

# DOR AND EGYPT IN THE EARLY IRON AGE: AN ARCHAEOLOGICAL PERSPECTIVE OF (PART OF) THE WENAMUN REPORT

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## **Abstract**

Excavations at Tel Dor, the major Iron Age port town along Israel's Carmel coast, have yielded an outstanding number of early Iron Age Egyptian jars and amphorae, most probably shipped by sea. Currently this is the largest such assemblage ever found outside Egypt and it requires an explanation. The basic premise in this paper is that ceramics carried on board ships – whether or not they constituted the main cargoes – are an important index for assessing the intensity of maritime contacts between specific regions. Understanding these contacts entails a consideration of the other commodities which may have been exchanged through the same route(s) and the context and rationale of these exchanges. This paper therefore presents an attempt to understand the role of the Carmel region vis-à-vis Egypt and vice versa in the early Iron Age. It shows that Dor's description in the Wenamun report – as a stop-over on the way to Lebanon – reveals only one facet of the site's importance and that Dor's main role for Egypt was as a supplier of a variety of commodities.

## **Introduction and Outline**

In a recent paper (WAIMAN-BARAK, GILBOA and GOREN 2014), we presented the unusual assemblage of Egyptian-made containers found in Dor's early Iron Age levels. We discussed there issues of stratigraphy/chronology, quantities, typology, fabrics and *comparanda*. The current paper is offered as a sequel to that publication, attempting to understand the wider implications of these finds. After introducing shortly the site of Tel Dor and its spheres of interactions in the early Iron Age, the 'Egyptian jar phenomenon' at the site is summarized briefly. Subsequently synchronic and diachronic perspectives of the Dor assemblage are provided by comparing it to finds at other sites; through this I hope to demonstrate how exception-

al it is. This leads to discussions of the merchandise that may have been packed in these jars, of other commodities that probably circulated via the same maritime route(s) and to a consideration of the special contacts between the Carmel coast and Egypt. To a large extent – to quote David Aston (ASTON 1996) on a very much related subject – these are tentative footsteps in a forbidding terrain.

## **The Site**

Tel Dor (Arabic Kh. el-Burg; figs. 1–4) is located on a ridge of calcareous sandstone (locally termed *kurkar*) and on a sand spit east of it, on Israel's narrow Carmel coastal strip, about mid-way between Haifa and Tel Aviv. The coast is bounded on the north and east by the Carmel ridge (ca. 500 m ASL; ~200 m just east of Dor). Agricultural land in the site's immediate vicinity was scarce; until the early 20<sup>th</sup> century CE it was largely engulfed by marshes (SIVAN, ELIYAHU and RABAN 2004). Cultivation, however, could be practised in the small Carmel intermontane valleys, especially the Maharal valley about 6 km to the northwest. The Carmel Mountains would have supplied wood and other arboreal products (for which see further in this paper). Beyond agricultural products, proteins were supplemented by the produce of the sea. Throughout Dor's existence, fish are abundantly attested (RABAN-GERSTEL *et al.* 2008, table 2; SAPIR-HEN *et al.* 2014; BARTOSIEWICZ, LISK and ZOHAR in press), including – beyond Mediterranean species – also fish from Egypt (below).

In addition to agriculture and agriculture-related cottage industries such as fish processing (SHAHACK-GROSS *et al.* 2005, 1428; GILBOA, SHARON and ZORN 2014, 62, fig. 16), and small-scale bronze recycling (preliminarily GILBOA and SHARON 2008, 155 and figure on p. 153), the archaeological record attests to further economic activities: a few ceramic vessels with purple stains on their inner surfaces, and cultivated *Muricidae* (murex) shells dem-

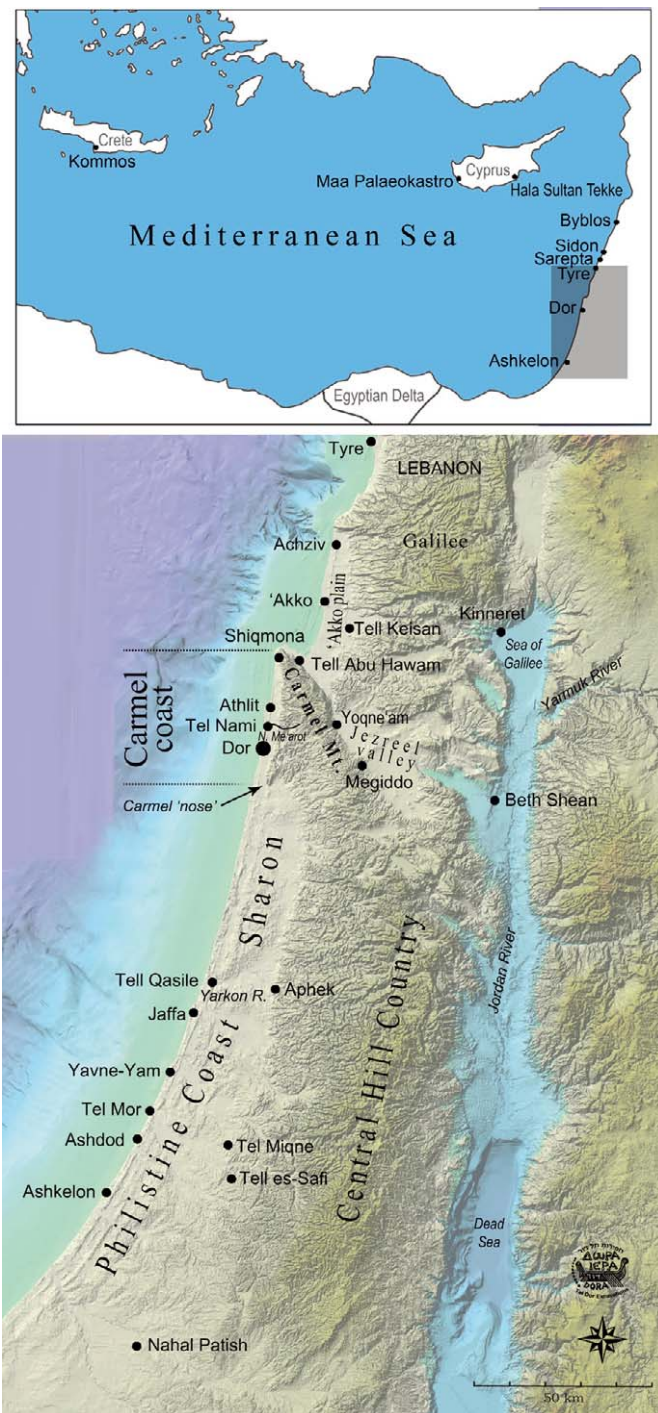


Fig. 1 Location of Dor and other main sites, regions and features mentioned in the text.

onstrate purple production at Dor at least from the early Iron Age.<sup>1</sup> As well, during this time span some of the site's inhabitants were engaged in another lucrative industry: small locally-produced clay flasks at Dor contained cinnamon from South Asia immersed in unidentified liquids. Such flasks (most probably also storing other flavoured substances) were distributed to various sites in the Levant, to Cyprus, and possibly to other regions as



Fig. 2 Aerial view of the Carmel coast in Dor's vicinity, looking southwest. Above the parachutist are the northern bay, the tell and the southern lagoon protected by islets.

well (NAMDAR *et al.* 2013; GILBOA and NAMDAR 2015). Dor's extensive maritime contacts are discussed below.

The choice for the site's location (Dor was established during Middle Bronze Age II) was dictated by the shape of the shoreline at this spot. There are two major natural anchorages here (fig. 2): a bay north of the tell and a large lagoon protected by small islets south of it. Such a configuration is rare along the southern Levantine coast, and was of crucial importance for maritime traffic, especially prior to the emergence of artificial harbours. Excavations by Avner Raban at the interface between the tell and the southern lagoon have revealed a series of quays, dated by him from the Late Bronze Age (LBA) to the early Iron Age (RABAN 1995, 310–345) and Dor's anchorages, especially the southern lagoon, yielded many Bronze and Iron Age anchors and bits of cargoes, and numerous shipwrecks, but the latter currently are only of later periods (KINGSLEY and RAVEH 1996; WACHSMANN 1998, 265, 272; KAHANOV 2011, 169–181).

Ancient records such as the Tale of Wenamun of the 11<sup>th</sup> or 10<sup>th</sup> centuries BCE (discussed further below) and Esarhaddon's treaty with Ba'al king of Tyre in the 7<sup>th</sup> century BCE (PARPOLA and WATANABE 1988), mention Dor as the single (in the former) or one of only two ports (in the latter)

<sup>1</sup> An actual purple-dye production installation was discovered in the site's Hellenistic level (NITSCHKE, MARTIN and SHALEV 2011, 135–136).





Fig. 3 Tel Dor, looking east. On the south (right) the northern tip of the southern lagoon is visible, with quays excavated by Raban (now submerged). In the background is the Carmel ridge.



