAH anchorage (L-514 B-5099/53) Tel Qashish (Ben-Tor and Bonfil 2003: Fig 110:4; Fig 112: 20) Tel Yoqne'am (Ben-Ami 2005: Fig. III. 26:23)
Risim Jr 2 1058/3	TAH anchorage (L-535 B-5104/44) Tel Regev (Excavations L-303 B-3021/50)
Risim Jr 2 1060/1	TAH anchorage (L-550 B-5542/43) Tel Yoqne'am (Ben-Ami 2005: Fig. III. 26:36) Tel Megiddo (Martin 2013: Fig 10. 13: 8; Fig. 10. 15: 4)
Risim Jr 2 1065/1	Tel Megiddo (Martin 2013: Fig. 10. 15: 4)
Risim Jr 2 1124/1	TAH anchorage (L-550 B-5542/43) Tel Yoqne'am (Ben-Ami 2005: Fig. III .20:5)



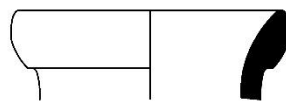
Risim B - 1072/2 L - 133



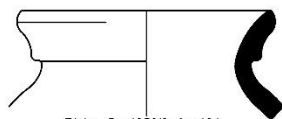
Risim B - 1076/4 L - 133



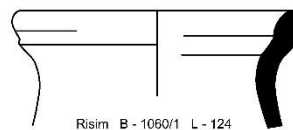
Risim B - 1082/2 L - 133



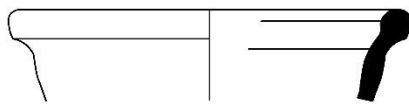
Risim B - 1087/5 L - 133



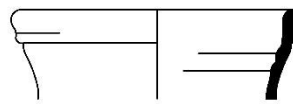
Risim B - 1058/3 L - 124



Risim B - 1060/1 L - 124



Risim B - 1065/1 L - 133



Risim B - 1124/1 L - 142

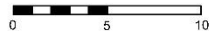


Plate 9. Tel Risim jars 1-2. Ceramics were drawn at the IAA Beth Shean laboratory.

- **Risim jars 3.** Everted short thickened round rims:

**B-1079, L-133** is a PWWM painted storage jar with globular body, convex walls, long straight neck, everted thickened rounded rim, vertical oval handles in the upper body, and knobbed base. Paste: very pale brown 10 yr. 7/3, pale brown 2.5 y. 8/3 self-slip and brownish-red parallel horizontal line decoration in rim, shoulders, and middle body.

**B-1058/4, L-124** has a medium straight neck and everted thickened rounded rim. Paste: pink 7.5 yr. 7/4. It has some small and medium white (calcium) grits.

**B-1071/1, L-133** has a medium concave neck and everted thickened rounded rim. Paste: pink 7.5 yr. 7/4. It has a few medium white (calcium) and brown grits.

**B-1063/1, L-124** has a medium concave neck and everted short thickened round rim. Paste: very pale brown 10yr. 8/3 and brown horizontal lines decoration in the neck. It has some very small white grits.

**B-1070/3, L-133** has a direct externally thickened pendant rounded rim. Paste: Sandwich, gray core, pink 7.5 yr. 7/3 exterior paste and black horizontal line decoration in the rim and red horizontal line in the neck. It has some small and medium white (calcium) grits.

- **Risim jars 4.** Concave necks and everted simple rims:

**B-1095/2, L-135** has a medium concave neck and everted simple tapered rim. Paste: reddish yellow 5 yr. 6/6. It has some medium white (calcium) grits.

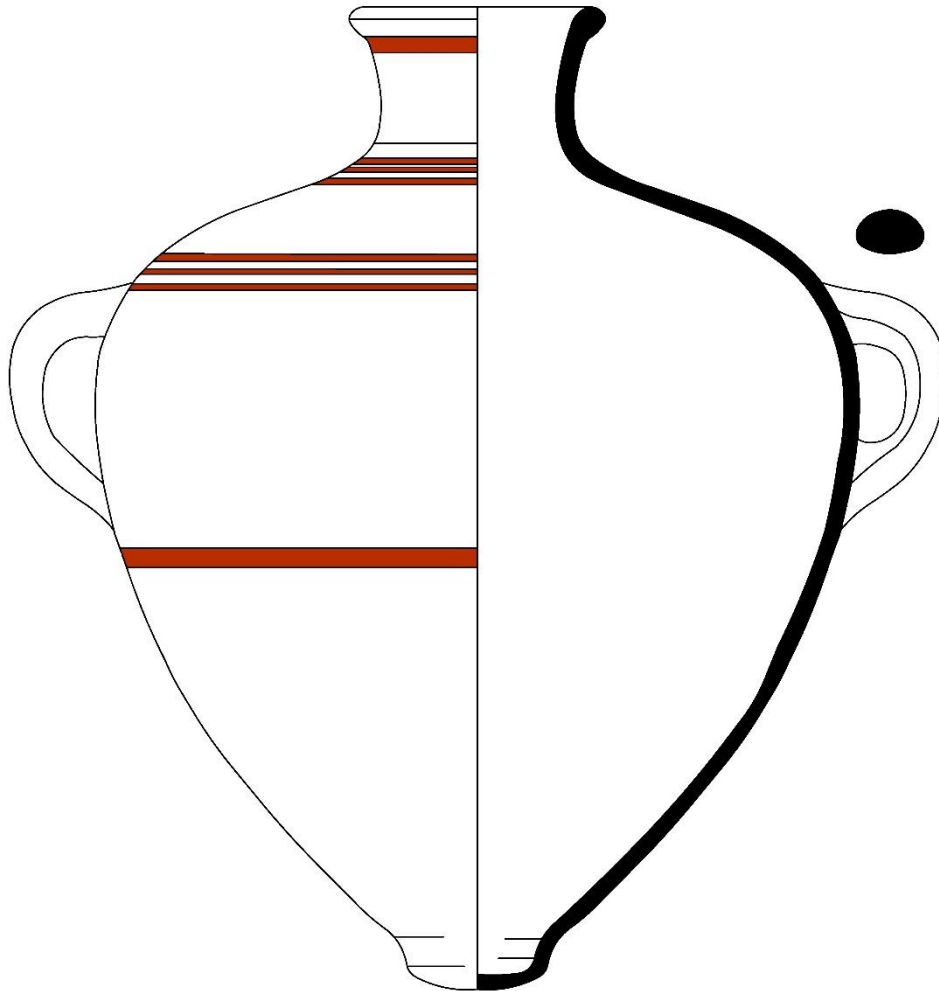
- **Risim jars 5.** Large diameter, concave necks, and thickened T-shape rims:

**L-133, B-1076/1** has a medium concave neck and an everted thickened T-Shape rim. Paste: very pale brown 10 yr. 7/3.

- **Risim jars 6.** Different types of rims and rim to shoulders vertical oval handles:

**B-1054/7, L-124** has a direct profiled simple rim and rim to shoulder vertical oval handle. Paste: sandwich grey core and light red 2.5 yr. 6/6 exterior paste. It has some small and medium white (calcium), grey, and pale brown grits.

<b>Vessel</b>	<b>Parallels</b>
Risim Jr 3 1079	TAH anchorage (L-529 B-5076/3) Tel Qashish (Ben-Tor and Bonfil 2003: Fig. 104: 17; Fig 111: 16) Tel Yoqne'am (Ben-Ami 2005: Fig. III.20: 18) Megiddo tomb 26 (Guy and Engberg 1938: Pl. 57: 11) Tel Megiddo (Martin 2013: Fig 10. 13: 10; Fig 10. 19: 5; Fig 10. 20: 6)
Risim Jr 3 1058/4	TAH anchorage (L-563 B-5524/35) Tel Regev (Excavations L-314 B-3049/81) Tel Qashish (Ben-Tor and Bonfil 2003: Fig. 104: 17; Fig 111: 16) Tel Yoqne'am (Ben-Ami 2005: Fig. III.15: 3, 4; Fig. III. 16: 23) Megiddo tomb 1250 (Guy and Engbert 1938: Pl. 67:7) Tel Megiddo (Martin 2013: Fig 10. 15: 1; Fig 10. 22: 7, 8)
Risim Jr 3 1071/1	TAH anchorage (L-529 B-5076/3) Tel Qashish (Ben-Tor and Bonfil 2003: Fig. 104: 17; Fig 111: 16) Tel Yoqne'am (Ben-Ami 2005: Fig. III.16: 22) Tel Megiddo (Martin 2013: Fig 10. 15: 1; Fig 10. 13: 10; Fig 10. 19: 5; Fig 10. 20: 6)
Risim Jr 3 1063/1	TAH anchorage (L-517 B-5100/30a) Tel Regev (Excavations 1015/8)
Risim Jr 3 1070/3	TAH anchorage (L-563 B-5524/35) Tel Regev excavation (L-314 B-3049/81) Tel Yoqne'am (Ben-Ami 2005: Fig. III.15: 3, 4)
Risim Jr 4 1095/2	
Risim Jr 5 1076/1	Tel Yoqne'am (Ben-Ami 2005: Fig. III.15: 17)
Risim Jr 6 1054/7	TAH anchorage (L-647 B-6105/77) Tel Par (SPA survey 1001/11)



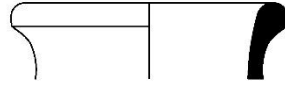
Risim B - 1079 L - 133



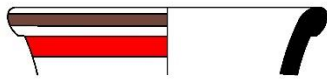
Plate 10. Tel Risim painted jar 1079. Ceramics were drawn at the IAA Beth Shean laboratory.



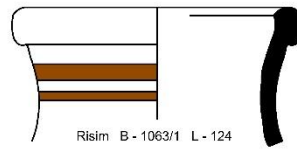
Risim B - 1058/4 L - 124



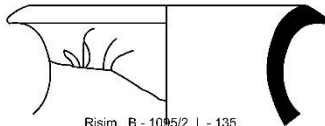
Risim B - 1071/1 L - 133



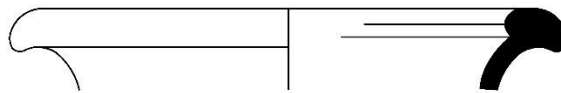
Risim B - 1070/3 L - 133



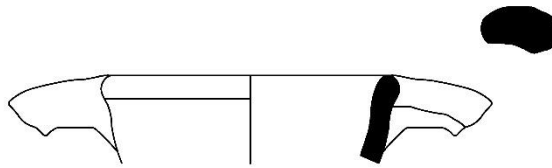
Risim B - 1063/1 L - 124



Risim B - 1095/2 L - 135



Risim B - 1076/1 L - 133



Risim B - 1054/7 L - 124



Plate 11. Tel Risim jars 3-6. Ceramics were drawn at the IAA Beth Shean laboratory.



■ **Jugs**

With 8 jugs out of 162 total sherds, the large bowls represent something less than 5% of the total assemblage.

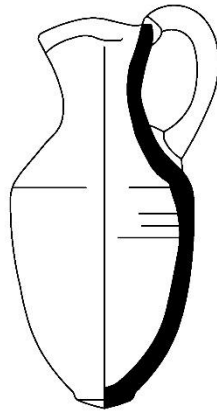
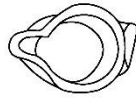
- **Risim jugs 1.** Cylindrical bodies, concave necks, pinched mouths, and vertical handles:

**B-1113, L-142** has a cylindrical body, straight sides, long concave neck, pinched mouth, simple flattened rim, vertical rim to shoulder oval handle, and protruded base. Paste: pink 5 yr. 7/4 outer face and black inner face. A lot of big, medium, and small white (calcium) grits.

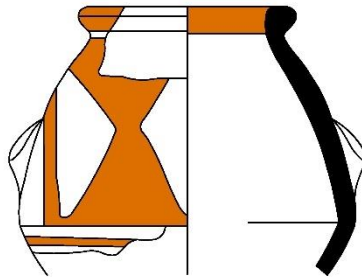
- **Risim jugs 2.** Biconical bodies, everted rims, 2 vertical handles, and decoration:

**B-1098/2, L-135** has a biconical body, very short concave neck, vertical thickened rounded rim, and horizontal handles. Decoration in rim and body.

Vessel	Parallels
Risim Jg 1 1113	Tel Qashish (Ben-Tor and Bonfil 2003: Fig 111:13) Tel Yoqne'am (Ben-Ami 2005: Fig. III.15: 12) Tel Megiddo (Loud 1948: Pl. 50: 11; Pl 58: 6)
Risim Jg 2 1098/2	Tel Megiddo (Loud 1948: Pl. 58:3)



Risim B - 1113 L - 142



Risim B - 1098/2 L - 135



Plate 12. Tel Risim jugs. Ceramics were drawn at the IAA Beth Shean laboratory.

### ■ **Imported fine wares**

With 15 imported fine ware sherds out of 162 total sherds, the imported fine wares represent something more than 9% of the total assemblage. From these imported fine ware sherds, 1 piece, ca. 7% might be Mycenaean while the other 14, ca. 93% are Cypriot.

#### • **Base Ring II**

With 8 BR pieces out of a total of 15 imported fine wares, the BR represents something more than 53% of the imported fine wares.

#### - **Bowls**

**B-1066, L-124** has convex walls, direct simple tapered rim, and horizontal lines decoration.

#### - **Juglets**

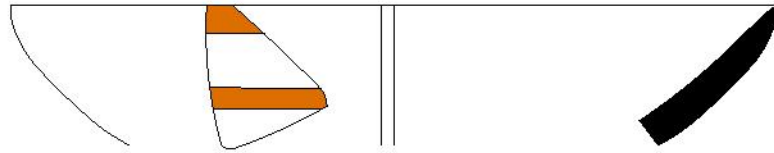
**B-1054/4, L-124** has everted thickened T-shape rim. Paste: sandwich, grey core, and red 10r. 5/6 exterior paste. It has a few small white and pale brown grits.

#### - **Jugs/bilbils**

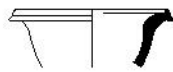
**B-1076/6, L-133** has a medium straight neck and everted indeterminate rim.

**B-1111/1, L-135** has a ring base.

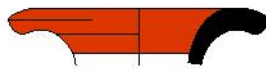
Vessel	Parallels
Br B 1066	
Br Juglet 1054/4	Tel Regev (Excavations L-776 B-7583/1) Tel Mevorakh (Stern <i>et al.</i> 1984: Fig. 9: 41) Enkomi (Dikaios 1969: Pl. 199: 2(3)).
Br Jg 1076/6	
Br Jg 1111/1	TAH settlement (Balensi 1980: Pl. 26: 11) Tel Regev (Excavations L-102 B-8009/1) Tel Qashish (Ben-Tor and Bonfil 2003: Fig. 127: 32) Tel Megiddo (Loud 1948: Pl. 58: 20) Enkomi (Dikaios 1969: Pl. 122: 5 (1180); Pl. 193: 9 (50); Pl. 194: 31 (130), 33 (58)) Kalavassos - <i>Ayios Dhimitrios</i> (South <i>et al.</i> 1989: Fig. 7. K-AD 599).



Risim B - 1066 L - 124



Risim B - 1054/4 L - 124



Risim B - 1070/6 L - 124



Risim B - 1111/1 L - 136



Plate 13. Tel Risim BR. Ceramics were drawn at the IAA Beth Shean laboratory.

- **Monochrome bowls**

With 3 monochrome bowl sherds out of 15 total imported fine ware sherds, the monochrome ware represents 20% of the imported fine wares.

**B-1066/1, L-124** has straight walls, and S-profiled incurved simple rim. Paste: grey core, light red 2.5 yr. 6/6 exterior paste and dark reddish-grey 2.5 yr. 3/1 burnish

**B-1065/1, L-133** has straight walls, upturned simple rounded rim and wishbone handles. Paste: reddish yellow 5 yr. 6/6.

**B-1113/2, L-142** has slightly convex walls and direct simple rounded rim. Paste: reddish yellow 5 yr. 6/6, reddish-brown 2.5 yr. 5/4 inner face burnish and dark reddish-grey 2.5 yr. 4/1 outer face burnish.

- **White Slip II bowls**

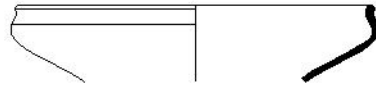
With 2 WS II bowl sherds out of 15 total imported fine ware sherds, the WS II represents something more than 13% of the imported fine wares.

**B-1115/5, L-141** has convex walls and slightly incurved simple rounded rim. Paste: black core, pale brown 2.5 yr. 8/2 slip and dark brown typical WS II style decoration.