Fig. 4 South part of Tel Dor, looking southeast. On the south (right) is the southern lagoon with enclosing islets, its entrance marked by the fishing boats. In the background on the right the 'Carmel nose' is visible (9 km away).



between Egypt and Philistia in the south and Lebanon in the north (about 240 nautical miles between Egypt and Lebanon). Other than its anchorages then, Dor's 'midway' position between these regions rendered it a convenient stopover, or relatively so (see below). Sailing from Dor to the Egyptian Delta and in the opposite direction – about 150 nautical miles – would have taken optimally two to three or four days, depending on the exact route taken, wind directions and other factors such as the ship's type and quality and the proficiency of the crew (CASSON 1995, 281–291; MARCUS 2002, 404; 2007, 146 and see further below).

However, entering Dor's anchorages (especially the southern lagoon) when weather was not favourable was a dangerous endeavour. The lagoon is partially protected by small islets, shifting sandbars, beach-rock reefs, abrasion tables, and a south-setting current, which allow only the experienced sailor, familiar with these waters, to enter the anchorage, especially under stormy conditions (CVIKEL *et al.* 2008, 201, 205). The many shipwrecks discovered particularly around the entrance to the southern lagoon serve as a permanent reminder of this danger (KINGSLEY and RAVEH 1996, 76–77, chapter 8; WACHSMAN, KAHANOV and HALL 1997; KAHANOV and ROYAL 2001).

Dor's location was also advantageous regarding inter-regional terrestrial routes: about seven km northeast of the site, the Nahal Me'arot stream (fig. 1) provided easy crossing through the Carmel ridge eastward—to the Wadi Milkh pass and further to the fertile Jezreel valley, the Jordan valley, and beyond in all directions (cf. ARTZY 2006, 51).

### Dor's Bronze and Early Iron Ages, a Short Synopsis

Since Egyptian pottery at Dor is already attested in the LBA, this brief survey starts with that period. Excavations have reached LBA levels only minimally, in Area G at the centre of the mound, Phases G/12–11. They date to the second half of the 13<sup>th</sup> century BCE and end ca. 1200–1190 BCE (STIDSING and SALMON 2011; SHARON and GILBOA 2013). Though claims have been made that the LBA at Dor ended violently, by 'Sea People' activity, this is not attested archaeologically. But it is unclear what happens at Dor after ca. 1200 since

the earliest stage of the Iron Age town, which is discussed next, cannot be dated prior to ca. 1140 BCE. Therefore the first half of the 12<sup>th</sup> century BCE is currently not represented and we are unable to determine whether this is accidental, or whether an occupational gap should be postulated. As explained below, this lacuna hinders to some extent the interpretation of the Egyptian phenomenon at Dor.

The early Iron Age sequence at Dor comprises six stratigraphic/chronological horizons, from early Irla to Ir2a in local terminology – between the late 12<sup>th</sup> /early 11<sup>th</sup> and the mid-9<sup>th</sup> century BCE (SHARON and GILBOA 2013; WAIMAN-BARAK, GILBOA and GOREN 2014, 316–318). During this time the town occupied the entire *tell*, was densely-built, fortified, and revealed mainly domestic but also public buildings. Dor's material culture during this long sequence shows remarkable continuity versus the Late Bronze Age. It also clearly clusters with that of sites to the north of Dor – in the 'Akko plain and in south Lebanon – and not with those of the Philistine sites to the south, as does Dor's scope of commercial interactions. Therefore we repeatedly suggested that, notwithstanding the inadequacy of using all-encompassing definitions of group identities for the period and region in question, an appropriate appellation for Dor's inhabitants during this time span would be 'Phoenician'. Beyond the indigenous ('Canaanite') infrastructure, Dor's Phoenician population probably included a significant Cypriot element and also people from the Syrian coast. This heterogeneous population is coeval with (at least part of) the entity referred to in the Egyptian texts as Skl/Tjkr, who resided at Dor (in the Wenamun narrative), inhabited some part of the southern Levantine coast in the more-or-less contemporary Onomasticon of Amenope and who were listed among Ramesses III's foes at Medinet Habu in the 12<sup>th</sup> century (GILBOA 2005; 2006–2007, 233; SHARON and GILBOA 2013).<sup>2</sup>

Throughout these 250–300 years, Dor was one of the most active port towns along the East Mediterranean littoral, especially engaged in commerce with Cyprus, with other towns in Phoenicia (less so with Philistine sites) and with inland sites, for example in the Jezreel valley (GILBOA, WAIMAN-BARAK and SHARON 2015 with references, and

<sup>2</sup> For another view, whereby only the Irla levels at Dor should be defined as "Sikil", after which (Ir1b) the town is conquered by Phoenicians from Lebanon and the site's population largely replaced, see STERN 1990, later somewhat qualified in STERN 2013, 13.

below). In addition, Dor's liaisons with Egypt, the focus of the current paper, are especially visible during this early Iron Age sequence.

After the end of this 'Phoenician' continuum, still during the Iron Age, Dor undergoes two transformations. In the second half of the 9<sup>th</sup> century BCE it is apparently taken over by the northern Israelite Kingdom, nearly all of its maritime contacts are severed (GILBOA, SHARON and BLOCH-SMITH 2015) and no Egyptian jars are attested any more. From the late 8<sup>th</sup> century until about 650 BCE Dor served as an Assyrian trading post (GILBOA and SHARON in press). Maritime contacts with Cyprus and Lebanon become very visible again then but Egyptian pottery remains all but non-existent.

### Dor's Egyptian Ceramics

Since this pottery has already been presented in detail, only the main points are summarized briefly here, starting with the chronology.

Translating the sequence described above into Egyptian terms, Egyptian ceramics at Dor (disregarding for the moment the 13<sup>th</sup> century) are present from some point between Ramesses VI's reign and the beginning of the 21<sup>st</sup> Dynasty (for dates e.g., KITCHEN 1986, 465–466; WENTE 2003, 116; ASTON 2009, 20–22; HORNUNG, KRAUSS and WARBURTON 2006, 493; BRONK RAMSEY *et al.* 2010) and then they are attested continuously till about the mid-22<sup>nd</sup> Dynasty. The phenomenon seems to have ended during Osorkon II's days (ca. 875/872–850/830; KITCHEN 1986, 467; 1996, xxiii–xxiv; 2006 with references; ASTON 1989, 149; JANSEN-WINKELN 2006, 240–243; HORNUNG, KRAUSS AND WARBURTON 2006, 493), or somewhat later. It endured for about two-and-a-half to three centuries.

About 750 Egyptian ceramic 'items' are recorded in the Dor data base (mostly fragments but also a few complete/semi-complete vessels), but it is clear that this is a minimal number. In the early Iron Age levels there is hardly a locus without an Egyptian jar fragment. A random selection of 180 fragments was investigated employing stereomicroscopy and 25 of these underwent petrographic analysis. All the specimens except one were manufactured of Nile clays.<sup>3</sup> No marl clays were identified, which is compatible with the fact

<sup>3</sup> According to the 'Vienna System' classification: Nile B2, Nile silt mixed with mica and Nile silt mixed with organic inclusions; possibly also Nile E.

that in Egypt too the types of vessels attested at Dor were also usually manufactured of Nile clays. Only one vessel of Egyptian shape was produced on the Carmel coast, most probably at Dor itself. Therefore we concluded that all (or nearly all) the pottery visually identified in the field as Egyptian-made is indeed so.

Dor's Egyptian pottery comprises almost solely large containers, both with narrow apertures, mainly amphorae and long ovoid jars, and wider ones – chiefly hole-mouth jars and 'meat jars'. Other containers – funnel-neck globular jugs and juglets – are rare, and so are open shapes. Therefore, this pottery represents mainly a commercial phenomenon, which is clearly different from the 'Egyptianizing ceramic phenomenon' of Canaan in the LBA and early Iron Age, which typifies only Egyptian administrative centres (MARTIN 2011). The pottery also outlasted Egypt's withdrawal from the Levant by about three centuries.

Most of the specific vessel types at Dor and their variety mirror those in Third Intermediate Period (TIP)<sup>4</sup> contexts throughout Egypt, but the predominance of closed over open shapes is quite the opposite of the distribution in habitation sites in Egypt. This too indicates that Egyptian ceramics reached Dor mainly as containers for some commodities. Fabric analysis, however, cannot pinpoint the specific production centres of the containers. Morphologically, the only shapes that have a more restricted geographical distribution in Egypt are the wide carinated jars, which according to ASTON (1996, 107, fig. 6:3) are typical to Tell el-Yahudieh.

### A Comparative Perspective: Egyptian Containers at other Sites in the Levant

Since the longevity and the singularity of Dor's 'Egyptian jars phenomenon' is important in order to assess its meaning, I review here the most pertinent data regarding Egyptian containers outside their homeland in the relevant periods.

### Diachronic: Egyptian Jars in the Late Bronze Age at Dor and Elsewhere

As mentioned, the earliest Egyptian ceramics at Dor are of LB IIB date, about the second half of

<sup>4</sup> In this paper 'TIP' starts with the 21<sup>st</sup> Dynasty. Terms such as "Libyan" (JANSEN-WINKELN 2006; RITNER 2009: 1–6; SNAPE 2012) are not employed.

the 13<sup>th</sup> century BCE. A minimum of 50 vessels were recorded, comprising nearly 10% of the imports (the rest are mostly Cypriot). Similarly to the early Iron Age, most of them are store-jars and amphorae (STIDSING and SALMON 2011, table 100, pl. 31). About eight Egyptian fabrics have been identified, typical of the late New Kingdom (e.g., ASTON *et al.* 1998, 137–144). Stidsing and Salmon demonstrate that between ca. 1250–1200 BCE, Egyptian containers progressively become more numerous. They also emphasized the marked differences between the Dor assemblage and those of Egyptian administrative centres in Canaan in almost every respect (shapes, fabrics, and the proportion of genuine Egyptian vs. Egyptianizing items);<sup>5</sup> and conclude that Dor must have had a special role in maritime contacts with various locales in Egypt during the 13<sup>th</sup> century. They suggest similar phenomena in further sites in the Carmel coast – ‘Akko plain stretch: Tel Nami, Tell Abu-Hawam and ‘Akko (STIDSING and SALMON 2011, 178–179).

However, as pointed to me by Michal Artzy, both at Tel Nami (late 13<sup>th</sup>/early 12<sup>th</sup> centuries) and in her excavations at Tell Abu-Hawam (ARTZY 2006; 14<sup>th</sup> to about the mid-13<sup>th</sup> centuries), Egyptian ceramics are extremely scarce.<sup>6</sup> At ‘Akko, quantities and exact contexts/dates are currently unclear (ARTZY 2006, 50; Ezra Marcus, personal communication).

Regarding Tell Abu-Hawam, beyond Artzy’s excavations, an extensive 14<sup>th</sup>–13<sup>th</sup> century sequence has been unearthed in the early 20<sup>th</sup> century by R. W. Hamilton (BALENSI 1980; BALENSI, HERRERA and ARTZY 1993). Egyptian pottery attested there is extremely scant (MARTIN 2011, 237), but it is unclear whether this sort of pottery would have been recognized and/or kept by Hamilton in the 1930s.

At other LBA sites in the southern Levant, Egyptian jars are very few (MARTIN 2011, 235–241; for Megiddo, which is close to Dor, see pp. 156–161). This is true even for Egyptian administrative centres, including those situated near anchorages. At Tel Mor, for example, where evidence unequiv-

ocally attests to Egyptian presence from the 15<sup>th</sup> to the 12<sup>th</sup> centuries BCE, actual containers shipped from Egypt were sporadic (BARAKO 2007, esp. p. 244; MARTIN and BARAKO 2007, 129, 145, 146).<sup>7</sup> At Jaffa, another long-lived Egyptian centre with a rich and variegated Egyptianizing ceramic assemblage (BURKE and LORDS 2010), only one category of small carinated jars has been currently identified as imported, but this evidence pertains only to the earliest, 15<sup>th</sup>-century stage (BURKE and LORDS 2010, 16, 17, 25).<sup>8</sup> The exception is Ashkelon, which is discussed further below.

Even more surprising is the fact that no Egyptian jars have been reported from sites along the shores of Syria and Lebanon, regions which by abundant textual and other evidence maintained extensive maritime contacts with Egypt during the LBA (BELL 2006; for Ugarit e.g. MCGEOUGH 2007, 327–328 with references). Examples are Ras Ibn Hani, Ugarit, Tell Tweini, Tell Kazel, Tell Arqa, Beirut, Sidon, Sarepta and Tyre. Occasionally, however, large Egyptian containers did reach more distant Mediterranean destinations, namely Hala Sultan Tekke and Maa-Palaeokastro in Cyprus, possibly during LC II, but mostly during LC IIIA, the 12<sup>th</sup> century BCE (respectively ERIKSSON 1995; HADJICOSTI 1988, jar type 2b; RENSON *et al.* 2014), as well as Kommos in southern Crete (especially during LM II–IIIB, DAY *et al.* 2011, table 1).

Beyond Dor, the only Levantine site that produced a large collection of bona fide LBA Egyptian jars and amphorae is Philistine Ashkelon. Despite some stratigraphic uncertainties and evident re-depositions, most of them are associated with Phase 21 in Grid 38, when some sort of an Egyptian centre was established ca. 1200 (MARTIN 2011, 195–200). Martin underscores two points that are relevant here: (a) although Ashkelon served some sort of administrative role under the Egyptians, the abundance of containers from Egypt should rather be attributed to its role in maritime trade (MARTIN 2011, fig. 119 on p. 252). (b) stratigraphical ambivalence notwithstanding, it is clear that Egyptian containers reached Ashkelon before ca. 1200 BCE, evidenced by typologically

<sup>5</sup> Contra STOCKHAMMER 2012, 93 who suggested that Egyptian jars in LBA Canaan were intimately related to Egyptian practices.

<sup>6</sup> The latter site also produced an amphora handle bearing a cartouche of Ramesses II, ARTZY 2006, 55. For other New Kingdom Egyptian jars handles with royal cartouches outside Egypt see VENTURA and SIEGELMANN 2004 (from Tell

Idham in the Akko plain, Seti I); GOLDWASSER 1990 (Tell Jerishe in the Sharon Plain, Semenekhkare); GOLDWASSER and OREN 2015 (North Sinai; Seti I); ERIKSSON 1995, 200 (from Hala Sultan Tekke in southeast Cyprus, also Seti I); and see below for another from Ashkelon.

<sup>7</sup> Only two amphora rims were identified as Egyptian-made

<sup>8</sup> The analysis of the Jaffa ceramics is on-going.



earlier shapes, by a handle probably bearing a cartouche of Seti I and by a jar in a primary LB I context. The scope of this earlier LBA trade, however, cannot be gauged.

### **Synchronic: Egyptian Jars/Amphorae in the Early Iron Age East Mediterranean**

Currently Dor is the only site outside Egypt that has produced numerous Egyptian jars/amphorae in the early Iron Age. They surpass, by two orders of magnitude, such finds at other Levantine sites. Along the Carmel coast more sporadic examples are known from 'Athlit (uncovered underwater; ZEMER 1977, fig. 4) and Shiqmona (personal observation).

Regarding 'Akko plain sites: At Tell-Abu Hawam, with two exceptions (BALENSI 1980, pls. 10: 4; 12: 6) no Egyptian jars are in evidence from the large-scale exposure of early Iron Age levels, but the problem stemming from the selective way pottery has been saved in Hamilton's excavations has already been mentioned. At 'Akko, Egyptian jars and amphorae *may* belong to the early Iron Age, but this will have to be corroborated by the current analysis of Moshe Dothan's excavations (Artzy and Marcus, personal communications). About 13 km north of 'Akko, one jar was interred in tomb ZX of the Phoenician cemetery at Achziv (DAYAGI-MENDELS 2002, fig. 3.9:5).

Further north along the Levantine coast the situation remains much the same as in the LBA. In early Iron Age Syrian and Lebanese coastal sites, Egyptian jars are unknown. None, for example, were recognized in the large ceramic assemblages published from Tyre (BIKAI 1978) and Sarepta (mainly ANDRESON 1988), or in the currently lesser known ones at Beirut (e.g., JAMIESON 2011), or Sidon (BORDREUIL and DOUMET-SERHAL 2013). Data regarding other major Phoenician port towns, such as Byblos, are lacking.<sup>9</sup>

Proceeding from Dor southward along the coast, one Egyptian jar and one amphora have been uncovered in the Philistine temple precinct at

Tell Qasile (a roughly 2 km sail from the coast up the Yarkon river; MAZAR 1985, figs. 47:13; 48:9; Irlb) and another contemporary hole-mouth jar was published from the residential quarter there (BEN DOR EVIAN 2011, fig. 2:4). Mostly, however, such jars were found, again, at Ashkelon.

In the 'Philistine levels' overlying the Egyptian Phase 21 (in Phases 20–17, largely paralleling the Phoenician sequence at Dor), about 70 Egyptian/Egyptianizing fragments, including jars/amphorae, were identified, of which ca. 40 are in Stratum 20, the first Philistine phase of the 12<sup>th</sup> century BCE. Subsequently they become less numerous, and they occur least of all in Phase 17 (paralleling our Irl|2 horizon to Ir2a). It is unclear, however, how many of the genuine Egyptian examples in the Philistine levels (most of them of Marl D and mixed clays) represent in fact re-depositions from Phase 21 (MARTIN 2011, 201; DANIEL MASTER, personal communication). At least one complete jar was found in a primary context in Phase 18 (BIRNEY and DOAK 2011) and, based on typological considerations, MARTIN (2011, 201) suggests that some of the jars/amphorae in the Philistine levels are probably *not* residual. The situation at Ashkelon is therefore ambiguous to a certain extent.

When considering *inland* sites in the early Iron Age, the (near) absence of Egyptian jars and amphorae looms large. These vessels did not reach inner 'Akko plain sites (Tell Keisan) nor major early Iron Age centres that are close to Dor, such as Yoqne'am and Megiddo. Similarly, Philistia's extensively-excavated core cities (Tel Miqne-Ekron, Tell es-Safi/Gath and Ashdod, the latter lying ca. 1.5 km from the coast and 2 km from the anchorage of Tel Mor), did not produce any.<sup>10</sup>

Regarding further Mediterranean destinations: even Cyprus, which, as noted above, received Egyptian jars during LC IIC/IIIA, did not reveal any in early Iron Age contexts (Late Cypriot IIIB and Cypro-Geometric), and likewise, as opposed to the LBA, no Egyptian jars are known to have reached Crete in this time span.