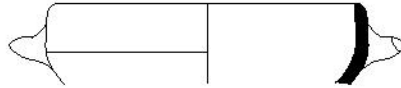
- **Mycenaean imports**

With 1 possible Mycenaean body sherd, out of 15 total imported fine ware sherds, the Mycenaean represents ca. 7% of the imported fine wares. The Mycenaean body sherd is too fragmentary to be properly identified and its drawing and description will not be included.

Vessel	Parallels
Mch B 1066/1	
Mch B 1065/1	
Mch B 1113/2	TAH Anchorage (L-525 B-5077/46; L-534 B-5103/58) Tel Regev (Excavations L-800 9020/7) Tel Qashish (Ben-Tor and Bonfil 2003: Fig. 102: 11) Tel Megiddo (Martin 2013: Fig 10.13: 3) Tel Mevorakh (Stern <i>et al.</i> 1984: Fig. 9: 2, 3) Tel Michal (Herzog <i>et al.</i> 1989: Fig. 5.10:16) Sarepta (Anderson 1989: Pl. 23:3) Enkomi (Dikaios 1969: Pl. 68: 3 (1638); Pl. 194: 9 (111); 13 (16)) Kalavassos - <i>Ayios Dhimitrios</i> (South <i>et al.</i> 1989: Fig. 8. K-AD 960)
WS B 1115/5	Tel Megiddo (Yasur-Landau 2013: Fig 11.1: 5) Kalavassos - <i>Ayios Dhimitrios</i> (South <i>et al.</i> 1989: Fig. 5. K-AD 903, 904, 905, 907)



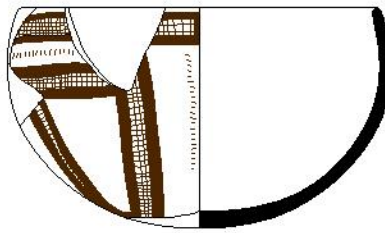
Rsim B-1068/1 L-124



Rsim B-1065/1 L-133



Rsim B-1113/2 L-142



Rsim B-1115/5 L-141



Plate 14. Tel Risim Monochrome and WS. Ceramics were drawn at the IAA Beth Shean laboratory.



### **E. Paste analysis**

Twenty-three pottery sherds out of a total of 162 Late Bronze II sherds from Tel Risim were sampled for petrography. Jonathan Gottlieb prepared the thin sections at the Leon Recanati Institute for Maritime Studies at the University of Haifa. Anastasia Shapiro examined the samples in the IAA Petrographic Laboratory and divided them into three groups and four outliers (Shapiro, personal communication, 2018).

The ceramics of group 1 (11 samples) are formed by basaltic soil, basalt sand, and chalk inclusions. The materials from this group are common to the northern and northeastern parts of the Jezreel Valley, near the archaeological sites of Tel Qiri and Tel Shadud. Most of the vessels from this group are cooking vessels (among them, all the cooking pans) and bowls and jars without self-slip. Self-slipped jar base B-1085/3, L-133 represents the only exception to the local aspect of this group.

The ceramics of group 2 (4 samples) are formed by calcareous basaltic soils, crushed calcite, and crystalline limestone. The materials from this group are common to the northwestern slopes of Mount Tabor. Three of the vessels of this group are cooking pots and the last one is a krater of local typology.

The ceramics of group 3 (4 samples) are formed by calcareous marl and quartz-calcareous coastal sands. The elements from this group are common in the Akko/Haifa bay, like the ones produced at Tel Akko. The vessel's matrix of group 3, however, is much richer in soluble soils than the vessel matrix of the local ceramics from Tel Akko. Most probably, the vessels from this group were produced in the Southern Akko Plain, between the sites of TAH and Tel Aphek. Five of the six members of the group belong to the PWWM family and typologically are open kraters or storage jars. The only piece in this group that does not belong to the PWWM family is a storage jar base sherd.

Outlier 1 has calcareous clay and basanite. This outlier is a bowl and its composition is typical from the 'Afula region, having strong similarities with the materials of Tel Shunem, Tel 'Agol, and Tel 'Afula.

Outlier 2 has aeolianites, *amphiroa*, and greenstone inclusions. This outlier is a body sherd from the BR family and its elements are typical from western Cyprus, where the archaeological site of Paphos is situated.

The matrix of outlier 3 has calcareous clay with rare tiny opaque specks of iron oxides. It has non-plastic inclusions, of both silt and sand sizes, comprise dominantly *phenocrysts* of iddingsite, olivine, rounded to sub-rounded grains of chlorite schist, dolerite, gneiss, secondary amphibole replacing primary pyroxene, quartz, and large (up to 0.5 mm) foraminifers. This outlier is a Canaanite cooking pot and its elements are typical from the area around Antioch and Cilicia.

The matrix of outlier 4 has a clay-rich in silt to sand size calcareous material. The mineral inclusions also appear in silt to sand sizes and comprise quartz, chert, biotite, serpentine, plagioclase, potash-feldspars, clinopyroxene, olivine, iddingsite, chlorite, highly altered trachytic to doleritic basalts, schist, gabbro, dunite, and other metamorphic rocks. This outlier is a PWWM open krater, and its elements are common in the Troodos area, Cilicia, Syria, Greece, and Italy. Considering the type and production of this vessel its most probable origin is Cyprus.

The petrographic analysis of the Tel Risim ceramics demonstrates that most of the cooking pots and plainwares in the local tradition were made in the northern and eastern part of the Jezreel Valley, around the archaeological sites of Tel Shimron and Tel 'Afula. It is interesting to note the absence of materials from the southern part of the Jezreel Valley or Wadi Ara, where Megiddo is situated. The fact that almost all the PWWM sherds from the site were produced in the SPA or imported from Cyprus demonstrates that this type of production was exclusively coastal; it also suggests a strong connection between Tel Risim and the SPA. Overall, the petrography analysis shows that Tel Risim was in contact with the coast and other sites situated north from the Qishon River, all the way east to 'Afula.

### 6.3. The Southern Plain of Akko

#### A. Regional description

The Akko/Haifa bay is a ca. eighteen kilometers arched bay situated between the modern towns of Akko (north) and Haifa (south). The plain of Akko is an eight to twelve-kilometer-wide plain located between the Akko/Haifa bay and the hills of the Lower Galilee. Two main rivers cross the plain, the Na'aman River in the north and the Qishon River in the south as well as two tributaries of the Na'aman, the Nahal Hilazon, and the Nahal Iblin and two tributaries of the Qishon, the Nahal Gedora, and the Nahal Zippori. Hence, the SPA is the area of the plain dominated by the Qishon River and its tributaries.

On the western edge of the SPA, along the Nahal Gedora, several archaeological sites are situated, nowadays located at ca. five kilometers from the sea. During the LBA, however, their geographical situation was different as the landscape of the Akko/Haifa bay changed during the past 4000 years (Zviely *et al.* 2006; Kaniewski *et al.* 2013; Morhange *et al.* 2016; Giaime *et al.* 2018). The main factors that affected the environment of the bay are the changes in sea level since the last ice age and the accumulation of sediments from the Nile Delta and the Na'aman and Qishon rivers. The environmental fluctuations affected the landscape of the sites situated up to five kilometers inland from the bay; in the late 1970s, it was suggested that sites such as Tel Nahal, Tell ed-Idham, Tell Keisan and others were coastal sites during the LBA and may have had their anchorages or harbors (Flemming *et al.* 1978). However, recent geomorphologic research conducted in the bay and its hinterland demonstrated that during the LBA these sites were situated at a distance of, at least, one to two kilometers from the sea (Inbar and Sivan 1986; Zviely *et al.* 2006).

During the summer of 2010, Carolina Aznar and Yanklevitz conducted an archaeological survey over the SPA, exploring the sites of Tel Zivda (total size is unknown), Horvat Gedora (ca. two and a half hectares), Tel Zavata (ca. one and a half hectares), Tell ed-Idham (ca. three hectares), and Tel Nahal (ca. one hectare) following the course of Nahal Gedora; the site of Khirbet es-Sharati (total size is unknown), on the slope of one of the western hills of the Lower Galilee; the sites of Tel Regev (ca. four hectares), Tel Par (ca.

one hectare), Horvat Govit (less than half a hectare), Tel Hali ha-Ma'aravi (less than one hectare), Tel 'Alil (ca. five hectares), and 'En Yivka' (ca. quarter of a hectare) situated near the Nahal Zippori; and the sites of Tel Hanan (total size is unknown) and Tel Me'amer (ca. four hectares) in the Qishon River valley (Aznar *et al.* 2017). The team led by Aznar and Yanklevitz discovered LBA remains at the sites of Horvat Govit, Tel Zavot, Tell ed-'Idham, Tel Nahal, Tel Regev, Tel Par, Tel 'Alil, 'En Yivka', and Tel Me'amer.

## **B. Chronology**

During the 2010 survey, 28 LBA sherds were discovered, 4 of them could be ascribed to the LBA I or LBA II, although not distinguished, and the other 24, especially the PWWM most probably belong to the LBA II

## **C. Ware types and technology**

### **■ Cookware**

All the SPA cookware is produced of local cooking pot fabric, with a sandwich paste, grey or dark grey core, reddish exterior paste, and white (calcareous) grits. Most of the vessels made of this fabric are burnt, as they were used for cooking.

### **■ Plainware**

At the SPA survey, there are 21 sherds of plainwares number 21 out of the 28 total sherds, representing ca. 75% of the collection. The plainwares from the SPA survey are produced in two different traditions, the local tradition, and the PWWM. There are 9 sherds made in local tradition, representing something less than 43% of the survey total plainwares and 32% of the total assemblage, and 12 PWWM sherds, representing something more than 57% of the survey total plainwares and 43% of the total collection.

## **D. Typology (Common for the SPA and Tel Regev)**

### **■ Cookware**

#### **• Cooking pots group 1, Canaanite cooking pots**

Most of the cooking pots from this family have a globular body, convex walls, carination, short or very short concave neck, and different forms of everted or pendant rims. Typologically they belong to the local Canaanite cooking pot tradition, a tradition that

started during the MBA and continued through the entire LBA and parts of the IA (Mullins and Yannai 2019: 159). The black burn marks on most of these vessels imply that they were used for cooking.

- **1a.** Cooking pots with everted thickened triangular or T-shape rims. Risim CP 1a.
- **1b.** Cooking pots with everted thickened rounded rims. Risim CP 1b.
- **1c.** Cooking pots with everted short thickened externally flanged rims. Risim CP 1c.
- **1d.** Cooking pots with everted simple or indeterminate rims. Risim CP 1d.
- **1e.** Cooking pots with everted long externally thickened flanged rims. Not at Risim.

#### ■ **Bowls**

The bowls are the most common vessels in the Levant, they can have convex or straight walls, they can also be carinated (Yannai and Mullins 2019: 153-154). The most common bowls in the Levant are the medium size bowls with straight or convex walls and direct simple rims (Yannai and Mullins 2019: 153-154). The bowls with flared rims are another frequent form, which has often been identified as Egyptianizing (Martin 2004) but are also frequent in various sites along the Levant, such as Ugarit (Monchambert 2004). As a result, they should not be considered as Egyptian unless they show some distinctive Egyptian technological features such as straw or chaff temper, rope marks, or finishing techniques (Oren 2019: 267). At the SPA, the most common bowls are the ones with convex walls and different forms of incurved or upturned rims, which are not frequent in the rest of the Levant. Another specific feature of the SPA bowls is the presence of various S-shaped bowls, a form probably influenced by Cypriot potters.

- **Type 1.** Bowls with convex walls and direct simple rims. Risim B1.
- **Type 2.** Bowls with straight or slightly convex walls and direct rims. Risim B2.
- **Type 3.** Bowls with flared or everted rims. Risim B 3.
- **Type 4.** Bowls with straight or convex walls and upturned or slightly incurved simple rims. Risim B 4.
- **Type 5.** Bowls with convex walls and direct internally thickened rims. Risim B 5.

- **Type 6.** Bowls with convex walls and strongly incurved simple rounded rims. Not at Risim.
- **Type 7.** Bowls with convex walls and upturned or slightly incurved long simple rims. Not at Risim.
- **Type 8.** S-profile. When they are complete, bar handles are noted. Risim B 7.
- **Type 9.** Carinated bowls. Risim B 8.

#### ■ **Large bowls**

In the SPA, there are two types of large bowls, their rims and bases are almost identical to those of the Cypriot open kraters and basins, and I think that their general form was influenced by Cypriot potters. The large bowls were probably used for the storage of grains, in communal meals, and maybe for the transport of agricultural produces by land or river barges.

- **Type 1.** Large bowls with convex walls and incurved rims. Risim LrB 1.
- **Type 2.** Large bowls with convex walls and upturned rims. Not at Risim.

#### ■ **Basins/bassinets (Bs)**

The basins are not common in the Levant, except in TAH (Artzy 2019: Pl. 4.2.19: 6), but frequent in some Cypriot sites such as Kalavassos - *Ayios Dhimitrios* (South *et al.* 1989: Fig 20). The form of the basins is remarkably similar to that of the open kraters, and some large bowls. The main difference between these forms is that the basin's walls are straighter than those of open kraters and large bowls.

- **Type 1.** Basins with straight walls and internally thickened rims. Not at Risim.

#### ■ **Kraters**

Kraters are large, open, multi-purpose vessels. When complete, they usually have two vertical handles (Mullins and Yannai 2019: 157). In the SPA, as in most places of the Levant, kraters can be divided into more open and more closed vessels (Mullins and Yannai 2019: 157), the more close types are always carinated, by contrast, some of the more open kraters are not carinated.

- **Type 1.** Closed kraters with everted externally thickened triangular or t-shape rims. Risim K 4.
- **Type 2.** Closed kraters with very short concave or no neck and vertical rims. Risim K 6.
- **Type 3.** Closed kraters with straight necks and vertical externally thickened rims. Not at Risim.
- **Type 4.** Closed kraters with short concave necks and direct or everted thickened rims. Risim K 5.

#### ■ ***Pithoi* (Pt)**

The *pithoi* are massive containers with ovoid bodies, long necks, and flattened bases. The necks of the *pithoi* sometimes have rope marks or incised ridge decorations. The *pithoi* can also have collared rims. This type of vessel originated during the MB III and is common to all the LBA (Mullins and Yannai 2019: 160-161). The *pithoi* were mainly utilized as storage containers. They were also used for maritime transport as attested in the Uluburum shipwreck (Pulak 1998; 2008).

- **Type 1.** *Pithos* with straight necks and vertical or slightly everted externally thickened rims. Not at Risim.
- **Type 2.** Thin *pithos* with short necks and slightly everted or vertical thickened T-shape rim. Not at Risim.
- **Type 3.** *Pithoi* bases.

#### ■ **Jars**

Jars were used for storage and maritime and terrestrial transport. As a result, they are common in most places of the Levant. Most of the LBA jars have an oval or elongated form that originated during the MBA and two vertical handles in the upper body that facilitated their transportation (Mullins and Yannai 2019: 161). In the SPA, the most common types of jars, are the ones with medium or long necks and thickened rims, similar to the ones in the Jezreel Valley, but there are also some types, with very short necks that are not common in the nearby region of the Jezreel Valley.

- **Type 1.** Jars with long everted thickened oval rims. Risim Jr 1.
- **Type 2.** Jars with short everted thickened round rims. Risim Jr 3.
- **Type 3.** Jars with short vertical or inverted thickened rims. Not at Risim.
- **Type 4.** Jars with long vertical or inverted thickened rims. Not at Risim.
- **Type 5.** Jars with vertical externally thickened pendant rims. Not at Risim
- **Type 6.** Jars with very short concave neck or no neck and inverted or vertical thickened rims. Not at Risim.
- **Type 7.** Jars with different types of rims and rim to shoulder vertical oval handles. Risim Jr 6
- **Type 8.** Jar Bases. Not at Risim.

#### ■ **Jugs**

The jugs are small vessels, used for pouring liquids or as tableware (Mullins and Yannai 2019: 164). In the SPA they are not too common and discovered in a very fragmentary state.

- **Type 1.** Jugs with short concave necks and almost vertical simple rim. Not at Risim
- **Type 2.** Jugs with concave necks and everted simple rim. Not at Risim.