<sup>9</sup> Still, one fragment in Tyre X-1 (BIKAI 1978, pl. 24:1; the Irl|2 transition) must belong to an Egyptian 'meat jar', and at Beirut the fragment in JAMIESON 2011, fig. 10:4, from a mixed context, is probably part of an Egyptian amphora.

<sup>10</sup> Three exceptions to this negative picture are known on Philistia's southern margins (the northern Negev desert). One is a small rounded jar at the rural site of Tel Esdar (KOCHAVI 1969, fig. 13:2) and two amphorae unearthed in the Philistine temple of Nahal Patish (NAHSONI 2009). The

Egyptian jars seem to have reached these sites (and Tell Qasile mentioned above) through Phoenician ports, with Dor being a plausible candidate. This is so since Tell Qasile and Nahal Patish feature Phoenician ceramics produced on the Carmel coast (Waiman-Barak, personal communication) and at Tel Esdar the single Egyptian jar was found alongside the sole Phoenician jar there (but the specific origin of the latter has not been pinpointed).

## Discussion

Until recently, the nature of the evidence at hand dictated that studies of Egypt's relations with the Levant during the period considered here (the Ramesside/TIP transition to the mid-22<sup>nd</sup> Dynasty) have usually focused on political issues – oscillations in Egyptian hegemony and the impact of 'Sea Peoples' – and on artistic and other cultural influences (e.g., LECLANT 1968; REDFORD 1973; 1985; 1992, 241–256, 289–297, 309–311; KITCHEN 1986, 243–394; 2003; WACHSMANN 1998, chapter 3; WEINSTEIN 1998; 2012; GUBEL 2000; 2009; MERRILLEES 2003; SCHIPPER 2003). Due to the dearth of relevant textual evidence in Egypt (KITCHEN 2003, 114–115), commercial aspects were extrapolated mainly from the Wenamun report and the Bible, conjectured from the Egyptian statuary in Byblos and gleaned from rare imported finds in Egypt such as the quintessential lapis lazuli bead with the mummy of Psusennes I, and some more lapis lazuli items (be they 'recycled' or not; KITCHEN 1986, 267; MUMFORD 2007, 239, 241). Syntheses that have taken into consideration a broader *archaeological* dataset to assess commerce (including the movement of pottery) are mainly those by MUMFORD (1998; 2007, 258 and *passim*) and by BEN DOR EVIAN (2011). Aston's and others' discussions of 'Phoenician' pottery in Egypt have provided another facet to these liaisons, which is discussed later in this paper. The extensive phenomenon outlined here adds a new perspective to Egypto-Levantine contacts during this time-span.

The coastal distribution of the jars undoubtedly represents maritime exchanges, but the contents of the jars were certainly not the only commodities carried on board ships braving the 'Syrian Sea' in this period, and in all probability constituted secondary cargoes (see below). It is also possible that the most important goods were those travelling in the opposite direction – to Egypt. The durable jars, therefore, serve mainly as an index for maritime exchange of much larger scope. Regrettably, there is no way to translate the number of Egyptian jars at Dor to intensity of traffic,<sup>11</sup> but the singularity of the assemblage provides at least a proportionate view: at present, Egypt's maritime contacts with the north in the early Iron Age are attested at Dor inordinately more than at any other site, and most enduringly so.

<sup>11</sup> For this problem see MANNING and HULIN 2005, 283–284 with references, especially to CLINE's (1994) work; BELL 2006, *passim*.

There are many lacunae in our ability to characterize and contextualize this phenomenon. To begin with, it is unclear when it started. As mentioned, the earliest Egyptian jars at Dor date ca. 1250–1200, apparently more numerous towards 1200 BCE. Dor was certainly occupied earlier in the LBA, in the 14<sup>th</sup> and even 15<sup>th</sup> century BCE, as attested by residual pottery. But we know next to nothing about this settlement.<sup>12</sup>

Second is the crucial lacuna in our knowledge regarding Dor for the period roughly paralleling the first 50 years of the 20<sup>th</sup> Egyptian Dynasty – be it representative of an occupational hiatus or not. Consequently it is unclear whether the Iron Age liaisons exemplify a continuation of LBA practices, or some sort of 'revival' following a gap of a few generations – a fundamental issue.

As well, the distribution of the Iron Age Egyptian phenomenon – another essential aspect – is equivocal to some extent. Particularly, as mentioned, the scope of involvement of Ashkelon in these exchanges is unclear, but there is enough evidence to my mind to identify this site, as well as 'Akko, as additional candidates participating in such ceramic (and other) exchanges. Currently it indeed seems that the distribution of these jars did not extend in any meaningful measure north of the Carmel coast/'Akko plain range.

Here I invoke the Wenamun account. Disregarding disputes as to its historicity, rationale and agenda, exact historical setting in the 20<sup>th</sup>/ 21<sup>st</sup> Dynasties transition and time of composition during the 21<sup>st</sup> / 22<sup>nd</sup> Dynasties era (GOEDICKE 1975; DE SPENS 1998, 124–126; SASS 2002; WENTE 2003, 116; SCHIPPER 2005; WINAND 2011) the story demonstrates unmistakably that from an Egyptian point of view Dor was the best-known (but in this case disreputable) port in the southern Levant. Unfortunately, however, the narrative skips the reason for the Dor stop-over.

### Possible Contents of the Jars

Egyptian commodities bound for the Levant and packed in jars could have been and probably were many. The variety of products stored (but not necessarily mobilised) in various *New Kingdom* types of jars are discussed for example in WOOD 1987 and ASTON 2007 (both with references): wine, beer, honey and honeycombs, resin, almonds, dom fruit,

<sup>12</sup> As mentioned, Ashkelon provides some evidence of LBA Egyptian jars prior to 1250 BCE.



lentils, oils, fats, grains, flour, bread, meat and more. As mentioned, at Dor, both wide-mouthed and narrow-mouthed containers are in evidence, but how this reflects on their contents is unclear. Lacking direct data emanating from residue analysis etc., and in order not to slip entirely into the realm of speculation, I highlight some substances which spring to mind based on relevant archaeological or textual information.

First are Egyptian Nile perch, since they are the only other major Egyptian import to Dor in the early Iron Age, consumed despite the abundance of local fish (e.g., RABAN-GERSTEL *et al.* 2008; BARTOSIEWICZ, LISK and ZOHAR forthcoming). The association between Egyptian jars and fish has also been contemplated regarding Hala Sultan Tekke (ERIKKSON 1995, 200), and BEN DOR EVIAN (2011, 111) concluded that Egyptian jars in the Levant indeed held fish.

Doubtlessly, throughout the Iron Age, and at least from the 4<sup>th</sup> millennium, Egyptian fish, particularly Nile perch, were a coveted commodity in the southern Levant – consumed at both coastal and inland sites (ARNDT *et al.* 2003; VAN NEER *et al.* 2004; LERNAU 2006 with references). They were probably transported in salted or dried state (RABAN-GERSTEL *et al.* 2008, 42).<sup>13</sup> At Dor, it has been clearly demonstrated that many fish were probably shipped whole (as indicated by cranial remains). Several were as long as 2 m and could not have fitted into the jars. A contextual association between jars and fish was sought, but could not be verified. Small salted fish, in contrast (gutted and un-gutted, see JANSSEN 1961, 28, 83) could have been accommodated in the jars.<sup>14</sup>

But the distribution of Egyptian fish in the Levant does *not* coincide with that of the jars. In the early Iron Age fish are known for example from Megiddo in the Jezreel valley, about 35 km inland from Dor (LERNAU 2006), and from Kinneret on the Sea of Galilee (THOMSEN 2010, 72, table 6).<sup>15</sup> It is logical to assume that the consump-

tion of Egyptian fish in these inland sites was catered by southern Levantine port towns – Dor, Tell Abu-Hawam and/or 'Akko. Since, however, no Egyptian jars are attested inland, fish probably reached these sites in sacks or baskets and this presumably was also the way they were transported on the boats themselves, in addition to large specimens simply being stacked on deck.<sup>16</sup> Large quantities of fish, packed in dozens of *baskets* were sent by Smendes and Tentamun to Wenamun while in Byblos – one of the many commodities he delivers to a rejoicing Zakarbaal. For the time being then, no link can be established between Egyptian jars and fish.

Lentils are another protein-rich commodity. More than 20 *sacks* of lentils were carried on the ship sent from Egypt to Wenamun and presented to the king of Byblos (line 2, 41). The lentils (similarly to the fish) are totally inessential for the plot and may provide another glimpse of the *realia* of maritime traffic between Egypt and the Levant. As mentioned, on this particular ship the lentils were shipped in sacks and not in jars, but for lentils in ceramic jars in Egypt see ASTON 2007, 17.<sup>17</sup>

Lastly, I consider grains. Though grains were apparently usually transferred in volume-effective containers such as sacks (GARDINER 1941, 20 and *passim*; cf. MONROE 2007, 7), jars are also a very likely option. Archaeological evidence shows that grains were also stored in jars, for example at Deir el-Medina during the 18<sup>th</sup> Dynasty (ASTON 2007, 17) and in a late New Kingdom to TIP context at Mendes (MUMFORD 2007, 249). In the former case, the excavators identified these jars as originating outside the Theban region (BRUYERE 1953, 91), and therefore the grains must have been transported in them.

Furthermore, *maritime* transport of grains in jars (*dn*) has recently been argued for by Monroe, in relation to one of the so-called oven texts at Ugarit (RS 18.031=PRU 5 59 = KTU 2.38). This letter was sent from the king of Tyre and deals with the loss of

<sup>13</sup> For dry/salted fish, possibly from Egypt, sent in the later Iron Age from Philistia to Assyria, see ELAT 1978, 136, 138, 248, 253–254.

<sup>14</sup> A recent study (SISMA-VENTURA *et al.* 2015) has shown that in the Iron Age Dor's inhabitants probably also consumed sea breams from the Bardawil lagoon in northern Sinai, just east of the Nile's Pelusiac branch. For the transport of water fowl in jars, see JANSSEN 1961, 24.

<sup>15</sup> Evidence from Ashkelon, 'Akko and other sites in the Levant is unavailable, though among Philistine sites, pre-

liminary analysis points to the existence of some Nile perch at Tell es-Safi/Gath; see LEV-TOV 2012.

<sup>16</sup> For commodities shipped in sacks and baskets, recorded at Ugarit, see also McGEOUGH 2011, 176

<sup>17</sup> Coincidentally or not, a very large concentration of lentils (of as yet undetermined origin) was uncovered at Dor in a primary destruction context (preliminarily [http://dor.huji.ac.il/Download/2006\\_D5\\_Report.pdf](http://dor.huji.ac.il/Download/2006_D5_Report.pdf)); near the lentils lay a crushed Egyptian jar.

a Ugaritic ship sent to Egypt (MONROE 2009, 78, 98–99; including references to alternate readings of the term *dn*). Monroe also suggests that the well-known shipment of grains to Ura on the south Anatolian coast was conducted in jars (2007, 9).

Since the 1960's it has become clear that the last quarter of the second millennium BCE was marked by successive years of drought and famine around the Mediterranean (summaries and references in KIRLEIS and HERLES 2007; ROHLING *et al.* 2009; recently KANIEWSKY *et al.* 2010; 2013; ROBERTS *et al.* 2011, e.g. 153, 158, figs. 2, 3; LITT *et al.* 2012; LANGGUT *et al.* 2014). This has often been considered a major instigator of the LBA collapse (DREWS 1993, 77–84; SINGER 2000, 24; COHEN and SINGER 2006; CLINE 2014, 142–147 with references) and the background for the several urgent requests for grain shipments in the late 13<sup>th</sup> century BCE.<sup>18</sup> Egypt's different climate regime meant that its crops could be relied on when others in the vicinity failed, but during this period Egypt itself was not exempt: food shortage, *inter alia* resulting from low Nile flows, is attested concurrently (BERNHARDT *et al.* 2012, 617 and references; BUTZER 2012, who dates this problematic state of affairs to between 1300–1100 BCE; YEAKEL *et al.* 2014). Indeed, after Ramesses III and especially in late Ramesside times, textual evidence attests to famine, accompanied or caused by a partial loss of royal/temple control on grains and sharply fluctuating grain prices (ČERNÝ 1933; WILSON 1956, 279–280; JANSSEN 1961, 93; KITCHEN 1986, 246; REDFORD 1992, 284; ANTOINE 2009a). Another factor to consider is that after its withdrawal from the Levant, Egypt lost its agricultural assets/estates in Canaan,<sup>19</sup> which certainly aggravated the situation at home.

All this, however, does not mean that grains could not have been obtained in Egypt any more. Among other consequences, the state of affairs described above resulted in the development of a competitive grain market and oscillating supply and demand and the stresses of competition could

be alleviated by exporting grain (WARBURTON 1997, 333–334 with references). Regrettably, none of the evidence relates to the 11<sup>th</sup> to 9<sup>th</sup> centuries BCE, but perennial/periodical acquisition of Egyptian grains in some parts of the Levant in this period is definitely a possibility (similarly MUMFORD 2007, 249).<sup>20</sup>

### Other Possible Commodities in Egypto-Levantine early Iron Age Maritime Trade

As mentioned, since we do not know what the jars contained it is unclear to what extent their contents were central to Egypto-Levantine exchange systems, or whether they were just piggy-backed on ships carrying much more important merchandise (ARTZY 1997, 5). Cordage and sails, linen, flax, papyrus, beer and indeed grains (BICKEL 1998, 162; GUBEL 2009, 334) are only some examples for the 'usual suspects' regarding Egypt's exports to its Levantine neighbours, beyond luxuries and various trinkets such as amulets, scarabs and beads (summarized extensively in MUMFORD 1998; 2007; cf. ASH 1999; for beads also BEN-BASAT 2011).

In the opposite direction, wood, timber and wooden artifacts (including maritime gear and components for ship hulls), silver, wine, oil, honey, resins and resinous products, spices, garments, purple-dyed textiles and wool, cattle and workforce were apparently the most valued merchandise supplied by the Levant (KNAPP 1991, 35; REDFORD 1992, 210–212; WACHSMANN 1998, 10, 39–40, 310–313; ALTMÜLLER 2001, 449; SERPICO 2004, 97, 100; EZZAMEL 2009, pl. 12A; GUBEL 2009, 333, 336; HOMSY-GOTTWALLES 2009). This is vividly attested by the exceptionally diverse cargo on the Egyptian ships returning to Egypt (apparently from Lebanon), described in the Mit Rahina inscription of the 12<sup>th</sup> Dynasty (MARCUS 2007). Listed are wooden beams and planks, various fruits, cedar, fig and olive trees, oils, aromatics and terebinth resin – beyond metal and metal artifacts, various minerals and slaves.<sup>21</sup> This recalls Papyrus Anastasi IV:

<sup>18</sup> For the frequent allusions at Ugarit to grain shipped by sea (relative to other commodities) see ROUTLEDGE and MCGEOUGH 2009, 24.

<sup>19</sup> Perhaps also exemplified by the above-mentioned cartouche-bearing jars.

<sup>20</sup> There are many other difficulties in assessing the consequences of the 'draught era' for long-range (or short-range) grain shipments in the late second/early first millennium. For the period discussed here, the difficulties in dating its

end are crucial. For coastal Syria, for example, KANIEWSKY *et al.* (2008; 2010) suggest that drier conditions prevailed till the 9<sup>th</sup> century, but dating the end is usually not precise enough in historical terms. Another complex issue is the variable ways and tempos in which different societies coped with and recovered from the (similar) environmental stresses (RIEHL *et al.* 2014).

<sup>21</sup> For 'Syrian' slaves during the New Kingdom, e.g., REDFORD 1985, 194, n. 37.



“Your ship has come from Kharu laden with all manner of good things” (cited in MONROE 2009, 73). No information, however, relates to the TIP and therefore I discuss here again only commodities which by some evidence, however indirect, can be singled out as having been shipped to Egypt from or through the Carmel coast in the early Iron Age.

Most important are resins, shipped in jars. During the LBA, ‘Canaanite’ jars were quite prolific in Egypt (e.g., ASTON 2004). Fabric analysis shows that among those analysed (from el-Amarna, Memphis and Buhen), jars produced on the Carmel coast and its immediate vicinity (including the Sharon plain) were abundant (BOURRIAU *et al.* 2011; SERPICO *et al.* 2003; SMITH *et al.* 2004; OWNBY and SMITH 2011; cf. SERPICO 1999). Organic residue analysis demonstrated that these jars contained mostly *Pistacia* resin (exact species unidentified), which was also one of the main commodities shipped in numerous Carmel-coast jars on the Uluburun ship (STERN *et al.* 2003; 2008; GOREN 2013; for a somewhat different view, MCGOVERN and HALL 2015). Other ‘Canaanite’ jars at Memphis and Amarna that were apparently imported from the same region(s) probably held honey (see references above; ASTON 2007, 17–18).

‘Canaanite’ jars in Egypt seem to dwindle in Ramesside times and specimens dating to the 20th Dynasty, especially to its latter part, are not numerous (ASTON 2004, 180–184). Still, during the TIP several are known, from various sites both in Upper and Lower Egypt and ASTON (1996, figs. 64:400; 110: XLIII/105; 111/ XLIII/246; 168: J) illustrates examples from Memphis, Amarna and Thebes, respectively. To Aston’s lists one may add for instance jars at Akoris (KAWANISHI, TSUJIMURA AND HANASAKA 2010, front cover); Qantir (LAEMMEL 2008, pl.12, 1–6); and Heracléopolis Magna (LÓPEZ GRANDE, QUESADA SANZ AND MOLINERO POLO, 1995, pl. LXII). By their shape these jars are ‘Phoenician’, but ‘Phoenician’ does not necessarily mean Lebanese. In addition to sites in Lebanon, jars of these forms were extensively produced in ‘Akko plain sites, such as Tell Keisan, and especially on the Carmel coast, most notably at Dor, where this is the most abundant shape in the early Iron Age (GILBOA, SHARON and BOARETTO 2008; GILBOA, WAIMAN-BARAK and SHARON 2015. That jars of these shapes were produced neither in coastal Syria, nor in coastal Philistia, nor in any

inland Levantine site is attested by their extreme scarcity in these regions. Where investigated, ‘Phoenician-looking’ jars in such sites were indeed determined by fabric analysis to have been produced either on the southern Lebanese coast or in the ‘Akko plain, or on the Carmel coast (WAIMAN-BARAK, personal communication).