#### ■ **Local painted wares**

- **Body sherds**

#### ■ **Lebanese or Cypriot imports**

- **White Lustrous Ware**

- **Jug**

#### ■ **Cypriot fine wares:**

- **Base ring II**

The BR ware was the second most common Cypriot import in the Levant during the LBA. The BR vessels are always handmade, made from clay that varies in color from black-brown to reddish-brown and slipped with a red-orange slip. The most common BR forms



are jugs and bowls, all of them with a characteristic ring-base. Chronologically, the BR is divided into BR I (LB I and LB IIA) and BR II (LBA IIA-B) (Artzy 2019: 343-344). At the SPA all the BR pieces are from the later BR II.

- **Bowls**
- **Jugs/Bilbils**
- **Juglets**

- **Monochrome bowls**

The monochrome vessels are always hand-made, have a brown-buff fabric, and a red-orange slip. They were common in the Levant, at coastal sites and inland sites along the west-east trade routes, from the LB I to the LB IIB. Most of the monochrome vessels are shallow bowls with wishbone handles, and rarely appear as deep bowls and jugs. The fabric and typology of the monochrome ware are very similar to those of the BR ware; hence, it is often difficult to tell them apart (Artzy 2019: 341-342). At the SPA, all the monochrome vessels are shallow bowls.

- **White Slip II bowls**

The WS ware was the most common Cypriot import in the Levant from the MBA III to the LBA IIC. Chronologically the WS is divided into proto-WS (MBA III), WS 1 (LBA I and early LB IIA), WS2 (LBA IIA-B), and WS 3 (LB IIC). The WS ceramics are always handmade, and their most common types are the hemispherical bowls with a wishbone handle, known in the Levant as milk bowls, rarely the WS can show up as tankard-like jugs. WS bowls are white slipped in the interior and the exterior and decorated with brown or black painting in the exterior and the handles (Artzy 2019: 342). At the SPA, all the WS sherds are hemispherical bowls with a lattice-type decoration.

- **White Shaved juglets**

In the Levant, the WSh forms are restricted to handmade small close vessels, most commonly oval-shaped juglets, with pointed base and trefoil or pinched mouth and a vertical rim to shoulder handle. They are present in the region from the late LBA I to the end of the LBA IIC (Artzy 2019: 344). At the SPA there are some WSh juglet sherds.

- **White Painted**
- **Decorated body sherds**
- **Bucchero Ware**
- **Body sherds**
  
- **Aegean fine Wares**
- **Mycenaean**
- **Bowls**
- **Jugs/flasks**
- **Painted body sherds**

#### E. **Material analysis**

##### ■ **Cookware**

##### • **SPA cooking pots group 1, Canaanite cooking pots**

With 7 cooking pots out of the 28 total sherds, the cooking pots represent 25% of the total assemblage.

- **SPA cooking pots 1a.** Everted thickened triangular or T-shape rims:

'En Yivka' 1109/4 has a short concave neck and short everted thickened triangular pendant rim. Paste: black core and reddish yellow 5 yr. 6/6 exterior paste. It has a large quantity of small and medium white grits.

- **SPA cooking pots 1b.** Everted thickened rounded rims:

Me'amer 1001/3 has a short concave neck and everted externally thickened rounded rim. Paste: pinkish-grey 5 yr. 7/2 core and light red 10 r. 6/8 exterior paste.

- **SPA cooking pots 1c.** Everted short externally thickened flanged rims:

Zavat 1001/2 has a short concave neck, and short everted externally thickened flanged rim. Paste: black core and light reddish brown 2.5 yr. 7/4 exterior paste. It has a large quantity of small white grits.

**Me'amer 1001/7** has a short concave neck, and short everted externally thickened flanged rim. Paste: black core and red 2.5 yr. 5/8 exterior paste. It has a large quantity of small and medium-size white grits.

- **SPA cooking pots 1d.** Everted simple or indeterminate rims:

**Govit 1101/71** has a very short concave neck and everted indeterminate oval rim. Paste: light yellowish-brown 10 yr. 6/4 core and reddish yellow 5 yr. 7/6 exterior paste. It has some medium white grits and a large quantity of medium black and grey grits.

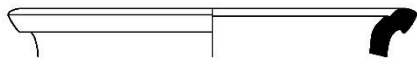
- **SPA cooking pots 1e.** Long everted externally thickened flanged rims:

**Nahal 1001/10** has a short concave neck, and a long slightly everted externally thickened flanged rim. Paste: light reddish-brown. 2.5 yr. 6/4. It has a large quantity of small and medium white grits and very small metallic (mica or crushed shell) grits.

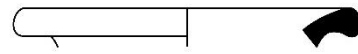
**Regev 1101/7** has a globular body, convex walls, middle round carination, short concave neck, and long everted externally thickened flanged rim. Paste: black core and light red 2.5 yr. 6/6 exterior paste. It has some small white and medium grey grits.

<b>Vessel</b>	<b>Parallels</b>
SPA CP 1a Yiv 1109/4	TAH anchorage (L-565 B-5534/4) Tel Risim (L-141 B-1114) Tel Qashish (Ben-Tor and Bonfil 2003: Fig. 104:13) Tel Yoqne'am (Ben-Ami 2005: Fig. III. 19:11)
SPA CP 1b Mea 1001/3	TAH anchorage (L-529 B-5076/11) Tel Risim (L-141 B-1118/2) Tel Akko (Zagorski 2004: Fig. 9:2) Tel Yoqne'am (Ben-Ami 2005: Fig. III. 12: 30)
SPA CP 1c Zav 1001/2	TAH anchorage (L-557 B-5515/5) Tel Risim (L-133 B-1074/2; L-133 B-1080; L-136 B-1106/1) Tel Me'amer (SPA survey 1001/7) Tel Qashish (Ben-Tor and Bonfil 2003: Fig. 107:14) Tel Megiddo (Martin 2013: Fig. 10. 17: 10)

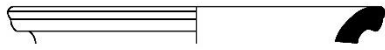
SPA CP 1c Mea 1001/7	TAH anchorage (L-557 B-5515/5) Tel Risim (L-133 B-1074/2; L-133 B-1080; L-136 B-1106/1) Tel Zavot (SPA survey 1001/2) Tel Yoqne'am (Ben-Ami 2005: Fig. III. 6: 21) Tel Megiddo (Martin 2013: Fig. 10. 17: 10)
SPA CP 1d Gov 1101/71	TAH anchorage (L-555 B-5223/1) Tel Regev (Excavations L-108 B-1027/9) Tel Risim (L-142 B-1113/4) Tel Qashish (Ben-Tor and Bonfil 2003: Fig.102:18) Tel Yoqne'am (Ben-Ami 2005: Fig. III. 12: 35) Tel Megiddo (Martin 2013: Fig. 10. 17: 2)
SPA CP 1e Nah 1001/10	TAH anchorage (L-550 B-5501/4) Tel Regev (SPA survey 1101/7) Tel Regev (Excavations L-311 B-3035/19; L-831 B-8919/3)
SPA CP 1e Reg 1101/7	TAH anchorage (L-550 B-5501/4) Tel Nahal (SPA survey 1001/10) Tel Regev (Excavations L-311 B-3035/19; L-831 B-8919/3) Tel Qashish (Ben-Tor and Bonfil 2003: Fig.108:12) Tel Megiddo (Martin 2013: Fig. 10. 12: 4; Fig. 10. 16: 10; Fig 10. 17: 9)



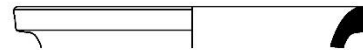
Yivka 1109/4



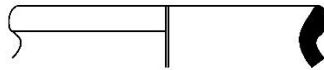
Me'amer 1001/3



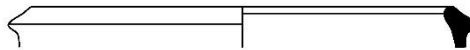
Zavat 1001/2



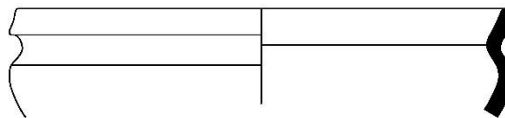
Me'amer 1001/7



Govit 1101/71



Nahal 1001/10



Regev 1101/7



Plate 15. SPA cooking pots. Ceramics were drawn by Svetlana Zagorski.

## ■ **Bowls**

With 2 bowls out of the 28 total sherds, the bowls represent ca. 7% of the survey LBA assemblage.

- **SPA bowls 6.** Convex walls and short upturned or slightly incurved simple rims:  
**Nahal 1001/5** is a medium-size bowl with convex walls and incurved simple rounded rim. Paste: reddish yellow 5 yr. 7/6.

- **SPA bowls 9.** Carinated bowls.

**Nahal 1001/13** is a PWWM deep bowl with a high sharp carination and direct simple rounded rim. Paste: gray 5 yr. 6/1 core, light red 2.5 yr. 6/6 exterior paste and very pale brown 10 yr. 8/4 self-slip.

## ■ **Large bowls**

With 1 large bowl out of the 28 total sherds, the large bowls represent ca. 4% of the survey LBA total assemblage.

- **SPA large bowls 1.** Convex walls and incurved rims

**Tel Regev 1101/46** is a deep large bowl with convex walls, high round carination, and incurved simple tapered rim. Paste: black core and reddish yellow 5 yr. 7/6.

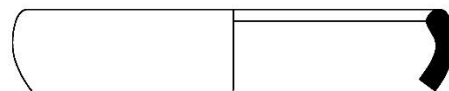
## ■ **Basins/Bassinets**

With 1 basin out of the 28 total sherds, the large bowls represent ca. 4% of the survey LBA total assemblage.

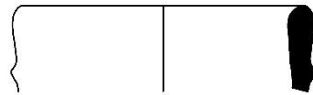
- **SPA basins 1.** Straight walls and internally thickened rims:

**Me'amer 1101/12** is a PWWM basin with straight walls and direct internally thickened triangular rim. Paste: light reddish brown 5 yr. 6/4 core, light red. 2.5 yr. 6/8 exterior paste and very pale brown 10 yr. 8/3 badly done thin self-slip.

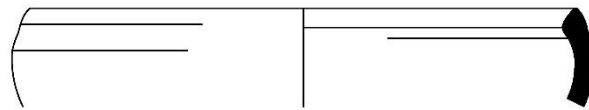
<b>Vessel</b>	<b>Parallels</b>
SPA B 6 Nah 1001/5	TAH anchorage (L-504 B-5075/81) TAH settlement (Balensi 1980: Pl. 7:11) Tel Yoqne'am (Ben-Ami 2005: Fig. III. 8: 3; Fig III.18: 9) Tel Megiddo (Loud 1948: Pl. 65:9)
SPA B 9 Nah 1001/13	TAH anchorage (L-562-563 B-5539/15) Tel Regev (Excavations L-304 B-3017/5). Tel Akko (Zagorski 2004: Fig 3:6) Tell Arqa (Thalmann 2006: Pl. 117: 19; pl. 118: 9) Ugarit (Monchambert 2004: Fig. 19:475)
SPA LrB 1 Reg 1101/46	TAH anchorage (L-563 B-5525/30) TAH settlement (Balensi 1980: Pl. 7: 11)
SPA BS 1 Mea 1101/12	TAH anchorage (L-635 B-6091/2)



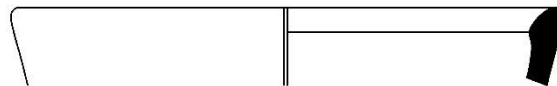
Nahal 1001/5



Nahal 1001/13



Regev 1101/46



Me'amer 1101/12



Plate 16. SPA bowls and large bowls. Ceramics were drawn by Svetlana Zagorski.



## ■ **Kraters**

With 4 kraters out of the 28 total sherds, the kraters represent ca. 14% of the survey LBA total assemblage.

- **SPA kraters 1.** Kraters with a short upper body, short concave neck, and everted rims:

'Alil **1101/10** has a middle round carination, short concave neck, and everted simple flattened rim. Paste: light red 10 r. 6/6. It has some medium white grits.

- **SPA kraters 2.** Very short concave or no neck and vertical rims:

**Govit 1101/67** has a very short concave neck and vertical indeterminate flattened rim. Paste: gray 10 yr. 5/1 core and yellow 10 yr. 7/6 exterior paste. It has some medium and big white grits and some medium black grits.

**Hanan 529-0083** has a very short concave neck and vertical thickened oval rim. Paste: reddish yellow 5 yr. 6/8.

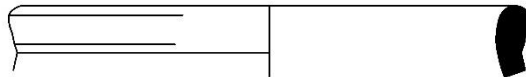
- **SPA Krater 3.** Straight necks and direct thickened rims:

**Tel Regev 1101/26** is a PWWM krater with medium straight neck and direct externally thickened rounded rim. Paste: grayish brown 10 yr. 5/2 core, brown. 7.5 yr. 5/4 exterior paste and very pale brown 10 yr. 8/2 self-slip.

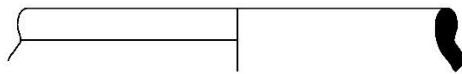
<b>Vessel</b>	<b>Parallels</b>
SPA K 1 Ali 1101/10	TAH anchorage (L-514 B-5040/16) Tel Regev (Excavations L-107 B-1036/7) Tel Risim (L-124 B-1064/3; L-133 B-1076/3) Tel Qashish (Ben-Tor and Bonfil 2003: Fig. 104:9) Tel Yoqne'am (Ben-Ami 2005: Fig.III.23:9) Tel Megiddo (Ilan <i>et al.</i> 2000: Fig. 9. 11: 3) Tel Megiddo (Martin 2013: Fig. 10.11: 16)
SPA K 2 Gov 1101/67	
SPA K 2 Han 529-0083	Tel Regev (Excavations L-303 B-3033/6) Tel Risim (L-141 B-1126/1). Tel Akko (Zagorski 2004: Fig. 5:2.) Tel Yoqne'am (Ben-Ami 2005: Fig. III.8: 12) Tel Megiddo (Ilan <i>et al.</i> 2000: Fig. 9. 11: 2) Tel Megiddo (Martin 2013: Fig. 10.11: 18; Fig. 10.14: 11; Fig. 10.21: 7)
SPA K3 Reg 1101/26	Tel Yoqne'am (Ben-Ami 2005: Fig. III. 16: 16) Tel Megiddo (Martin 2013: Fig. 10.21: 8)



Ail 1101/10



Govit 1101/67



Hanan 529/0083



Regev 1101/26



Plate 17. SPA kraters. Ceramics were drawn by Svetlana Zagorski.

■ ***Pithoi***

With 2 *pithoi* out of the 28 total sherds, the *pithoi* represent ca. 7% of the survey LBA total assemblage.

- **SPA *pithoi* 2.** Thin, short necks and slightly everted or vertical thickened T-shape rims:

'Alil 1001/8 is a PWWM *pithos* with a medium concave neck and slightly everted indeterminate rounded rim. Paste: very pale brown 10 yr. 7/3 and very pale brown 10 yr. 8/4 self-slip.

- **SPA *pithoi* 3.** *Pithos* bases:

Govit 1101/68 is a PWWM *pithos* with straight walls and a disk base. Paste: reddish yellow 5 yr. 7/6 and yellow 10 yr. 8/6 self-slip in the outer face.

Vessel	Parallels
SPA Pt 2	TAH anchorage (L-554 B-5508/8)
'Alil 1001/8	Tel Megiddo (Martin 2013: Fig. 10.21: 8) Kalavassos - <i>Ayios Dhimitrios</i> (South <i>et al.</i> 1989: Fig 16: 6-7)
SPA Pt 3	Kalavassos - <i>Ayios Dhimitrios</i> (South <i>et al.</i> 1989: Fig 16: 26)
Gov 1101/68	Nitovikla (Hult 1992: Fig. 16:11)



Ail 1001/8



Govit 1101/68

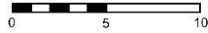


Plate 18. SPA *pithoi*. Ceramics were drawn by Svetlana Zagorski.

## ■ Jars

With 9 jars out of the 28 total sherds, the jars represent ca. 32% of the survey LBA total assemblage.

- **SPA jars 1.** Long thickened oval rims:

**Regev 1101/20** is a PWWM jar with medium concave neck, inner gutter, and long everted thickened oval rim. Paste: grayish brown 10 yr. 5/2 and very pale brown 10 yr. 8/2 self-slip. It has some small and big white grits.

- **SPA jars 3.** Short vertical or inverted thickened rims:

**Zavat 1001/7** is a PWWM jar with medium straight neck and short direct thickened oval rim. Paste: pinkish-grey 7.5 yr. 7/2 and very pale brown self-slip.

- **SPA jars 4.** Long vertical or inverted thickened rims:

**Nahal 1001/42** is a PWWM jar with medium concave neck, external ridge under the rim, and long vertical externally thickened oval rim. Paste: yellowish red 5 yr. 5/6 and very pale yellow 2.5 yr. 8/2 self-slip in the outer face.