This, and Dor’s close contacts with Egypt attested by the Egyptian jars, suggests that a significant part of the ‘Canaanite/Phoenician’ containers (and their contents) in TIP Egypt were supplied by the Carmel coast. The scope of this export cannot yet be assessed, yet if we hypothesize that every complete jar published from Egypt represents more numerous fragments, then ‘Phoenician’ exports to Egypt were probably much more frequent than currently apparent.

The importance of resins for life (and death) in Egypt cannot be overestimated and generally the centrality of these substances (both *Pistacia* and coniferous resins) in ancient Mediterranean trade is increasingly being recognized (LORET 1949; JACOBSEN, BRYANT and JONES 1998; SERPICO and WHITE 1998; BARDINET 2008; PULAK 2008, 295; GOREN 2013). There is absolutely no reason to assume that resins did not circulate any more after the 13<sup>th</sup> century. Similarly to the LBA, in the TIP as well, they must have been one of the main commodities marketed in the ‘Phoenician’ jars. Resins would still have been used especially for ritual, mainly as incense, and for a variety of more secular purposes such as the caulking of joints in boats (STEFFY 1994; references in STERN *et al.* 2003; FABRE 2004/2005, 109). They were also used in the treatment of mummies at least from the TIP onwards (SERPICO and WHITE 1998, 1043–1044).<sup>22</sup>

The sources of the resin shipped in Carmel-coast jars are not yet clear (during both the Bronze and Iron Ages). Studies of the Uluburun resins, rather limited in scope for the time being, suggested the central mountainous regions of Israel/Palestine (and to a lesser extent Jordan), based on the origin of the land snails in the resin jars (WELTER-SCHULTES 2008); and anywhere in northern Israel/south Syria/northwest Jordan, based on pollen analysis (JACOBSEN, BRYANT and JONES 1998, 80). The chemical compositions of some of the Uluburun resins were comparable to those of extracts from modern plants in present-day Israel and in a ‘Canaanite’ jar found in Israel (STERN *et al.* 2008, 2194). However vague the emerging picture is (see

<sup>22</sup> Where both *Pistacia* and cedar and/or pine pitch were identified.

also MILLS and WHITE 1989; HAIRFIELD and HAIRFIELD 1990), presently it seems that terebinth resins consumed in Egypt were mostly procured in the southern Levant, and shipped through port towns in the vicinity of the Carmel.<sup>23</sup>

Most likely, however, the Carmel region and vicinity not only served as a trans-shipment interface for resins acquired elsewhere, but also as a main production region. Of the suggested botanical sources for the LBA *Pistacia* resins, *P. atlantica* and *P. lentiscus* (to which I would add *P. palaestina*) are plentiful in modern Israel including the Carmel mountains, and were so in antiquity (with a lesser representation of *P. atlantica* in the Carmel area; see conveniently <http://www.wildflowers.co.il/english/>; also ZOHARY 1962, map on p. 112; 1973; 1980, map on p. 170; LIPHSCHITZ 2007, 25, 27–28, 37–42, 49, incl. table 2.10).<sup>24</sup>

In addition, the Carmel could have also supplied coniferous resin, especially the plentiful resin of *Pinus Halepensis* (Aleppo pine; for its distribution in the Carmel region, see below, n. 26). This resin was prized in Egypt from Old Kingdom times at least till the 25<sup>th</sup> Dynasty (BARDINET 2008, 107–109, 111–113, 190, 243). Minimally, then, the Carmel should be considered as one of the main regions that supplied Egypt's demand in resins (in the same vein, STERN *et al.* 2003; 2008 with references to earlier publications) and after the disintegration of many of the LBA commercial spheres it probably became even more important.

Beyond Phoenician transport jars, TIP sites in Egypt also produced smaller Phoenician containers, especially Phoenician Bichrome jugs and small lentoid flasks (e.g. ASTON 1996, fig. 35: middle and lower rows; 44:15; LAEMELL 2008, 184–185 and n. 73; pl. 12: 9, 10). Both categories of vessels were extensively produced along the Phoenician littoral – from Lebanon to the Carmel coast (GILBOA, SHARON and BOARETTO 2008). Since no fabric analyses of these vessels in Egypt were conducted it is impossible to pinpoint their exact

source, however beyond sites in Lebanon and the 'Akko plain, the Carmel must have been a major one. Dor has been demonstrated to be one of the main producers of such containers; fabric analysis in contemporary sites in Cyprus showed that such 'Phoenician' containers there were produced either in the Tyre-Sidon stretch or on the Carmel coast (in equal numbers; GILBOA and GOREN 2015).

The contents of the Bichrome jugs are unknown, but – as already mentioned – small flasks, including many Dor-made ones, contained liquid(s) with cinnamon, and they were distributed both within the Levant and to Cyprus. It is therefore very likely that such (and other) luxurious commodities provide the *raison d'être* for the shipment of these flasks to Egypt as well (GILBOA and NAMDAR 2015).<sup>25</sup> Probably not accidentally, the artist that adorned Kenamun's tomb some centuries earlier chose to depict one of the Canaanite merchants as holding a Canaanite jar in one hand and a small flask in the other (DAVIES and FAULKNER 1947, pl. 8).

Beyond resins and spiced liquids (and possibly the spices themselves) Dor must have supplied Egypt with a variety of other products, both procured in the immediate vicinity (quite probably oil and the above-mentioned honey), and obtained elsewhere. Its role as a major supplier of Mediterranean products during the early Iron Age was especially crucial, since significant parts of the Levant, most importantly coastal Syria, had lost their economic/commercial infrastructure by then.<sup>26</sup> For example, the Sharon and Carmel were among the most accessible regions that could have provided various wood and timber for diverse purposes, excluding of course cedars and other species of high-quality tall and straight trees such as Turkish pine and Parasol pine, for which journeys to and from more northerly regions were still inevitable. The important species in the Carmel and vicinity in this respect were oaks such as Palestine oak (*Quercus calliprinos*) and Mount Tabor oak

<sup>23</sup> It is yet unclear if the southern Levantine snails and pollen on the Uluburun travelled specifically in Carmel-coast made jars, but given their geographical origin and the dominance of Carmel jars over Syrian and Lebanese ones on board the ship this is highly likely. Incidentally or not, pollen analysis of a cargo of late Iron Age/Persian period amphorae retrieved from the Dor south lagoon suggests that they contained terebinth resin (and pine pitch; JONES, BRYANT and WEINSTEIN 1998), though whether these were shipped to or from Dor has not been determined.

<sup>24</sup> Though LIPHSCHITZ (2007, 118) thinks that *P. lentiscus* was not widespread in the Carmel till after the Iron Age.

<sup>25</sup> It is unclear through which routes did the spices themselves (in their dry state) reach Phoenicia (Gilboa and Namdar 2015, 275–276; one possibility would be through Egypt).

<sup>26</sup> Also, importantly, along the Carmel coast, the commercially active Tel Nami has disappeared in the beginning of the 12<sup>th</sup> century.



(*Quercus ithaburensis*), and to a lesser extent Aleppo pine.<sup>27</sup> Among these probably the most important as a source of high-quality wood/timber in this region was the thick-trunked Palestine Oak. Today most trees of this species reach only about 3–4 m (LIPHSCHITZ 2007, 116), but specimens protected from grazing, cutting and other hazards (LIPHSCHITZ 2007, 25), such as near sacred tombs, are ca. 7 m and at times even 15 m tall.<sup>28</sup> *Pinus halepensis*, though under favourable conditions reaching 20 m, was probably exploited mainly for its resin (above) and not for wood.

In all likelihood, Dor also provided Egypt with further prestigious commodities – either produced in its vicinity or obtained through its Mediterranean contacts. The local production of purple at Dor from the early Iron Age to the early Hellenistic period has already been mentioned above and such production in the early Iron Age is attested by purple stains on inner surfaces of ceramic vats also at nearby Shiqmona<sup>29</sup> and at Tell Keisan in the ‘Akko Plain (PEUCH 1980, 226–227). This shows that purple (or rather purple-dyed wool; SCHNEIDER 2011) was not only supplied by the customarily-invoked Lebanese centres but from southern Phoenicia as well.

Lastly silver should be mentioned. The uses and possibly growing demand for this metal in Egypt during the TIP has recently been reassessed by CLAUS JURMAN (2015). Whatever the ultimate source(s) of this metal in the early Iron Age Mediterranean might have been, Phoenicians were important intermediaries in its distribution.