**Nahal 1001/47** is a PWWM jar with a medium concave neck and vertical internally thickened oval rim. Paste: red 2.5 yr. 5/6 and pale yellow 2.5 yr. 8/2 self-slip. It has some very small yellow grits.

- **SPA jars 5.** Vertical externally thickened pendant rims:

**'Idham 1001/20** has a medium straight neck and long vertical externally thickened pendant rim. Paste: light red 2.5 yr. 6/8.

- **SPA jars 6.** Very short concave neck or no neck and inverted or vertical thickened rims:

**'Idham 1001/33** is a PWWM jar with a very short concave neck and inverted externally thickened oval rim. Paste: pale brown 10 yr. 6/3 and remains of a badly made pale self-slip. It has some medium black grits.

**Me'amer 1001/22** is a PWWM jar with no neck and vertical externally thickened rectangular rim. Paste: black core, reddish-yellow 5 yr. 6/6 exterior paste and remains of a very thin very pale brown 10 yr. 8/3 self-slip.

**Zavat 1101/8** is a jar with no neck and thickened rectangular rim. Paste: very pale brown 10 yr. 7/3.

- **SPA jars 7.** Storage jars with rim to shoulder vertical oval handles:

**Par 1001/11** is a PWWM jar with medium concave neck, inner gutter, long direct profiled rim, and two, rim to shoulder, vertical handles. Paste: pink 7.5 yr. 7/4 and a very pale brown 10 yr. 8/3 self-slip. It has a few medium white grits.

#### ■ **Jugs:**

With 2 jugs out of the 28 total sherds, the jugs represent ca. 7% of the survey LBA total assemblage.

- **SPA jugs 1.** Short concave neck and almost vertical simple rims:

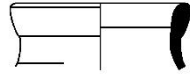
**'Alil 1101/25** is a jug with a short concave neck and slightly everted simple rounded rim. Paste: light red 2.5 yr. 6/6. It has some medium and big white grits.

- **SPA jugs 2.** Concave neck and everted simple rims:

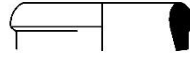
**Nahal 3001/3** is a jug with a medium concave neck and an everted simple rim. Paste: black core and yellow 10 yr. 7/6 exterior paste.

<b>Vessel</b>	<b>Parallels</b>
SPA Jr 1 Reg 1101/20	TAH anchorage (L-514 B-5090/5a; L-535 B-5104/44) Tel Risim (L-133 B-1076/4) Tel Yoqne'am (Ben-Ami 2005: Fig. III.20:9) Tel Megiddo (Martin 2013: Fig. 10. 19: 4)
SPA Jr 3 Zav 1001/7	Tel Yoqne'am (Ben-Ami 2005: Fig. III. 13:3)
SPA Jr 4 Nah 1001/42	
SPA Jr 4 Nah 1001/47	
SPA Jr 5 Idh 1001/20	TAH anchorage (L-534 B-5091/46)
SPA Jr 6 Idh 1001/33	
SPA Jr 6 Mea 1001/22	Tel Megiddo (Loud 1948: Pl. 64:8. 16:11)
SPA Jr 6 Zav 1101/8	Tel Megiddo (Loud 1948: Pl. 64:8)
SPA Jr 7 Par 1001/11	TAH anchorage (L-647 B-6105/77) Tel Risim (L-124 B-1054/7) Tel Megiddo (Martin 2013: Fig. 10. 24: 7)
SPA Jg 1 Ali 1101/25	Tel Qashish (Ben-Tor and Bonfil 2003: Fig.105:7) Tel Megiddo (Loud 1948: Pl. 68:1)
SPA Jg 2 Nah 3001/3	Tel Yoqne'am (Ben-Ami 2005: Fig. III. 16: 27)

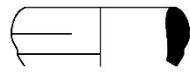




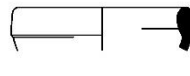
Regev 1101/20



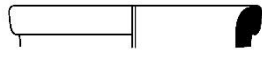
Zavat 1001/7



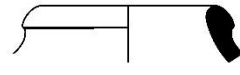
Nahal 1001/42



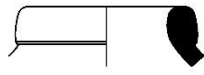
Regev 1001/47



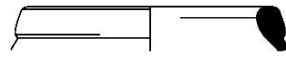
Idham 1001/20



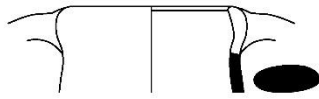
Idham 1001/33



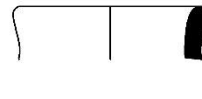
Me'amer 1001/22



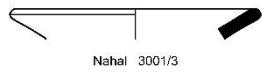
Zavat 1101/8



Par 1001/11



Ailil 1101/25



Nahal 3001/3



Plate 19. SPA jars and jugs. Ceramics were drawn by Svetlana Zagorski.

## 6.4. Tel Regev

### A. Site description

The archaeological site of Tel Regev (Tell el-Harbaj in Arabic), lies near modern Kefar Hasidim, ca. ten kilometers northeast from the modern city of Haifa, ca. one hundred meters south from the Nahal Zippori, and ca. half a kilometer north from the Qishon River. W.J. Pythian-Adams and Garstang directed the first excavation project at the site, during the early 1920s (Garstang 1922;1924). In 1993 and later in 2010, Horovich and Lipunsky (2010) conducted various salvage excavations at the foothill of the tell. From 2011 to 2014, Carolina Aznar, Yanklevitz, and Artzy directed a new archaeological expedition at Tel Regev (Aznar *et al.* 2017). It continued in summer 2018 under the direction of Aznar, Amani Abu-Hamed, and Artzy. The first evidence of habitation at Tel Regev belongs to the Neolithic (Aznar 2016). During the EBA II, Tel Regev reached a large size (Horovich and Lipunsky, 2010). The site was then inhabited during the IBA, MBA II, LBA, IA, Persian, and Hellenistic periods, with later occupations during the Early Islamic, Crusader/Ayyubid, and Ottoman periods (Aznar 2016).

Aznar estimated the size of Tel Regev to be of ca. four hectares, making it one of the largest settlements in the Southern Plain of Akko (Aznar 2016). Aznar *et al.* (2017) discuss how the descriptions of *Akhshaph* in the Bible seem to fit the location of Tel Regev. The petrographic analysis of the el-Amarna letters (where *Akshapa* was mentioned twice), however, suggests that Tel Keisan was a more probable candidate for the ancient city of *Akshapa* (Goren *et al.* 2004). Tel Regev was economically relevant due to its situation in the route connecting the Akko/Haifa Bay with the Jezreel Valley, benefiting from its proximity to the Qishon River and Nahal Zippori.

### B. Chronology

During the 2011-2014 excavations at Tel Regev, the group led by Aznar, Yanklevitz, and Artzy unearthed substantial Persian and Iron Age strata (Aznar *et al.* 2017; López Rosendo *et al.* in press). The excavations did not reach the LBA strata, however, a total of 118 LBA ceramic sherds were found at the surface, cleaning, and Iron Age levels (Martin *et al.* in press).

Most of the LBA ceramics from Tel Regev belong to the LBA II. Distinctively, its PWWM, Cypriot BR II, Monochrome, WSh, WS II, and the Mycenaean wares (Martin *et al.* in press). Most of the cooking pots and plainwares could be either LBA I or LBA II.

### C. Ware types and technology

#### ■ Cookware

At Tel Regev, all cooking pots are produced in a local fabric, with a sandwich paste, grey or dark grey core, reddish exterior paste, and white (calcareous) grits. Most of the vessels made of this fabric are burnt and used for cooking.

#### ■ Plainware

At Tel Regev, the plainwares number 72 sherds, representing ca. 62% of the assemblage. The plainwares from Tel Regev are produced in two different traditions, the local and the PWWM. The plainwares in local tradition count 52 sherds, representing ca. 72% of the site's plainwares and 44% of the total assemblage. The PWWM adds 20 sherds, representing ca. 28% of the site plainwares and 17% of the total assemblage.

### D. Material analysis

#### ■ Cookware

##### • SPA cooking pots 1. Canaanite cooking pots:

With 7 out of 118 total sherds, the Canaanite cooking pots from Tel Regev represent something less than 6% of the total assemblage.

##### - SPA cooking pots 1c. Short everted externally thickened flanged rims:

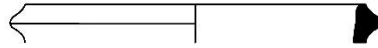
**B-8091/6, L-821** has short everted externally thickened triangular flanged rim. Paste: gray 5 yr. 6/1 core and reddish-brown 2.5 yr. 5/4 exterior paste. It has some big white grits. Was burnt.

##### - SPA cooking pots 1d. Everted simple or indeterminate rims:

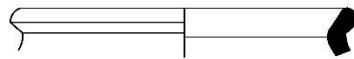
**B-1027/9, L-108** has a very short concave neck and everted indeterminate flattened rim. Paste: reddish yellow 7.5 yr. 6/6.

- **SPA cooking pots 1e.** Long everted externally thickened flanged rims:
- B-3035/19, L-311** has a long straight neck and long direct externally thickened triangular flanged rim. Paste: light reddish brown 2.5 yr. 7/4.
- B-8119/3, L-831** has a very short concave neck and long everted externally thickened triangular flanged rim. Paste: dark grey 7.5 yr. 4/1 core and light brown 7.5 yr. 6/3 exterior paste. Was burnt.

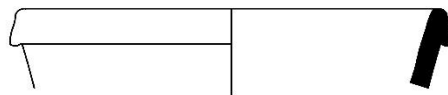
<b>Vessel</b>	<b>Parallels</b>
CP 1c 8091/6	TAH anchorage (L-563 B-5524/1) Tel Risim (L-133 B-1087/6) Tel Qashish (Ben-Tor and Bonfil 2003: Fig. 112:11) Tel Yoqne'am (Ben-Ami 2005: Fig. III. 19: 12)
CP 1d 1027/9	TAH anchorage (L-555 B-5523/1) Horvat Govit (SPA survey 1101/71) Tel Risim (L-142 B-1113/4) Tel Yoqne'am (Ben-Ami 2005: Fig. III. 8: 14; Fig. III. 12: 24) Tel Megiddo (Martin 2013: Fig. 10.14:6)
CP 1e 3035/19	TAH anchorage (L-550 B-5501/4) Tel Nahal (SPA survey 1001/10) Tel Qashish (Ben-Tor and Bonfil 2003: Fig. 112: 1a)
CP 1e 8919/3	TAH anchorage (L-550 B-5501/4) Tel Nahal (SPA survey 1001/10) Tel Qashish (Ben-Tor and Bonfil 2003: Fig. 112: 1a)



Regev B - 8091/6 L - 821



Regev B - 1027/9 L - 108



Regev B - 3035/19 L - 311



Regev B - 8919/3 L - 831



Plate 20. Tel Regev cooking pots. Ceramics were drawn by Svetlana Zagorski and Ester López Rosendo.

## ■ **Bowls**

With 25 plain bowls out of the 118 total sherds, they represent ca.21% of the total Tel Regev LBA pottery assemblage.

- **SPA Bowl 1.** Convex walls and direct simple rims.

**B-3033/17, L-303** very thin with convex walls and direct simple rounded rim. Paste: very pale brown 10 yr. 8/4.

- **SPA Bowl 2.** Straight or slightly convex walls and direct rims:

**B-1083/1, L-120** has slightly convex walls and direct indeterminate flattened rim. Paste: reddish yellow 5 yr. 7/6. It has some small white grits.

**B-7501/12, L-761** is a PWWM bowl with straight walls and direct thickened oval rim. Paste: light red 2.5 yr. 6/6 and pale yellow 2.5 y. 8/2 self-slip.

- **SPA bowl 3.** Flared or everted rims:

**B-8171/2, L-853** has slightly convex walls and flared dimple rim. Paste: reddish yellow 7.5 yr. 7/6. It has 3 vertical lines, reddish-brown 5 yr. 5/4 decoration.

- **SPA Bowl 4.** Uprturned or slightly incurved simple rims. They sometimes have a bar handle:

**B-1014/19, L-102** has straight walls and incurved simple tapered rim. Paste: pink 7.5 yr. 7/4.

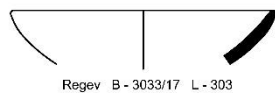
**B-1020/3 L-100** has straight walls and upturned simple rounded rim. Paste: Pink 5 yr. 8/4. It has 3 horizontal brown lines decoration.

**B-3033/22, L-303** is a PWWM bowl with straight walls and upturned indeterminate flattened rim. Paste: reddish yellow 7.5 yr. 7/6 and whitish self-slip.

**B-7017/1, L-703** is a thin sherd with convex walls and incurved simple rounded rim. Paste: grey 5 yr. 6/1 core, light red 2.5 yr. 7/6 exterior face and pink 5 yr. 8/3 smooth in the inner face. It has band decoration in the inner face of the rim.

**B-8139/1, L896** has convex walls and upturned simple rounded rim. Paste: pink 7.5 yr. 7/3.

<b>Vessel</b>	<b>Parallels</b>
SPA B 1 3033/17	Tel Risim (L-133 B-1085/1) Tel Megiddo (Martin 2013: Fig. 10. 16: 3).
SPA B 2 1083/1	TAH anchorage (L-517 B-5100/23) Tel Akko (Zagorski 2004: Fig. 25: 2) Tel Risim (L-133 B-1082/1) Tel Yoqne'am (Ben-Ami 2005: Fig. III. 12:15; Fig III. 14: 17) Tel Megiddo (Loud 1948: Pl. 61:9) Tel Megiddo (Martin 2013; Fig. 10.11:7)
SPA B 2 7501/12	TAH anchorage (L-517 B-5100/23) Tel Risim (L-133 B-1082/1)
SPA B 3 8171/2	TAH anchorage (L-554 B-5543/13; L-646 B-6122/15) Tel Risim (L-133 B-1079) Tel Qashish (Ben-Tor and Bonfil 2003: Fig. 112: 15) Tel Yoqne'am (Ben-Ami 2005: Fig. III. 8: 7, 8; Fig. III. 23: 5) Tel Megiddo (Loud 1948: Pl. 61: 11; Pl 65: 20) Tel Megiddo (Martin 2013: 10.23: 5)
SPA B 4 1014/19	TAH anchorage (L-681 B-6541/5) Tel Risim (L-135 B-1098/1)
SPA B 4 1020/3	Tel Megiddo (Loud 1948: Pl. 65:9) Tel Yoqne'am (Ben-Ami 2005: Fig. III. 8: 3)
SPA B 4 3033/22	TAH anchorage (L-681 B-6541/5) TAH settlement (Balensi 1980: Pl. 6:1) Tel Risim (L-135 B-1098/1)
SPA B 4 7017/1	Tel Risim (L-135 B-1098/1) Tel Megiddo (Loud 1948: Pl. 65:9)
SPA B 4 8139/1	Tel Risim (L-135 B-1098/1) Tel Yoqne'am (Ben-Ami 2005: Fig. III. 12: 10)



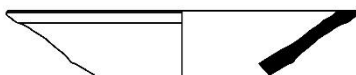
Regev B - 3033/17 L - 303



Regev B - 1083/1 L - 120



Regev B - 7501/12 L - 761



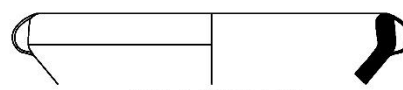
Regev B - 6171/2 L - 653



Regev B - 1014/19 L - 102



Regev B - 1020/3 L - 100



Regev B - 3033/22 L - 303



Regev B - 7017/1 L - 703



Regev B - 8139/1 L - 850



Plate 21. Tel Regev bowls 1-4. Ceramics were drawn by Svetlana Zagorski and Ester López Rosendo.



**SPA Bowl 5.** Convex walls and direct internally thickened rims:

**B-3028/19, L-303** has convex walls and direct internally thickened triangular rounded rim. Paste: pink 7.5 yr. 7/4. It has some medium size white (calcium) grits.

**B-3091/2, L-327** has convex walls and direct internally thickened oval rim. Paste: grey 5 yr. 5/1 core and light brown 7.5 yr. 6/4. It was smoothed.

- **SPA Bowl 7.** Convex walls and long upturned or slightly incurved simple rims:

**B-5519/3, L-567** has convex walls and long upturned simple rounded rim. Paste: grey 7.5 yr. 5/1 core and very pale brown 10 yr. 7/4 exterior paste. It was smoothed or burnished.

**B-9050/48, L-811** is a thin PWWM bowl sherd with convex walls and long upturned simple tapered rim. Paste: weak red 10 r. 5/4 and a pale yellow 2.5 y. 8/2 self-slip. It has some small white inclusions.

- **SPA Bowl 8.** S-profile. When they are complete, bar handles are noted.

**B-1027/18, L-108** is a shallow PWWM S-profile bowl with convex walls and upturned indeterminate profiled rim. Paste: very pale brown. 10 yr. 7/4 and whitish self-slip.

**B-1031/11, L-106** is shallow with convex walls and upturned indeterminate profiled rim. Paste: grayish brown 10 yr. 5/2 core, reddish-yellow 5 yr. 7/6 exterior paste and remain of a very pale brown 10yr. 8/2 slip in the inner face of the rim. It has some small white and black grits.

**B-3011/13, L-303** is a shallow PWWM S-profile bowl with slightly convex walls and upturned simple rounded rim. Paste: light brown 7.5 yr. 6/3 and remains of a badly made pale yellow 5 y. 8/2 self-slip.

- **SPA Bowls 9.** Carinated bowls

**B-3017/6, L-304** is a deep carinated bowl with straight walls, high sharp carination, and direct simple rounded rim. Paste: reddish yellow 5 yr. 6/6. It has some small white grits.

<b>Vessel</b>	<b>Parallels</b>
SPA B 5 3028/19	TAH anchorage (L-600 B-6041/4) Tel Risim (L-133 B-1084/2; L-133 B-1087/3) Tel Yoqne'am (Ben-Ami 2005: Fig. III. 18: 21)
SPA B 5 3091/2	TAH anchorage (L-600 B-6041/4) Tel Risim (L-133 B-1087/2) Tel Yoqne'am (Ben-Ami 2005: Fig. III. 14: 4)
SPA B 7 5519/3	TAH settlement (Balensi 1980: Pl. 7: 8) Tel Megiddo (Loud 1948: Pl. 54:10) Tel Megiddo (Martin 2013: Fig. 10.11: 8) Enkomi (Dikaios 1969: Pl. 118: 19 (1347))
SPA B 7 9050/48	Tel Megiddo (Martin 2013: Fig. 10.16: 1, 3) Enkomi (Dikaios 1969: Pl. 117: 1 (3747/36))
SPA B 8 1027/18	TAH anchorage (L-517 B-5047/20) TAH settlement (Balensi 1980: PL. 6:1) Ugarit (Monchambert 2004: Fig. 17: 433) Enkomi (Dikaios 1969: Pl. 117:6) Kalavassos - <i>Ayios Dhimitrios</i> (South <i>et al.</i> 1989: Fig.46: 509, 532)
SPA B 8 1031/11	TAH anchorage (L-647 B-6105/31a) TAH settlement (Balensi 1980: Pl 6:3) Tel Akko (Zagorski 2004: fig 3: 5) Tel Megiddo (Loud 1948: Pl. 61:21; 65:12) Tel Megiddo (Martin 2013: Fig. 10.22:3) Kalavassos - <i>Ayios Dhimitrios</i> (South <i>et al.</i> 1989: Fig. 46: 533)
SPA B 8 3011/13	TAH anchorage (L-564 B-5528/5) Ugarit (Monchambert 2004: Fig. 11: 159)
SPA B 9 3017/6	TAH anchorage (L-517 B-5100/21; L-562/563 B-5539/15) TAH settlement (Balensi 1980: Pl. 5: 12) Tel Nahal (SPA survey 1001/13) Tel Akko (Zagorski 2004: Fig 3: 6). Tell Arqa (Thalman 2006: Pl. 117: 19; pl. 118: 9) Ugarit (Monchambert 2004: Fig. 19:475).

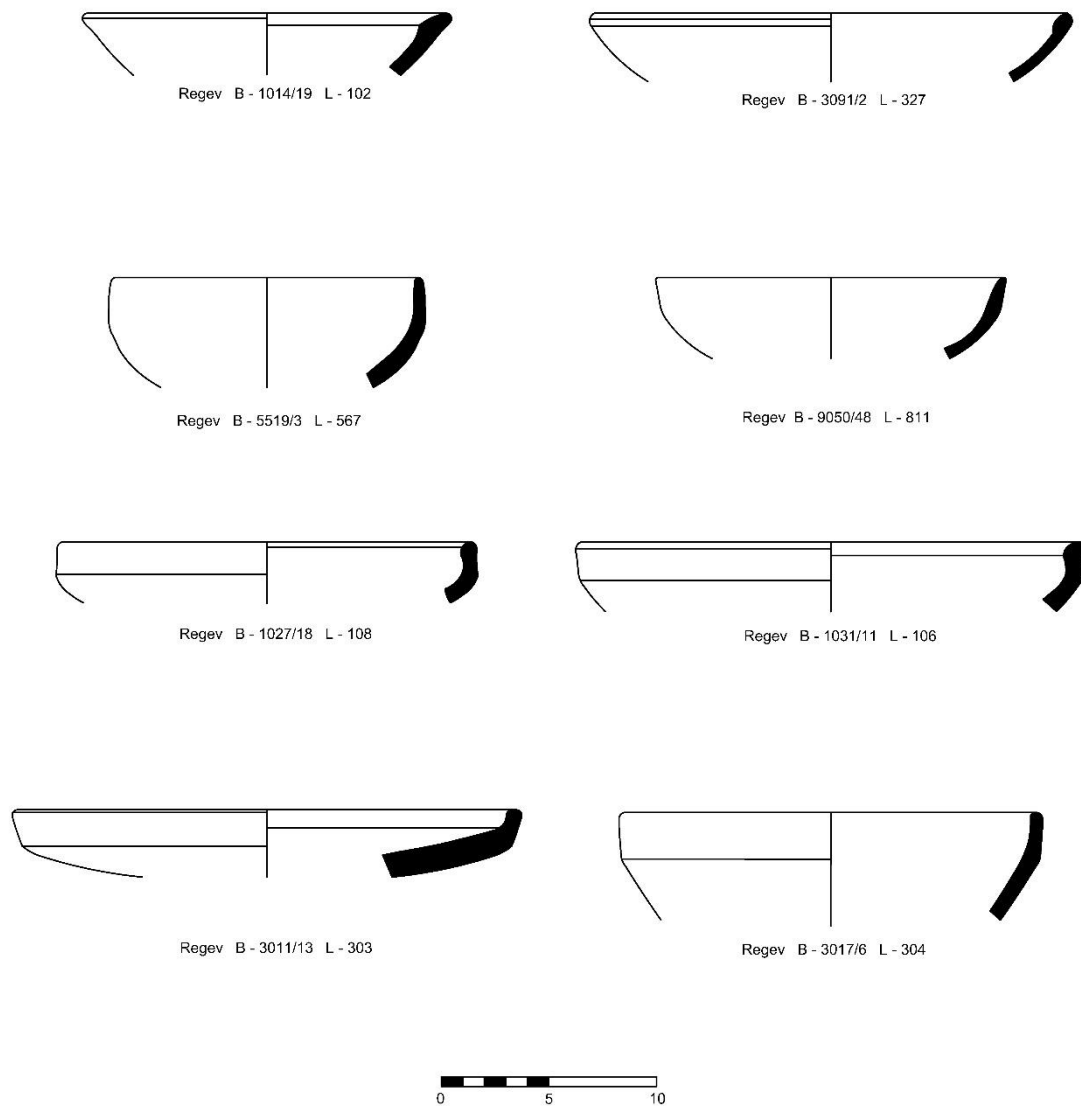


Plate 22. Tel Regev bowls 5-9. Ceramics were drawn by Svetlana Zagorski and Ester López Rosendo.

■ **Large bowls**

With four big bowls, basins, or bassinets, out of the 118 total sherds, they represent ca. 3% of the total LBA pottery of the site.

- **SPA large bowls 1.** Convex walls and incurved rims. Some of them have rounded vertical handles.

**B-1037/31, L-108** has convex walls and incurved simple flattened rim. Paste: grey core and reddish yellow 5 yr. 6/6 exterior paste. It has some white grits.

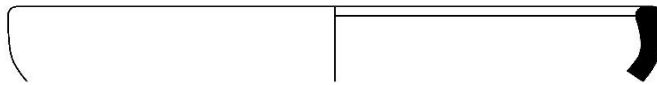
- **SPA large bowls 2.** Convex walls and upturned rims.

**B-3006/3, L-304** has convex walls and upturned indeterminate flattened rim. Paste: grey core and pink 7.5 yr. 7/4 exterior paste.

<b>Vessel</b>	<b>Parallels</b>
LrB 1 1037/31	TAH anchorage (L-563 B-5525/30; L-678 B-6529/3) TAH settlement (Balensi 1980: PL7: 11)
LrB 2 3006/3	Tyre (Bikai 1978: Pl. XXIII: 16) Sarepta (Anderson 1988: Pl. 29:17) Ugarit (Monchambert 2004: Fig. 30: 592) Kalavassos - <i>Ayios Dhimitrios</i> (South <i>et al.</i> 1989: Fig. 20: 10)



Regev B - 1037-31 L - 108



Regev B - 3006/3 L - 304

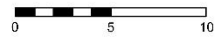


Plate 23. Tel Regev large bowls. Ceramics were drawn by Svetlana Zagorski and Ester López Rosendo.

## ■ **Kraters**

In the Tel Regev excavations, 9 krater sherds were found, representing ca. 8% of the total LBA pottery from the site.

- **SPA krater 1.** Short concave necks and everted externally thickened or t-shape rims:

**B-3101/15, L-326** has short concave neck and vertical externally thickened rectangular rim. Paste: grey core and light red 2.5 yr. 7/6 exterior paste.

- **SPA kraters 2.** Very short concave or no neck and vertical rims:

**B-3033/6, L-303** has convex walls, very short concave neck, and vertical indeterminate flattened rim. Paste: grey 7.5 yr. 5/1 core and pink 7.5 yr. 7/3 exterior paste. It was burnished and remains of a black vertical parallel line decoration in the rim and horizontal parallel line decoration in the upper part of the body.

- **SPA krater 3.** straight necks and vertical externally thickened rims:

**B-1026/6, L-104** has a medium straight neck and vertical externally thickened oval rim. Paste: dark grey core and pink 7.5 yr. 7/4 exterior paste. It has some yellowish-white big grits.

- **SPA krater 4.** Short concave necks and direct or everted thickened rims:

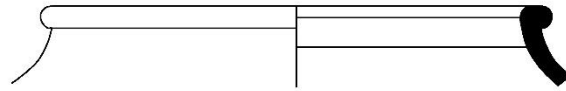
**B-1036/7, L-107** has a short concave neck and direct externally thickened oval rim. Paste: pink 7.5 yr. 7/4.

## ■ ***Pithoi***

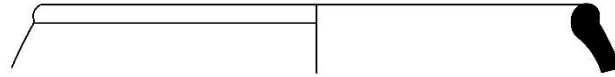
- **SPA *Pithos*.** Straight necks and vertical or slightly everted externally thickened rims:

**B-7514/12, L-746** has an upper round carination, long straight neck, and vertical externally thickened rectangular rim. Paste: dark grey 7.5 yr. 4/1 core and reddish yellow 5 yr. 6/6 exterior paste.

<b>Vessel</b>	<b>Parallels</b>
SPA K 1 3101/15	TAH anchorage (L-550 B-5500/18)
SPA K 2 3033/6	Tel Hanan (SPA survey 529-0083) Tel Risim (L-141 B-1126/1) Tel Megiddo (Loud 1948: Pl. 61:23; 66:1) Tel Megiddo (Martin 2013: Fig. 10.14:4)
SPA K 3 1026/6	TAH anchorage (L-525 B-5068/17) Tel Yoqne'am (Ben-Ami 2005: Fig. III. 26:17)
SPA K 4 1036/7	TAH anchorage (L-514 B-5040/16) Tel 'Alil (SPA survey 1101/10) Tel Risim (L-133 B-1072/4; L-133 B-1076/3) Tel Yoqne'am (Ben-Ami 2005: Fig. III. 19: 3) Tel Megiddo (Martin 2013: Fig 10. 17: 2, 3)
SPA Pt 3 7514/12	TAH anchorage (L-554 B-5511/92) Tel Megiddo (Martin 2013: Fig. 10.12:1)



Regev B - 3101/15 L - 326



Regev B - 3033/6 L - 303



Regev B - 1026/6 L - 104



Regev B - 1036/7 L - 107



Regev B - 7514/12 L - 746



Plate 24. Tel Regev kraters and *pithoi*. Ceramics were drawn by Svetlana Zagorski and Ester López Rosendo.



## ■ Jars

With 23 jars out of the 118 total sherds, they represent ca. 19% of the total LBA pottery from Tel Regev, the jars are the second most represented group.

- **SPA jars 1.** Long everted thickened oval rims:

**B-3021/50, L-303** is a PWWM Storage jar with a medium concave neck and long everted thickened oval rim. Paste: very pale brown 10 yr. 7/4 and very pale brown self-slip. It has a few white grits.

**B-3028/12, L-303** is a PWWM storage jar with a medium straight neck, inner gutter, and long everted thickened oval rim. Paste: gray 10 yr. 6/1 and white 7.5 yr. 8/1 self-slip.

- **SPA Jars 2.** Short everted thickened round rims:

**B-1015/8, L-102** has a medium concave neck, inner gutter, and short everted thickened round rim. Paste: pink 7 yr. 7/4 inner face and dark brown 7.5 yr. 3/2 outer face.

- **SPA jars 3.** Short vertical or inverted thickened rims:

**B-1060/1, L-115** has a medium straight neck and short vertical thickened oval rim. Paste: light yellowish-brown. 10 yr. 6/4. It has a few medium size white and small black grits.

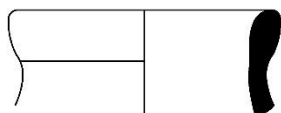
**B-3025/1, L-304** has a medium straight neck and short vertical thickened rounded rim. Paste: reddish yellow 5 yr. 7/6. It has some small white grits.

**B-3049/81, L-314** is a PWWM Jar with medium straight neck and short vertical thickened rounded pendant rim. Paste: grey 5 yr. 6/1 core, light red 2.5 yr. 7/6 exterior paste and pinkish-white 5 yr. 8/2 self-slip. It has some small and medium-size white (Calcium) and brown grits.

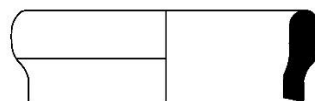
- **SPA jars 8.** Jar bases:

**B-9028/46, L-799** is a PWWM Storage jar with a long thick knobbed base. Paste: pink 7.5 yr. 7/3 and pale yellow 2.5 y. 8/4 self-slip.

<b>Vessel</b>	<b>Parallels</b>
Jr 1 3021/50	TAH anchorage (L-535 B-5104/44) Tel Risim (L-133 B-1072/2) Tel Qashish (Ben-Tor and Bonfil 2003: Fig. 109: 3) Tel Yoqne'am (Ben-Ami 2005: III. 20: 3, 8, 9)
Jr 1 3028/12	TAH anchorage (L-533 B-5090/5a) Tel Risim (L-133 B-1076/4) Tel Megiddo (Martin 2013, fig. 10.19: 4, 6) Tel Qashish (Ben-Tor and Bonfil 2003, Fig. 110:3)
Jr 2 1015/8	TAH anchorage (L-534 B-5100/30a) Tel Risim (L-124 B-1063/1) Tel Yoqne'am (Ben-Ami 2005: Fig. III. 13: 6) Tel Megiddo (Martin 2013: Fig 10.13:7, 11)
Jr 3 1060/1	Tel Akko (Zagorski 2004: Fig. 20: 4) Tel Yoqne'am (Ben-Ami 2005: Fig. III.13:3; Fig. III. 16: 25)
Jr 3 3025/1	
Jr 3 3049/81	TAH anchorage (L-563 B-5524/35) Tel Yoqne'am (Ben-Ami 2005: Fig. III. 16: 24)
Jr 8 9028/46	TAH anchorage (L-514 B-5039/11) TAH settlement (Balensi 1980: Pl. 12: 2) Tel Yoqne'am (Ben-Ami 2005: Fig. III.21:1) Tel Megiddo (Loud 1948: Pl. 59:12) Tel Megiddo (Martin 2013: Fig. 10.15: 2, 4; Fig. 10.20: 9)



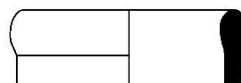
Regev B - 3021/50 L - 303



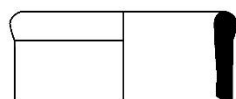
Regev B - 3028/12 L - 303



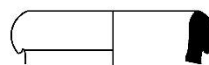
Regev B - 1015/8 L - 102



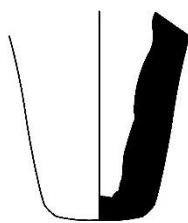
Regev B - 1060/1 L - 115



Regev B - 3025/1 L - 304



Regev B - 3049/81 L - 314



Regev B - 9028-46 L - 799



Plate 25. Tel Regev jars. Ceramics were drawn by Svetlana Zagorski and Ester López Rosendo.