The Carmel to ‘Akko plain stretch and the adjacent western Jezreel valley are the regions where early Iron Age silver hoards are best attested, at ‘Akko, Tell Keisan, ‘En Hofez, Dor and Megiddo. The Dor hoard is one of the largest Iron Age silver hoards ever found (STERN 2001; THOMPSON 2003; THOMPSON and SKAGGS 2013; ESHEL 2014).

To sum up, Table 1 lists the commodities exchanged between Egypt and the Carmel coast which are highlighted in this paper, bearing in mind that the goods exchanged were much more variegated.

Table 1 Merchandise travelling between Egypt and the Carmel coast discussed in this paper.

From Egypt to Dor	From the Carmel region to Egypt	Through Dor to Egypt
Fish, mainly Nile perch (but not in jars); lentils; grains	Pistacia resin in jars; coniferous resin in jars; honey in jars; spiced liquids in small flasks (some with cinnamon); wood and timber: Palestine oak, Mt. Tabor oak, Aleppo pine; purple-dyed textiles	Resins; silver

### Interim Summary: Just a Stop-over?

Sailing directly from the Delta to Lebanon was possible at times and could have been achieved in a few days (MARCUS 2007, 146). However, this was not usually a preferable option, due to the prevail-

<sup>27</sup> For the distribution of these trees in the Carmel and Sharon (especially the northern Sharon) from prehistoric times to the present and their exploitation in ancient times see for example ZOHARI 1973; 1980; HOROWITZ 1979; GALILI and WEINSTEIN EVRON 1985; LIPHSCHITZ, LEV-YADUN and GOPHNA 1987; LEV-YADUN *et al.* 1996; WEINSTEIN-EVRON and LEV-YADUN 2000; KADOSH *et al.* 2004; for these regions and others in Israel see also LIPHSCHITZ 2007, 25, 27–28, 37–43, 49, incl. table 2.10; BARDINET 2008, 107). However, the abundance in antiquity specifically of Mt. Tabor oak and Aleppo pine in the vicinity of the Carmel is a debated issue, see LIPHSCHITZ 2007, 118; for reasons not explained, LIPHSCHITZ treats Aleppo pine in archaeological sites in Israel as ‘imports’.

<sup>28</sup> See <http://www.wildflowers.co.il/english/plant.asp?ID=659>. Data regarding the various types of wood used in Egypt, especially during the period in question are still not extensive enough, but both texts and archaeology demonstrate clearly that beyond local species (mainly *Acacia nilotica* and palms) and of course the most coveted cedars and

pinus, a variety of imported wood was used, also for ship construction (GALE *et al.* 2000; GERISCH, MANZANO and ZAZZARO 2007; WARD and ZAZZARO 2007; CREASMAN 2014a; 2014b with references; KUNIHOLM *et al.* 2014, 594). This includes a (not too frequent) use of pine and oak but unfortunately the trees are usually defined only at the generic level. Still, Palestine oak, Mount Tabor oak and Aleppo pine are attested, usually postulated to come from Lebanon (e.g., GERISCH, MANZANO and ZAZZARO 2007, 182). Generally speaking, more often than not, ancient watercraft in the East Mediterranean were constructed from a variety of tree species (WACHSMANN 1998, 217, 226–227), including Palestine oak, Mount Tabor oak and, less so, Aleppo pine (FITZGERALD 1994, 173–175; WACHSMAN, KAHANOV and HALL 1997, 7; but these examples postdate the Iron Age by several centuries). Again, hardly any evidence of any sort exists for the Iron Age.

<sup>29</sup> Yet unpublished, analysed with High-Performance Liquid Chromatography by N. Sukenik.



Fig. 5 The southern part of the Carmel range (background on left) as seen from 11 km at noon on a summer day with average visibility.

ing northwesterly winds in this part of the Mediterranean (*Mediterranean Pilot V*, diagrams 1.151.1–1.54.4; somewhat less so in spring). Sailing through Dor (and/or through other anchorages in the southern Levant) would normally have been easier. One could set out from Egypt in the early morning with the local southerly breeze (*Mediterranean Pilot*, 46, table 1.175) to a distance of about 3–5 nautical miles from the shore.<sup>30</sup> Then, once out in open sea, with the west wind one could reach Dor. Sailing from Egypt towards Dor in a northeastern course could have also been conducted with a northwest wind, but with difficulties due to the marginal angle of the apparent wind relative to the course. Sailing from Dor further north with this northwest wind, was, however, impossible. Leaving Dor could only be achieved at night/early morning with the local diurnal southeasterly breeze (*Mediterranean Pilot*, 57, 58, e.g., table 1.186; MARCUS 1998, 95), and after a few hours one would take advantage of the local southwest or west winds (e.g., *Mediterranean Pilot*, e.g. table 1.186) to return to shore, to a more northerly anchorage (though at times one could also cast anchor a short distance from the coastline); and so forth until reaching the point(s) of destination in Lebanon.

<sup>30</sup> For ships northbound from Egypt the low-lying coasts of northern Sinai and Philistia had better be avoided unless really necessary; cf. MARCUS 2002, 102–103; for the perilous coast of north Sinai see also Diodorus Siculus' testimony, cited in FABRE 2004/5, 25.

Coasting, however, was time consuming and risky, and so was the encounter with local populations and rulers, as vividly illustrated by Wenamun's misfortunes at Dor (see also ALTMAN 1988; TAMMUZ 2005, 156, 160). Sailing from Egypt to Lebanon, therefore, posed grave dilemmas (but, in contrast, voyaging directly from Lebanon to Egypt was much easier, see CVIKEL *et al.* 2014).

More often than not, then, ships sailing from the Delta to Lebanon had to find intermediate anchorages and Dor was one of the best choices. This is so due to the wind regime in this region, to its roughly mid-way position between Egypt and Lebanon, and owing to its natural setting providing reasonable anchorage in good weather. Also, after leaving the Delta there are no mountains close to the sea and landmarks are few, low and vague (GALILI, ROSEN and ZVIELY 2009, 364–365). The southwestern cliffs of the southern tip of the Carmel ridge (so-called in Arabic and Hebrew 'the overlooking nose', the 'Carmel nose'; figs. 4, 5) – about 5 nautical miles south of Dor – are the first prominent land mark visible from the sea (similarly MARCUS 2002, 96). This means that targeting Dor was easier than locating other sites.<sup>31</sup>

<sup>31</sup> For ships sailing in the opposite direction, after leaving Lebanon the first such landmark is the northern tip of the Carmel ridge; cf. MANNING and HULIN 2005, fig. 11.1.



Based on the forgoing discussion, however, my main argument is that Dor's primary importance regarding Egypt was not (only) as a stop-over in some early Iron Age 'Byblos run' (cf. MARCUS 2002, 409), but of different nature. The Carmel (and Sharon) regions, a relatively short sail from the Delta, could have provided Egypt with many Mediterranean arboreal products in demand, of merchandise traded through Dor's port, and quite likely of agricultural products obtained through trade with inland regions (more on this below). Dor's description in the Wenamun papyrus as a midway anchorage when heading to Lebanon therefore reveals only part of the story.

### Agents and Modes of Trade

Beyond defining empirically the existence of exchange, the most difficult issues to assess are those related to the institutions and individuals involved in these 'commercial' endeavours, and the mode(s) of trade.

Since the phenomenon described here lasted for three centuries (or four if we add the LBA finds at Dor), it is *a priori* clear that exchanges between Egypt and the Carmel-coast communities were not contingent on any specific political context/interest. They probably resulted from the constant, mutual need for locally unavailable bulk and other commodities in these two nearby but agro-ecologically very different regions, and once in motion they probably also generated some economic interdependence. The collapse of many of the LBA commercial mechanisms and commercially-active regions rendered the Carmel/Sharon region even more essential. Maritime traffic was of course the best means of exchange, since it was much more rapid, cheap and better avoided interception and taxing by polities situated *en-route*, such as those in Philistia (cf. RICKMAN 1980 and LIVERANI 2003, 125–126). A crucial lacuna in our knowledge, as mentioned, is that we do not know when these extensive early Iron Age exchanges began: are they or are they not a direct continuation of LB II practices (or even Middle Bronze Age ones, see MARCUS *et al.* 2008).

Scholars have often linked inter-regional trade – especially maritime trade that requires large investments in ships – to the demands and abilities of stable large-scale powers (BROODBANK 2010, 258 with references). Examples abound, such as MARCUS (2007, 174, 171) who sees the contacts between Egypt and the Levant under the 12<sup>th</sup> Dynasty as

stemming from royal initiative. One of the most striking (and very relevant) indications that this is not always so is the discovery mentioned above that spices from the Far East reached Phoenicia for a long period in the early Iron Age, an epoch during which no 'great powers' existed in these and neighbouring geographical regions. These endeavours were initiated and executed solely by very small-scale societies/polities. This is in line with ever-accumulating evidence for long-distance trade in the Mediterranean during the early Iron Age, after the LBA collapse and before the emergence of territorial states and any other 'powers' (SHERRATT 2012; overview in GILBOA, SHARON AND BOARETTO 2008).