### ■ **Local painted wares**

At Tel Regev there are 2 possible Brown Painted ware body sherds out of the 118 total sherds, representing ca. 1.5% of the assemblage.

**B-5525/1, L-532.** Paste: pink 7.5 yr. 8/3, pale yellow 2.5 y. 8/2 slip and brown 7.5 yr. 5/3 decoration.

### ■ **Lebanese or Cypriot imports**

#### ● **White Lustrous Ware**

One body sherd could be part of a white lustrous jug, representing less than 3% of the Collection.

### ■ **Aegean Fine wares.**

With 8 sherds out of the 118 total sherds, the Mycenaean imports represent something less than 22% of the LBA fine ware imports found at Tel Regev and something less than 7% of the total LBA pottery.

**B-1014/40, L-102** is a Mycenaean body sherd with decorated convex walls. Paste: 7.5 yr. 8/3 and 3 brown parallel lines decoration.

**B-5506/2, L-561** is a Mycenaean body sherd with decorated convex thick walls. Paste: reddish yellow 7.5 yr. 7/6 and red 2.5 yr. 5/6 horizontal band decoration.

**B-7553/2, L-781** is a Mycenaean flask body sherd with painted convex walls. Paste: reddish yellow 7.5 yr. 7/6 and red 2.5 yr. 4/8 painted decoration. Maybe the same as Mycenaean flask 7595/2.

**B-9028/32, L-799** is a Mycenaean globular vessel body sherd with painted convex walls. Paste: reddish yellow 5 yr. 7/6 and light red 2.5 yr. 6/8-line decoration. It has some very small red grits.

**B-7595/2, L-781** is a Mycenaean flask with convex walls, small concave neck, and externally thickened triangular rim. Paste: reddish yellow 5 yr. 7/6 and red 2.5 yr. 4/8 decoration. Maybe the same as Mycenaean flask body sherd 7553/2.

**B-8139/16, L-850** is a Mycenaean bowl with convex walls, very small concave neck, and everted simple rounded rim. Paste: pink 7.5 yr. 7/4 and yellowish red 5 yr. 4/6 decoration.

<b>Vessel</b>	<b>Parallels</b>
Brown Painted ware Body sherd 5525/1	Tel Qashish (Ben-Tor and Bonfil 2003: Fig. 107: 9) Tel Yoqne'am (Ben-Ami 2005: Fig. III.5:18)
Mycenaean Body sherd 1014/40	Sarepta (Anderson 1988: Pl. 28:23).
Mycenaean Body sherd 5506/2	TAH anchorage (L-629 B-6069/6) TAH settlement (Balensi 1980: Pl.32:281; Pl.34:3, 11; Pl.46: 11) Tel Tel Megiddo (Amiran 1969: Pl.57:12) Enkomi (Dikaios 1969: Pl.123:12 (2743/+4).
Mycenaean Body Sherd 7553/2	TAH settlement (Balensi 1980: Pl. 34: 6; Pl. 38. 15, 16, 24) Enkomi (Dikaios 1969: Pl. 208: 10-12; Pl. 196: 30 (41))
Mycenaean Globular vessel 9028/32	Tel Nami (Artzy 2006: Fig.6:13)
Mycenaean Flask 7595/2	TAH settlement (Balensi 1980: Pl. 38. 15, 16, 24) Enkomi (Dikaios 1969: Pl. 196: 30 (41))
Mycenaean Bowl 8139/16	TAH settlement (Balensi 1980: Pl. 40:23)



Regev B - 5525-1 L - 532



Regev B - 1014-40 L - 102



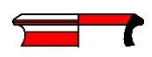
Regev B - 5506/2 L - 561



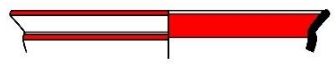
Regev B - 7553/2 L - 781



Regev B - 9028/32 L - 799



Regev B - 7595-2 L - 781



Regev B - 8139/16 L - 850



Plate 26. Tel Regev local painted and Mycenaean wares. Ceramics were drawn by Svetlana Zagorski and Ester López Rosendo.

### ■ **Cypriot imported fine wares:**

With 28 sherds out of the 37 fine ware imports, the Cypriot fine wares represent something more than 78% of the imported fine wares and something more than 24% of the total pottery of the site.

#### • **Base Ring II**

With 11 BR II pieces, out of the total 28 Cypriot imports, they represent something less than 38% of the imported Cypriot fine wares. Among the BR ware, we have two forms, Jugs/bilbils, and bowls:

##### - **Bowls:**

**B-7526/2, L-771** has convex walls and direct simple flattened rim. Paste: grey 10 yr. 5/1 core, pale brown 10 yr. 6/3 exterior paste and reddish-brown 5 yr. 5/4 burnish.

##### - **Jugs/Bilbils:**

**B-1006/26, L-100** has straight walls. Paste: light reddish brown 5 yr. 6/4, black burnish in the outer face and grey horizontal parallel lines decoration.

**B-7583/1, L-766** has long straight flaring neck and everted simple flanged rim. Paste: grey 7.5 yr. 4/1.

**B-8009/1, L-102** has ring base. Paste: gray 10 yr. 5/1 core, light red 10 r. 6/8 and reddish grey 2.5 yr. 5/1 burnish.

**B-8159/3, L-856** has small ring base. Paste: grey 1 gley. 6/1 and remains of weak red 2.5 yr. 5/2 burnish.

#### • **Monochrome Ware**

With 2 Monochrome bowl pieces out of the total 28 Cypriot imports, they represent something less than 7% of the imported Cypriot fine wares. Both monochrome bowls were drawn:

**B-8114/5, L-831** has slightly convex walls and a wishbone handle. Paste: light red 2.5 yr. 6/6 and reddish-brown 2.5 yr 5/3 burnish.

**B-9020/7, L-800** has slightly convex walls and upturned simple tapered rounded rim. Paste: light reddish brown 5 yr. 6/4 and dark reddish-grey 5 yr. 4/2 slip. It has some small white and black grits.

<b>Vessel</b>	<b>Parallels</b>
BR B 7526/2	Tel Mevorakh (Stern <i>et al.</i> 1984: Fig. 9: 3, 27)
BR Jg 1006/26	TAH settlement (Balensi 1980: Pl. 26: 10)
BR Jg 8009/1	TAH anchorage (L-629 B-6078/2) TAH settlement (Balensi 1980: Pl. 26: 11) Tel Risim (L-135 B-1111/1) Tel Qashish (Ben-Tor and Bonfil 2003: Fig. 127: 32) Tel Megiddo (Loud 1948: Pl. 58: 20) Enkomi (Dikaios 1969: Pl. 193: 9 (50); Pl. 194: 33 (58)).
BR Jg 7583/1	TAH anchorage (L-551 B-5519/1) Tel Risim (L-124 B-1054/4) Tel Mevorakh (Stern <i>et al.</i> 1984: Fig. 9: 41) Enkomi (Dikaios 1969: Pl. 199: 2(3))
BR Jg 8159/3	TAH settlement (Balensi 1980: Pl. 26: 21) Tel Yoqne'am (Ben-Ami 2005: Fig. III.22:26) Tel Megiddo (Loud 1948, Pl. 58: 19)
Mch B 8114/5	TAH Anchorage (L-525 B-5077/46; L-534 B-5103/58) Tel Megiddo (Amiran 1969: Pl. 55: 3) Enkomi (Dikaios 1969: 23 (2371/1), 24 (2989/1); Pl. 194: 16 (117)).
Mch B 9020/7	TAH Anchorage (L-525 B-5077/46; L-534 B-5103/58) Tel Risim (L-142 B-1113/2) Tel Qashish (Ben-Tor and Bonfil 2003: Fig. 102: 11) Tel Megiddo (Martin 2013: Fig 10.13: 3) Tel Mevorakh (Stern <i>et al.</i> 1984: Fig. 9: 2, 3) Tel Michal (Herzog <i>et al.</i> 1989: Fig. 5.10:16) Sarepta (Anderson 1988: Pl. 23:3) Kalavassos - <i>Ayios Dhimitrios</i> (South <i>et al.</i> 1989: Fig. 8. K-AD 960) Enkomi (Dikaios 1969: Pl. 68: 3 (1638); Pl. 194: 9 (111); 13 (16))

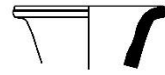




Regev B - 7526/2 L - 771



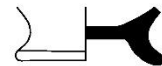
Regev B - 1006/26 L - 100



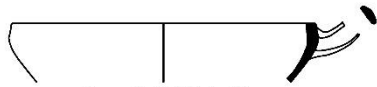
Regev B - 7583/1 L - 776



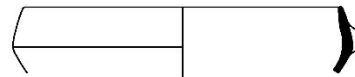
Regev B - 8009/1 L - 102



Regev B - 8159/3 L - 856



Regev B - 8114/5 L - 831



Regev B - 9020/7 L - 800



Plate 27. Tel Regev BR and Monochrome. Ceramics were drawn by Svetlana Zagorski and Ester López Rosendo.

- **White Slip II Bowls**

With 9 WS II bowl pieces out of the total 28 Cypriot imports, they represent ca. 31% of the imported Cypriot fine wares.

**B-1014/25, L-102** has convex walls and upturned simple tapered rounded rim. Paste: grey core and very pale brown 10 yr. 7/4 slip. The WS is only visible in the inner part of the vessel, as chemicals from agriculture damaged the outside slip.

**B-7595/13, L-781** has a decorated wishbone handle. Paste: light reddish brown 2.5 yr. 6/4, very pale brown 10 yr. 8/2 slip and dark reddish-grey 5 yr. 4/2 decoration. It has some small white grits.

**B-8125, L-000** has a decorated wishbone handle. Paste: reddish-brown 2.5 yr. 6/4, very pale brown 10 yr. 8/3 slip and dark brown 7.5 yr. 3/3 decoration. It has some small white grits.

- **White Shaved juglets**

With 4 WSh juglet pieces out of the total 28 Cypriot imports, they represent less than 14% of the imported Cypriot fine wares.

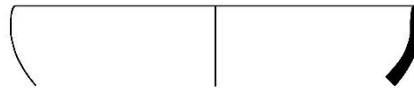
**B-3084/15, L-322** has convex walls and medium straight neck. Paste: pink 5 yr. 8/4 and very pale brown 10 yr. 8/2 burnish.

**B-7114/2, L-734** has a thin pointed base. Paste: pink 7.5 yr. 7/4.

- **Bucchero Ware:**

With one possible shard out of the total 28 Cypriot imports, the Bucchero ware represents ca. 3% of the Cypriot imports.

<b>Vessel</b>	<b>Parallels</b>
WS B 1014/25	TAH anchorage (L-569 B-5568/1) TAH settlement (Balensi 1980: PL. 28: 17; PL. 29: 7) Tel Megiddo (Martin 2013: Fig. 10.13: 2) Ugarit (Monchambert 2004: Fig. 107: 1511) Kalavassos - <i>Ayios Dhimitrios</i> (South <i>et al.</i> 1989: Fig. 4. K-AD 894A)
WS B 7595/13	TAH settlement (Balensi 1980: Pl. 29: 243) Sarepta (Anderson 1988: Pl. 23:32) Enkomi (Dikaios 1969: Pl. 63: 24 /4235/4; Pl. 228: 9 (383))
WS B B 8125	TAH anchorage (L-569 B-5568/1) Tel Yoqne'am (Ben-Ami 2005: Fig. III.22:29) Tyre (Bikai 1978: PL. XLIII: 18)
WSh J 3084/15	TAH anchorage (L-666 B-6556/1a) TAH settlement (Balensi 1980: Pl. 23:6, 10, 14) Tel Qashish (Ben-Tor and Bonfil 2003: Fig. 112:21) Tel Megiddo (Loud 1948: Pl. 58:12, 14) Ugarit (Monchambert 2004: Fig. 108:1523; Fig. 109:1533, 1536)
WSh J 7114/2	TAH anchorage (L-513 B-5056/3) TAH settlement (Balensi 1980: Pl.23:21) Tel Megiddo (Loud 1948: Pl.58:10) Tel Megiddo (Martin 2013: Fig.10.22:5) Enkomi (Dikaios 1969: Pl.122:14 (1522); Pl.68:4 (4307/3); Pl.193:24 (20)).



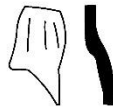
Regev B - 1014/25 L - 102



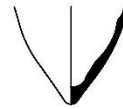
Regev B - 7595/134 L - 781



Regev B - 8125 L - 000



Regev B - 3084/15 L - 322



Regev B - 7114/2 L - 734



Plate 28. Tel Regev WS and WSh. Ceramics were drawn by Svetlana Zagorski and Ester López Rosendo.

## 6.5. Tell Abu Hawam

### A. Site description

Tell Abu Hawam is situated on the southernmost part of the Akko/Haifa bay, ca. one kilometer west of the Qishon River estuary, and ca. one and a half kilometer from the sea, in an industrialized area near the city of Haifa modern port (Balensi *et al.* 1985). Due to sea-level changes, sedimentation and human intervention, the landscape that surrounds TAH has been heavily modified along the last 4000 years. In the Akko/Haifa bay, during the maximum flood, which occurred during the MBA and LBA, the coastline was situated about four kilometers eastwards (Zviely *et al.* 2006). Since then, the accumulation of sediments from the Nile Delta and the siltation caused by the Qishon River started to surpass the sea level rise. Hence, the coastline of the Akko/Haifa bay started prograding westwards (Flemming *et al.* 1978; Inbar and Sivan 1986; Zviely *et al.* 2006 Morhange *et al.* 2016 Giaime *et al.* 2018). Humans also intervened in the modification of the site environment. The sharpest modifications in the area occurred during the British mandate, in the late 1920s and early 1930s industrialization process, marked by the construction of the Haifa port and the land reclamation on the base of the Carmel Mount (Dumper and Stanley 2007: 3-7). Since then, different industrial works and infrastructural development have been carried out in the area, the last of them the construction of a bridge in 2001 (Artzy 2006). During the LBA, TAH was situated near the sea, in a small peninsula or sand islet surrounded by marshlands, inside the estuary of the Qishon River (Aznar *et al.* 2005; Zviely *et al.* 2006). Before the construction of dams for sweet water in the 20<sup>th</sup> century, the Qishon River was much wider and its estuary could have been used as an anchorage, also, the river was wide enough to allow the usage of barges for the transport of commodities from the harbor inland and vice versa.

The first excavations conducted in the site were organized by the British Palestine Department of Antiquities and conducted by Na'im Makhoully from 1929 to 1930 (Balensi *et al.* 1985; Balensi *et al.* 1993) and Robert William Hamilton from 1932 to 1933, as salvage excavations during the construction of the Haifa port and the nearby industrial area (Hamilton 1934). The construction works supposedly destroyed the site, yet some of it survived and new salvage excavations were carried out on behalf of the IDAM by

Emmanuel Anati and Moshe Prausnitz in the nearby cemetery in 1952 (Anati 1959) and by Anati and Y. Olami on the edge of the tell in 1963 (Anati 1963). In 1984 Jaqueline Balensi (École Biblique et Archéologique Française in Jérusalem) directed a revision of the materials of the previous excavations at TAH (Banesi 1985; Balensi and Herrera 1985). In 1985 and 1986 Balensi, together with Maria Dolores Herrera (Instituto Español Bíblico y Arqueológico en Jerusalén) and Artzy (Center for Maritime Studies, University of Haifa) directed two excavation sessions at the site (Balensi *et al.* 1993; Aznar *et al.* 2005). As a result of her research on TAH, Balensi first proposed that the site was a large trade center for the Aegean trade, divided into an upper city and a lower city (Balensi 1985). After new revisions of the LBA materials from TAH, Balensi suggested that it was a center for Cypriot trade and that at the very end of the LBA it received refugees from Cyprus and the Northern Levant (Balensi 2004). In 2001, the Israeli Ministry of Infrastructures started the construction of a bridge over what supposedly was Balensi's lower city, and because of it, a new salvage excavation was conducted by Artzy and Shalom Yanklevitz from 2001 to 2002 (Artzy 2006; 2013; 2016). During this excavation, it was discovered that a large part of the lower city envisioned by Balensi, was instead a LBA anchorage/proto harbor, which demonstrated that during the LBA the site was a small settlement of ca. one and a half hectares (Artzy 2006).

The different archaeological excavations carried out at TAH and the reconstructions of the ancient environment suggest that during the LBA it was a small site, geographically positioned in a small peninsula or island surrounded by marshlands (Aznar *et al.* 2005; Zviely *et al.* 2006). Due to its geographical position, TAH could not have had enough agricultural hinterland. Besides, no LBA pottery production area has yet been discovered during any of the excavations performed at the site and due to its small size, it is most probable that it did not exist. Yet a great number of locally-made and imported ceramics were found at the site (Artzy 2006; 2013). Hence, the manufactures found at the site and the agricultural goods for its maintenance were probably produced elsewhere, in the immediate hinterland. To understand from where did the TAH materials came and who was its agricultural supplier I will analyze the ceramics from various nearby sites.

## **B. Stratigraphy and chronology**

Hamilton established the main stratigraphic sequence of TAH, dividing it into five strata: Stratum I from the Roman period to World War I, stratum IIa from the Persian to Hellenistic period, strata II (ca. 500-300 BCE), III (ca. 1100-925 BCE), IV-a (ca. 1230-1190 BCE), and IV-b (ca. 1190-1100 BCE) dated to different moments of the IA, and stratum V dated to the LBA (Hamilton 1934: 1-16; Aznar *et al.* 2005). He proposed that stratum V extended from the end of the 15<sup>th</sup> century BCE to 1230 BCE (Hamilton 1934). Anati defended that TAH was populated from the end of the 15<sup>th</sup>, or beginning of the 14<sup>th</sup> century BCE, to the ‘Sea Peoples’ invasions at ca. 1178 BCE (Anati 1963). Benjamin Mazar (Maisler) suggested that TAH was constructed during the Egyptian 19<sup>th</sup> dynasty as a naval base and populated from the late 14<sup>th</sup> century BCE to the ‘Sea Peoples’ destructions at ca. 1178 BCE (Mazar 1951). Mazar’s theory was contested by Weinstein who argued that there was no Egyptian-like building at TAH and that Akko was a more suitable site for an Egyptian harbor (Weinstein 1980). Balensi proposed that TAH was inhabited from the middle 16<sup>th</sup> century BCE to 1178 BCE, during the ‘Sea Peoples’ invasion (Balensi 1985), and later on, that the habitation of the site continued without interruption during the IA (Herrera and Balensi 1992; Balensi 2004). In light of the imported ceramics discovered during the 2001 excavations at the anchorage, Artzy suggested that the anchorage of TAH was in use from the end of the 15<sup>th</sup> century BCE to ca. 1230 BCE as proposed by Hamilton (Artzy 2006).

## **C. The anchorage**

As stated before, the anchorage of TAH was excavated during a salvage excavation in 2001 by Artzy and Yanklevitz. During this excavation, twelve 5x5 meters squares were opened, six of them as supports for the construction of a bridge. From the twelve squares, only the ones used as support for the bridge presented any archaeological data (Artzy 2006). To excavate in an area situated below the current sea level, various 5x5 meters metal caissons were placed inside the excavation squares (Artzy 2006). The sediment encounter during this excavation was “covered by mollusks, among them oysters that indicate the depth of the seawater” and hence interpreted as an anchorage (Artzy 2006). Due to the lack of architectural remains, the stratigraphic sequence was based on the sediment, geomorphological changes. Hence, the anchorage floor was

divided into five strata: the uppermost strata, stratum 1 belong to a terrestrial Persian period level; while the other four strata belong to the LBA and are contemporary to Hamilton's stratum V. In the LBA strata a large number of imported materials, adding 40% to 50% of the total materials were discovered (Artzy 2016).

#### D. Ware types and technology

##### ■ Canaanite Cooking pots

Most of the Canaanite cooking pots discovered at the TAH anchorage are made of the local cooking pot fabric, with a sandwich paste with grey or dark grey core, a reddish exterior paste, and white (calcareous grits). Most of the vessels made of this fabric are burnt, as they were used for cooking.

##### ■ Northern cookware

The vessels from this family are made from a very heavy and thick paste, normally handmade and burnished; although in some cases wheel made or wheel finished. NAA analysis (carried out by Hans Mommsen in the Bonn laboratory) over some of these types demonstrates that they were not produced locally. Although the origin of these vessels has not yet been discovered by chemical analysis, the closest typological parallels are to be found at the LBA IIC Cypriot sites of Enkomi (Dikaios 1969), Kalavassos - *Ayios Dhimitrios* (South *et al.* 1989; Spagnoli 2010), and Maroni-Tsourkas (Sewell, personal communication, 2014) and at the Northern Levantine site of Ugarit (Monchambert 2004).

##### ■ Plainwares

###### ● Plainware in local tradition

The plainwares in local tradition from TAH have generally grey core, pink, brownish, or reddish exterior paste and white grits provoked by the high quantity of calcium in the area. They are all wheel-made, apart from the big *pithoi*, and do not have any type of slip or burnish. Approximately 30% of the local plainwares from TAH belong to this fabric type.



- **Local Plain White Wheel Made (PWWM) ware**

The local PWWM wares from TAH are made from the same fabric as the plainwares in local tradition and have the same typology. However, the production technique is different. While they have a light brown, or white self-slip, they tend to have a very dark inner paste and a rather metallic sound. Interestingly, TAH is the only site in northern Israel in which the self-slipped ceramics of local typology are predominant. The nearest parallels to the PWWM ceramics from TAH in production technique and typology, are to be found on the island of Cyprus. Besides, the petrography and NAA analysis conducted over some of the PWWM ceramics from TAH demonstrates that they were produced in Cyprus. Hence, the technique used to produce the TAH local PWWM ceramics had its origins in Cyprus (Artzy *et al.* 1981). The PWWM ware is the most represented type of common plainware at TAH (Artzy 2016), reaching ca. 70% of the local plain ceramics.

- **Cypriot plainwares**

The Cypriot plainwares are much less homogeneous than the local ones, as they were imported from different areas on the island. The most common origins from Cypriot plainwares of TAH, demonstrated utilizing petrography and NAA analysis, are eastern Cyprus (Enkomi), southern Cyprus (Maroni and Kalavassos) and south-western Cyprus (Paphos and Amathos). In general, the paste of the Cypriot plainwares is lighter than that of the local plainwares, varying from the pale tan to the light red. It does not have the white grits of the local ceramics and instead tends to have black and metallic grits. Most of the TAH plainwares from Cyprus are also PWWM, and in many cases, the only way to distinguish between the imports and the local production is by observation of the ware.

#### **E. Typology**

The work on the materials from Artzy's excavations at the TAH anchorage is still in process. At this moment, Artzy and her team are working on the publication of the final report of the site. The TAH book will include a full typology of the LBA materials from the site. For now, I can, however, mention that many of the cooking pot and plainware types are present at TAH. Regarding this study, I must say that almost all the types of ceramics present at Tel Risim and the SPA have a counterpart on TAH, except for the cooking pans from Tel Risim and few other forms whose origins are in the valley.

#### **6.4. Discussion**

To understand the cultural differences between Tel Risim, situated in the Jezreel Valley, and the settlements located on the SPA, I will analyze the technological and typological differences between their materials. Based on the ceramic similarities between the inland sites and TAH, I will also indicate a ratio of maritime influence.

The most important difference between the inland and coastal materials is the PWWM ware. At Tel Risim, the ratio of PWWM ceramics among the plainwares is 9%, indicating that its production was not local. The local ceramics of Tel Risim were produced without self-slip, like in the other sites of the Jezreel Valley.

At the SPA survey, the rate of PWWM over the plainwares is 57%, much higher than at Tel Risim. This percentage, however, is based on survey ceramics and might not fully represent the material reality of each site. For example, at Tel Hanan and Tel Par, only one plainware sherd was collected, and no plainware sherds were collected from 'En Yivka', making their data not too representative. Additionally, the survey is composed by sites with different dimensions, importance, and function, encompassing sites such as Tel Hanan (0% PWWM), Tel Nahal (60% PWWM), Tell ed-'Idham (50% PWWM) and Tel Zavat (50% PWWM) situated at a distance of between one and five kilometers from the sea and sites such as Tel Regev (66%), Tel Me'amer (100% PWWM), Tel Par (100% PWWM), Horvat Govit (50% PWWM), Tel 'Alil (33% PWWM), and 'En Yivka' (no plainwares from the survey) situated at a distance of between eight and fifteen kilometers from the coast. As a result, the percentages of PWWM varied from one site to another. The settlement of Tel Regev situated at ca. nine kilometers from the sea, was one of the largest sites on the plain. When the site was excavated, its PWWM wares counted 28% of the total plainwares, less than half of its percentage in the survey. The difference between the Tel Regev survey and excavation percentages suggests that the survey PWWM percentages might be overrated. It also indicates that in the general area of Tel Regev, that is to say, in the inland course of the Nahal Zippori and Qishon River, the amount of PWWM was lower than the number of plainwares in local tradition, showing that in that area the local production of ceramics was without self-slip, like the one at the Jezreel Valley.

At the anchorage site, TAH, the ratio of PWWM over the plainwares is between 75 and 80% (Artzy 2016). Hence, at the harbor, the PWWM was the most common ceramic, other ware productions without the self-slip should be interpreted as imports from nearby regions. Due to the small size of TAH, its PWWM ceramics were probably produced in the nearby sites of the Nahal Gedora, and especially at Tel Nahal, located less than five kilometers from TAH. Interestingly, the most common materials from the coastal site of Akko, in the northern part of the bay, do not bear any type of white self-slip. In conclusion, the production of PWWM in the plain should be considered as a SPA coastal phenomenon and its presence in inland sites as an indicator of contacts with TAH or at least with its immediate hinterland.

Overseas imports are also good indicators of harbor influence. At the coastal Levant, imports arrived from Egypt, Syria, Cyprus, and the Aegean via maritime trade routes. The imports were shipped from foreign anchorages to local anchorages, to be transshipped and distributed inland. As pointed out before, TAH was the nearest and most accessible harbor to the sites situated along the SPA, Qishon River, Nahal Zippori, and northern Jezreel Valley. Thus, the overseas imports found at Tel Regev and Tel Risim were transshipped inland from TAH. At Tel Regev, the overseas imports represent 31% of the total LBA pottery assemblage, an extremely high percentage that will probably be reduced when the excavations reach proper LBA layers. In the case of the imports, the size of the site, wealth, and hierarchical position should also be taken into consideration. While Tel Regev was at the period a large site, probably in control of a small hinterland, Tel Risim was an agricultural village, probably in the hinterland of Tel Shimron. The excavations at Tel Shimron may reveal a percentage of overseas imports much higher than the one at Tel Risim.

Yet, another indicator of harbor influence is typology. Typological analysis can also help us to understand the differences between the materials from the Jezreel Valley and those from the Akko/Haifa bay, and to calculate the influence of the harbor over the inland sites.

The Canaanite cooking pots, with convex walls, carination, short neck, and everted rims are the most common type of cookware in most of the Levant, except for zone L-1. Unsurprisingly, they are the most common type of cooking pots at Tel Risim and the SPA. The cooking pot typology from Tel Risim and the SPA is remarkably similar, with some small differences in the number of types. At TAH, however, there are many more types than at Tel Risim or the SPA, probably because of its function as a maritime hub. For that reason, TAH should hold materials that originated in other Mediterranean harbors and related to mariners' property. One such indicator of sailors' property at TAH is the "Northern" cooking pots, which are of course absent in Tel Risim and the inland sites of the SPA.

A specific feature of the material culture of Tel Risim is the cooking pans. They are made of local clay, but with large everted simple rims, a very specific feature that resemble the Anatolian grey ware kraters and some of the "Northern" cooking pots. The geographical distribution of this type is very restricted, as to my knowledge they only appear at Tel Qashish and Yoqne'am, both in the western entrance of the Jezreel valley. This type of pans may represent a local and restricted phenomenon. It is also possible, however, that the production of the pans was related to the presence of foreign, Cypriot, or Anatolian, traders in the area. In that case, the presence of the pans at Tel Risim should be interpreted as a coastal phenomenon. For the moment is impossible to know from where that specific type of cooking pot developed. Forthcoming materials from the excavation of Tel Shimron would definitively reveal more about these types.

The bowl types from Tel Risim and the SPA are very similar. Most of the bowls from the inland sites have parallels at TAH, except for Risim B1. Risim B1 is the most common bowl type in the Jezreel valley with a lot of parallels at Tel Qashish, Yoqne'am, and Megiddo. By contrast, the most common bowls at TAH have flared rims, like the Egyptianizing (Martin 2004) but more likely the Ugaritic ones (Monchambert 2004: 60-70).

At Tel Risim and the SPA, there are various forms of large open vessels, open kraters, basins, and large bowls. Most of these types are not common at the inland sites of Qashish,

Yoqne'am, and Megiddo, but present at the TAH anchorage, Ugarit (Monchambert 2004:107-115) and Cyprus (South *et al.* 1989: fig. 20). Most of the large open vessels from Tel Regev are PWWM, likely of Cypriot origin. At Tel Risim, the two open kraters and three of the large bowls are PWWM. The other three large bowls are of Egyptian style. I think that these types of vessels are not local and that their presence should be considered as an indicator of Egyptian influence, although similar types appear in Ugarit, and in the future, it will be interesting to reconsider them once the excavations at Tel Shimron give a better picture of possible Egyptian influence over the area.

In addition to the open kraters, there are various closed kraters at Tel Risim and the SPA. The closed krater typology from Tel Risim and the SPA is similar, having all the types parallels at the Jezreel Valley. All the kraters from Tel Risim and the SPA have parallels at TAH. In this case, I think the kraters belong to the local tradition, with no specific harbor features.

For now, two types of *pithoi* were found in the SPA and no *pithoi* at Tel Risim. The scant number of *pithoi* at the SPA and Tel Risim contrasts with the situation at TAH, where many *pithoi* sherds were discovered. The strong presence of *pithoi* at TAH is not surprising as the Uluburum cargo shows that they were used in maritime transport (Pulak 1998; 2008). *Pithoi* were also used as storage containers in inland sites, and they are common at Megiddo and Yoqne'am. Hence, the presence of *pithoi* at an inland site should not be taken as indicative of harbor contact.

In contrast with other forms, there is a difference between the jar typology from Tel Risim and the SPA. Risim jars 2,4 and 5 are absent at the SPA, while SPA jars 4,5 and 6 are not present at Tel Risim. Most of the jars from both the SPA and Tel Risim have parallels at the TAH anchorage. Jars 4 from Tel Risim do not have any parallels in any nearby site, and they could be a local phenomenon or an import from further inland. Tel Risim jars 5 have parallels at Yoqne'am, and they are probably a local Jezreel valley type.

In conclusion, PWWM, overseas imports, and large open containers are the only good indicators of harbor influence. Accordingly, we can calculate approximately the

percentage of coastal imported materials in the inland sites by adding the percentages of overseas imports, PWWM ware, and large open vessels.

At Tel Risim the PWWM represents ca.9% of the assemblage, the Cypriot style non-PWWM large open vessels ca. 2% of the assemblage, the fine ware imports ca. 9% of the total assemblage and other types of imports ca. 1% of the total assemblage. In total, ca. 21% of the Tel Risim ceramics were imported from the harbor. To the imported material it should be added that at least 3 large bowls, representing ca. 2% of the total assemblage, and maybe some kraters are of Egyptianizing style. For now, no petrographic analysis has been conducted over the Egyptianizing vessels. Hence, it is impossible to know if its presence responds to local production, maybe by Egyptian merchants or locals in Tel Risim or most probably in the larger site of Tel Shimron, or to a trade relation with some of the Egyptian fortresses situated inland, maybe Tel Shadud.

At Tel Regev, the PWWM represents 17% of the assemblage, the non PWWM large open vessels 3% of the assemblage, and the fine ware imports 31% of the total assemblage. In total, 51% of the Tel Regev material can be classified as imports from the anchorage and influenced forms. It must be said that no petrography analysis has yet been done over the Tel Regev materials. It is possible then that some of the wares assumed to be local plainwares in local tradition were also imported. Also, the LBA pottery from Tel Regev was not discovered in clean LBA strata and the number of fine ware imports may be overestimated. As a result, care should be taken when calculating the amount of coastal influenced materials at Tel Regev. Nonetheless and taking into consideration the actual data on hand, it is safe to state that at least 35% of the Tel Regev materials were imported from the harbor.

From the previous analysis, I can infer that the influence of the TAH anchorage at Tel Regev was at least twice as strong as that over Tel Risim, at least from the data we have at this juncture. The stronger coastal influence at Tel Regev is not surprising as it is situated much nearer the anchorage and is a much larger and richer site than Tel Risim, which might have been subjugated to Tel Shimron, the data of which we do not have yet. The coastal influence at Tel Risim, although more limited than at Tel Regev is not

negligible, especially taking into consideration the small size of the LBA site excavated thus far and its function as an agricultural village or even a cottage. It is clear that Tel Risim functioned as an agricultural 'daughter' of a larger site in the area, most likely Tel Shimron, and that the ongoing excavations there, directed by Master, Martin, and Adam, will reveal a much stronger influence of the TAH anchorage than the ones at Tel Risim.

## 7. THE LOWER QISHON DRAINAGE SYSTEM: INTERPRETATION

### 7.1. The Lower Qishon Drainage System

As I suggested in the previous chapter, the PWWM ceramics found at Tel Risim were imported from the anchorage of TAH or its immediate hinterland. The locally produced PWWM ceramics found in the anchorage of TAH were produced in the sites situated nearby, most probably at Tel Nahal. During the LBA Tel Nahal was situated closer to the coast, opposite to TAH in the Qishon River estuary, its geographical situation made it a perfect candidate for the role of distributor of the TAH goods inland. Traders transported the goods from TAH to Tel Nahal via barges or lighters crossing the Qishon River estuary, or even with pack animals when the estuary was low, as can be seen in 19<sup>th</sup> century paintings. From Tel Nahal, the overseas imports and local PWWM ceramics were distributed inland, along the Akko/Haifa bay, the Qishon River, and Nahal Zippori. The PWWM wares were then shipped back to the anchorage with agricultural goods in them, for the usage of the mariners and the inhabitants of Tel Nahal and TAH. In the anchorage, the shapes, especially the containers arrived via the river mainly for loading on ships to be traded overseas. The other sites situated along the coastline and the Nahal Gedora benefited from the imported products redistributed by Tel Nahal and provided TAH with locally produced ceramics and agricultural supplies for consumption and distribution overseas.

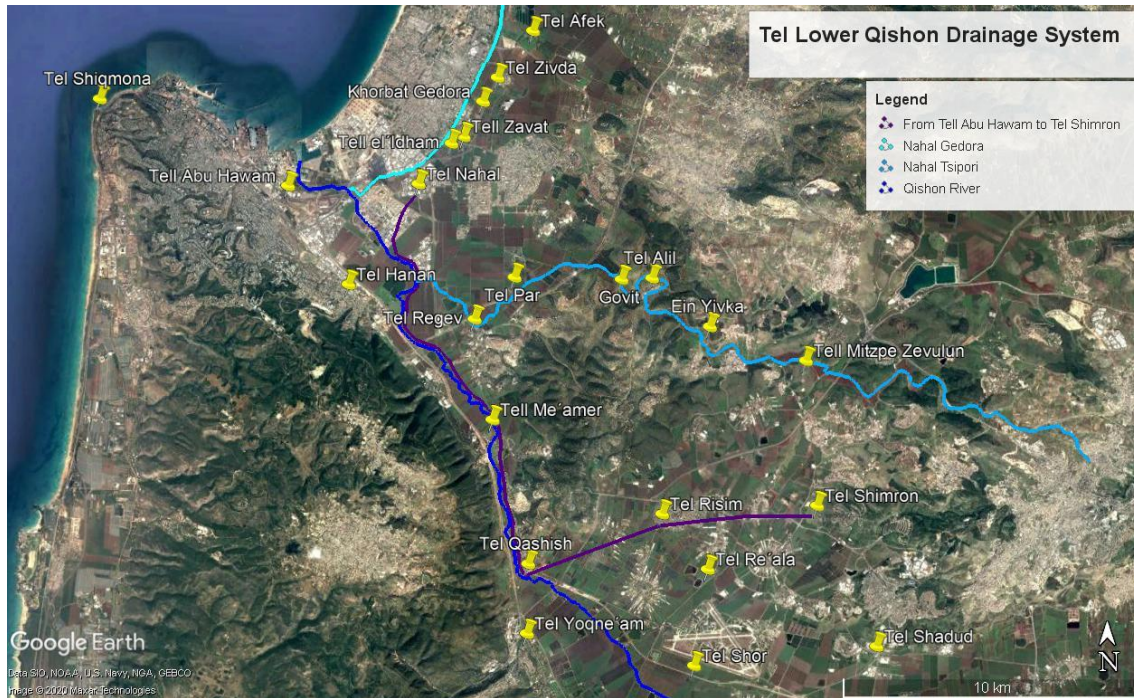
The route connecting TAH with the Jezreel Valley passed near various sites situated along the Qishon River. The PWWM evidence demonstrates that during the LBA the Qishon River trade route followed two paths. The main route crossed the Qishon estuary from TAH to Tel Nahal and continued south to Tel Regev and maybe Tel Qashish. At the entrance of the Jezreel Valley, the route turned eastwards, abandoning the Qishon River course, eventually reaching Tel Risim. Likely, the goods arrived first to the major site in the area, namely Tel Shimron a ca. twelve hectares site situated twenty-five kilometers away from Tel Nahal, and from there to the smaller sites in the surrounding area such as Tel Risim. The agricultural goods produced at Tel Risim in turn were sent via the site of Tel Shimron, situated five km east. The importance of Tel Shimron to the Qishon River drainage system is still unknown, as its excavations are ongoing. So far, the team led by



Daniel M. Master and Mario Martin has unearthed an impressive MBA II stratum. Tel Shimron was also one of the correspondents with the Egyptian pharaohs in the Amarna Letters, which indicates its role in the west-east route to Beth Shean (Artzy 2018). It is, therefore, likely that Shimron was a large site in the Lower Qishon drainage system, and the distributor of the agricultural goods produced in the nearby villages.

The second route followed the western side of the Qishon, leaving TAH without crossing the river and continued south to Tel Hanan and Tel Me'amer, where numerous PWWM sherds were found. This route was problematic because of the swamps caused by the Qishon River, the geological fault line, and steep Carmel Ridge, which did not allow for convenient trespassing (Artzy 2013). At the entrance of the Jezreel Valley, this route divided into two branches, the first one crossed the Qishon through the Tel Qashish ford and continued to Tel Shimron, and the second one continued to the site of Yoqne'am. This last branch was probably no more than a secondary route, as no important connection can be drawn between the materials from TAH and Yoqne'am.

The ceramic analysis reported in the previous chapter demonstrates that the sites of Tel Par, Tel 'Alil, Horvat Govit, and 'En Yivka', situated along the Nahal Zippori, were also in contact with the harbor site of TAH during the LBII period. The route connecting Nahal Zippori with TAH branched from the Qishon River route at Tel Regev, from there, it turned east and followed the Nahal Zippori to 'En Yivka', where it possibly continued eastwards or northwards towards Tel Hanaton or others. The absence of materials from other LBA sites in Nahal Zippori and its surroundings prevents us from drawing further conclusions. The function of the Nahal Zippori sites within the system might have been like those of the Qishon River sites, mainly agricultural.



Map 11. The Lower Qishon Drainage System.

## 7.2. From Tell Abu Hawam to Hazor

In his book *The Roads and Highways of Ancient Israel*, Dorsey does not give much importance to the site of TAH, which he mentions only once. TAH appears only as a transit town within road I 27, the Carmel Coast Route (Dorsey 1991: 82-83). Rightly, he gives an important role to the city of Hazor, which he situates in several of his routes. Dorsey (1991: 161) considered Akko as Hazor's main harbor and suggested a secondary route connecting Hazor with Nahariya (Dorsey 1991: 159-160). In her PhD, Kristina Josephson Hesse suggested that during the LBA the main routes connecting Hazor with the sea were leaving from Tyre, Akko, and TAH, this last one via Megiddo (Josephson Hesse 2008: fig. 5. 3). Nevertheless, the principal inland associate of Tel Akko was Beth Shean and not Hazor (Artzy 2018). Another possibility is that as in the EBA (Safadi 2013) Hazor was associated with Sidon, however, this route that passed through Kamid el Loz was long and indirect (Artzy 2006).

The route from TAH to Hazor via Megiddo was suggested by Artzy (2006), who proposed that during the LBA IIA and IIB, TAH related to Megiddo via a route that followed the Qishon River passing through Tell Me'amer and Yoqne'am. Later, Artzy (2013) argued

that the southern riverbed of the Qishon was swampy, and the route between TAH and Yoqne'am of difficult transit. Additionally, Megiddo was during the LBA II associated with Tel Dor and Tel Nami via the Carmel Mound, and it did not need another anchorage (Artzy 2013). Thus, Artzy proposed that during the LBA IIA and IIB TAH was linked to Hazor, working as its main anchorage, through a route that crossed in a northern direction the Akko/Haifa Bay, continued east toward Tel Hanaton, and northeast to Tel Kinrot, or somewhere north of it. From Tel Kinrot the route continued north to Hazor (Artzy 2013). In Artzy's view, this ca. eighty kilometers route could be crossed by a small caravan in two days including pack animals (Artzy 2013).

Evidence supporting an LBA IIA and IIB connection between TAH and Hazor are to be found in the chronological relations between both sites, and the similarities between their imported materials (Artzy 2013). Hazor reached its maximum splendor during the el-Amarna period (Zuckerman 2007), at the same time, TAH started to be utilized as an anchorage for international trade (Artzy 2006; 2013; Golan 2016). Additionally, both sites were abandoned or heavily depopulated at roughly the same time, the end of the 13<sup>th</sup> century BCE (Artzy 2013).



Map 12. From Hazor to the Coast.

### **7.3. The Lower Qishon as a Dendritic Market System**

The Lower Qishon Drainage System, with its three branches, matches well the modified dendritic market system model proposed in chapter 4. TAH and Tel Nahal worked together as the A site of the system, working as a funnel for imports/exports. Tell ed-Idham, Tel Regev, Tel 'Alil, and Tel Shimron were the main producers of manufactures and packers of products for export, they were also the B sites on the system. Tel Risim was one of the C sites of the system, depending on the major site of Tel Shimron. The agricultural surplus for export was probably produced there and at various similar sites, and then stored and imported from the larger B sites. In the specific case of the Lower Qishon Dendritic Market System, the A site, TAH, was not large, neither in control of the system, but small and economically dependent on the sites of the Gedora branch. The strongest site in the system was one of the B sites, Tel Shimron, as well as the furthest site inside the cooperative economic system. I assume that the sites situated further inland were not economically dependent on TAH or Tel Shimron. The D sites, the main intermediaries with the large cities of Syria and Transjordan, were then out of the system. The same occurred with Hazor, the E site, which was connected to but not dependent on the Lower Qishon dendritic market system. The X sites were some of the large cities in Cyprus, Ugarit, and maybe during some periods Egypt.

The largest and strongest site connected to the Lower Qishon dendritic market system was Hazor, however, it was situated too far to either control or defend it. In contrast, Tel Shimron was large enough and close enough to the harbor to indirectly control or at least bear some influence on the rest of the system. Thus, the Lower Qishon Dendritic Market system worked as some form of an economic coalition of independent political entities, directed in some manner by the inland site of Tel Shimron.

#### **7.4. The Lower Qishon Dendritic Market System and the Hittite-Egyptian Agricultural Trade**

The analysis of the Tel Risim ceramics indicates that the site was populated briefly from the late 14<sup>th</sup> to the 13<sup>th</sup> century BCE. Internationally, the second half of the 13<sup>th</sup> century BCE is marked by the peace treaty between Egypt and Hatti, and by the agricultural trade between both empires. The historical records indicate that during the LBA IIB, during the reign of the Pharaohs Ramses II, and Merneptah, a severe grain shortage was reported in the Hittite sphere. The first letter alluding to this matter dates to the middle of Ramses II reign, in which the Hittite Queen, Puduhepa, urges him to use the dowry of the Hittite princess sent to his court in exchange for grain. She writes: “I have no grain in my lands”. Following the peace treaty between Ramses II and Hattusili III, a high-ranking Hittite expedition went down to Egypt to get grain shipments to Hatti. At last, Merneptah reports that he shipped grain in vessels to help the Land of Hatti (KRI IV 5, 3. Singer 1999: 715).

The archaeological evidence could indicate that Tel Risim was influenced by the Egyptians during the LBA IIB, as suggested by the presence of some locally produced Egyptianizing vessels, at the site, although based on their small number, this is just a tentative idea. During the same period, various sites on the bay were related to Egypt, as indicated by the presence of a handle with a stamp of Seti in Tell ed-'Idham (Ventura and Siegelmann 2004) and by the presence of various Egyptian materials such as a jar handle with a cartouche of Ramses II and fish bones associated with the Nile in TAH (Artzy 2006; Zohar and Artzy 2019).

I believe that there is a connection between the Egyptian materials of TAH, the SPA, and Tel Risim and the grain trade between Egypt and Hatti. Possibly, some of the grain shipped from Egypt to Hatti came from the rich agricultural areas of the Jezreel Valley. If that was the case, the Egyptians and the Hittites would have used the anchorage of TAH for the shipment of the grain northwards (to the harbors of Ugarit and Ura), as it was already in close contact with the Jezreel Valley agricultural villages. The connection between Tel Risim and TAH suggests that the first one was one of the multiple agricultural villages to supply agricultural surplus to the second, possibly under the hegemony of Tel Shimron, and hence involved in the Egyptian-Hittite agricultural trade.



It was hence the LBA IIB connection with Egypt that caused the economic expansion of TAH, even with the weakening of Hazor, its strongest inland associate.

### **7.5. The Lower Qishon Dendritic Market System in the Context of the Mediterranean Trade System**

I proposed in chapter 4 that the Levant was part of the LBA Mediterranean trade-system, which was a regional system within the LBA world trade-system. I also suggested that during the LBA, the core regions were the larger political powers, while the smaller political entities, were situated in the semi-peripheries or the peripheries of the system. I will now explain how the interactions between the different sites in the Mediterranean trade-system functioned. If we examine the imported products from various sites along the Levant, we will encounter materials from almost all the Eastern Mediterranean regions. For example, at the anchorage of TAH, there are imported materials from the Lebanese coast, Ugarit, Cyprus, Anatolia, Crete, mainland Greece, and Egypt. The question is, how did they arrive at TAH? Did they come directly from their place of origin or were they transshipped along the route?

The answer to this question might be seen in the Ugaritic letters. The palace of Ugarit maintained a register of the foreign merchants that visited the city, indicating that various merchants from Sidon, *Ashdad* (Identified by Na'aman in 1997 with Enkomi), the Levant, Alashiya, and Egypt visited the city during the LBA IIB (Na'aman 1997). Interestingly, no Aegean merchants are recorded in the Ugaritic letters. Yet, many Aegean imports from both mainland Greece and Crete were found in the Syrian city. The absence of Aegean trader names in Ugarit is not accidental and Ugarit was likely not in direct contact with the Aegean. A similar situation might be proposed for Egypt, as all the Egyptian merchants reported in the Ugarit letters bore Semitic names, indicating that they originated, most likely, in the Levant and not in Egypt. As a result, it is safe to say that Ugarit was not in direct contact with the Aegean or Egypt, and in the same way, the Aegean and Egyptian imported materials discovered at the site were transshipped to Ugarit from some of the Cypriot and Levantine harbors.

Ugarit was not an exception and that as the LBA world trade system was formed by various interconnected regional trade-systems, the LBA Mediterranean trade system was also formed by various interconnected micro-regional trade systems. As a result, we should theorize that some of the imported materials discovered at TAH and distributed within its dendritic system did not arrive directly at the site. I think that the farthest areas directly connected with the anchorage of TAH were Cyprus, Ugarit, and Egypt. The Aegean and Anatolian imported materials discovered at the site arrived via Ugarit and Cyprus. As explained previously, the anchorage of TAH served as a funnel for the distribution of imports in a dendritic system that reached as far inland as the Jezreel Valley and to a large regional inland trade route that reached as far as Hazor. The anchorage of TAH also served as one of the main trade hubs for international trade, transshipping Cypriot products to other anchorages in the Levant (Artzy 2006). Hence, TAH had a pivotal role in the micro-regional Levantine trade system and an important one in the larger Mediterranean trade system.

Finally, it should be noted that during the LBA IIA the X site of the TAH dendritic market system was Cyprus and during the LBA IIB, its X sites were Cyprus and Egypt. Hence, TAH and its dendritic system were strongly attached to one of the economically strongest semi-peripheral regions and one of the core areas of the Mediterranean LBA trade system.

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