Also, as well articulated by ROUTLEDGE and MCGEOUGH (2009), overarching models/trajectories for the development of long-distance trade defined for the LBA/Iron Age transition, such as Andrew and Susan Sherratt's most influential 'luxuries to commodities'/'administered to entrepreneurial' (SHERRATT and SHERRATT 1991, 358; SHERRATT 1998; also ARTZY 1997) should be nuanced. It is quite clear that the boundaries between various modes of exchange – elite and sub-elite, royal and entrepreneurial and the endlessly contended 're-distribution', 'reciprocal' and 'market' mechanisms were fuzzier than previously postulated (so too SHERRATT 2011: 10). Exchanges could have operated in tandem in several modes. Acknowledging this multiplicity renders the understanding of exchange modes even more difficult and it dictates that their decipherment be grounded in the specific relevant geographical and socio-political *realia*.

So who were the polities/institutions/individuals involved in the specific exchanges discussed in this paper? On the Levantine side, it is improbable that Dor's inhabitants were not actively involved in this trade during all these centuries, especially since the people of Dor were engaged in other extensive maritime contacts, for example with Cyprus and northern Phoenician entities (above). These must have been professionals, possibly members of some local trading elite (compare LIVERANI 2003, 132), who had the means, the skills and especially the extensive know-how required for such maritime endeavours – weather lore, navigation, the destination ports and the fluctuations in supply and demand in these destinations. Residents of Dor, naturally, were also best acquainted with the ways to locate their anchorages and overcome the risk in entering and leaving them. The Dor fleet/flotilla was indeed described (or envis-

aged) by the narrator of the Wenamun report, but in contrast to the Lebanese fleets mentioned in the papyrus, its function (beyond chasing Egyptian emissaries and postulated piratical activity) has received little attention.

Especially along the narrow Carmel coast, where the mountains are in such close proximity, the procurement of some of the merchandise traded by Dor, for example arboreal products, did not even necessitate any complex inland exchange mechanism – such as postulated, for example, for Ashkelon in STAGER'S (2001) 'Port Power' model. Dor was a perfect interface between mountains and sea (minus the cedars). However, Dor's inhabitants were also engaged in terrestrial commerce with inland southern Levantine regions whose products could be marketed further. This is implied, for example, by early Iron Age jars at Dor that were manufactured in the Jezreel valley, and these connections are further highlighted by various containers, large and small, sent from the Carmel coast to Yoqne'am and Megiddo (Waiman-Barak, personal communication; also e.g., ARIE, BUZAGLO and GOREN 2006, 562–563).<sup>32</sup> Dor was the main maritime outlet for the two major towns in the western Jezreel valley which controlled agricultural production in this region – Yoqne'am and Megiddo.<sup>33</sup> Though no concrete data exist regarding the political organization in these regions in the early Iron Age, it would be logical to postulate a heterarchical structure among these polities; there is no reason to assume superiority or dominance by any of them. Yoqne'am and Megiddo were respectively only 25 and 35 km away from Dor, a distance of one to two easy walking days (with donkeys). Residents/families of all these towns that were engaged in commerce must have had close, personal and long term liaisons. Therefore it seems that as formulated by network theory (e.g., FUKUYAMA 1999; relevant and succinct summaries in MCGEOUGH 2007, 31–33; ROUTLEDGE and MCGEOUGH 2009; MALKIN 2011, esp. 16, 19, 25–27, 31–32), this network<sup>34</sup> was self-organizing, lacking a co-ordinating body, and the social component in

the exchanges was crucial, necessitating and generating personal contacts, obligations and trust. As argued in GILBOA, SHARON and ZORN 2014, many of the economic, including commercial activities in this period in the towns of this region were conducted at the household level. These households cannot of course be compared to the grand merchant households known especially from Ugarit, but for the suggestion that some of Ugarit's merchant families fled to the towns discussed here see GILBOA 2006–2007. Indeed, some evidence regarding the individuals involved in the import of Egyptian commodities to Dor (and by implication—of export to Egypt) is provided by the find-contexts of the Egyptian jars. Almost all those found in primary, systemic contexts are in elite dwellings, and generally speaking most of the jars are in domestic areas (GILBOA, SHARON and ZORN 2014).

All this, however, does not reflect directly on the specific modes of exchange. Both reciprocal exchanges along 'substantivist' lines and *bona fide* market transactions could have taken place (similarly ROUTLEDGE and MCGEOUGH 2009: 28), the latter facilitated by silver used as currency (see above for the abundance of early Iron Age silver in the specific southern Levantine regions in question).

As mentioned, after the late LBA calamities, when commercial competition dwindled, and after the Egyptians lost their economic grip on Canaan, inhabitants of those agricultural centres and port towns that managed to survive, were bound to invest much effort in catering to the needs of the still important client to the south. Such operations probably also involved the permanent or seasonal, or *ad hoc* stationing of representatives in Egypt.

Egyptian initiative or even involvement in maritime transactions with the Carmel coast (and with other Levantine regions) is much more difficult to assess. Debates regarding Egypt's partaking in maritime trade have been many (summaries in WACHSMANN 1998, 9–38; MONROE 2009, 189–192). During the late New Kingdom, for example, Ramesses III boasted about building a flotilla of *mnš*-boats, destined to acquire Djahi's goods

<sup>32</sup> Most probably, exchanges with farther regions, such as the highlands to the east, were in operation, but currently they are not attested archaeologically.

<sup>33</sup> Tell Abu Hawam in the Haifa bay was another Mediterranean outlet competing with Dor. It lies nearly equidistant from the Jezreel valley centres. Such competition could have rendered the network described below dynamic, pos-

sibly quite chaotic at times, with no port site being able to claim a singular nodal position. Tel Abu Hawam, however, has not yet produced evidence for intense early Iron Age maritime contacts to match that at Dor (see above and GILBOA, WAIMAN-BARAK and SHARON 2015).

<sup>34</sup> In the sense of trade network.



(recorded in P. Harris I; DE SPENS 1998, 111),<sup>35</sup> but some scholars see the LBA/Iron Age transition as signalling the end of Egyptian maritime initiatives for a long while (e. g. WACHSMANN 1998, 11, 40).

With respect to the institutions responsible for such trade in Egypt, despite the paucity of textual information and long-prevailing substantivist views regarding its exchange modes, where traders are understood as being mostly institutional agents and markets to be state-controlled (BLEIBERG 1988; less categorically in BLEIBERG 1995; BICKEL 1998; to a large extent FABRE 2004/5, 96, n.48, 158–161), several scholars argue that this is not so (e. g., ZINGARELLI 2010, 78–79). They contend that there is enough evidence to indicate that during the late New Kingdom, progressively, and as late as the turbulent years of the late 20<sup>th</sup> Dynasty, long-distance exchanges, including ship-borne trade, were initiated not only by Crown and Temple but also by private entrepreneurs with genuine mercantile, profit-oriented interests (cf. also MORENO GARCÍA 2014a; 2014b: 249–252). After the disintegration of the New Kingdom, royal exclusivity in maritime trade is even less likely (cf. MUMFORD 2007, 259).

However, regarding LBA/Iron Age maritime exchanges between Egypt and the Levantine coast more often than not Egyptian dependence on Canaanite/Phoenician/Syrian sailors and traders (with all sorts of contractual arrangements with the Egyptians) is perceived to be crucial (GOEDICKE 1975, 159; SCHEEPERS 1991, 65–66; DE SPENS 1998, 113; ASH 1999, 96; ALTMÜLLER 2001, 449; SNAPE 2003, 63; FABRE 2004/5, 152, 155; MONROE 2009, 189–192, 225 with further references). Regrettably, beyond the Wenamun report no information relevant to the early TIP survives. On top of all this, joint ventures/alliances/partnerships and mixed crews (which are not necessarily synonymous) were certainly the norm, the former attested, for example by the *huburs*<sup>36</sup> mentioned in Wenamun, and for the present paper Byblos' *hubur* with Smendes (1, 59) is naturally important.

The lack of concrete data regarding possible Egyptian maritime commercial initiatives during the late Rammeside period and the TIP and regarding possible Egyptian manipulation/regulation of Levantine exchanges is the main factor that

renders the network perspective advocated above for southern Levantine exchanges with Egypt tentative. If, beyond acting as a consumption and production node, Egypt was still able to exercise some sort of control over these exchanges, this would introduce a hierarchic, central regulatory and asymmetric component to the system. On present evidence, however, this is unlikely, and as argued by many scholars, this is certainly not the impression the Wenamun report conveys.

### The End of the Egyptian Phenomenon at Dor

As mentioned, after a certain point within Ir2a, Egyptians ceramics are no longer attested at Dor, with few possible exceptions, though Iron Age occupation continues till the mid-7<sup>th</sup> century BCE. Above I suggested that the extensive early Iron Age Egyptian import may have ceased during Osorkon II's reign. BEN DOR EVIAN too (2011, e. g., 109, 111), dates the end of this import ca. 870 BCE. The cause, according to her, is to be sought on the Egyptian side, namely the disintegration of Egyptian power, and consequent disability to intervene abroad after this pharaoh's rule.

From the Dor perspective it is important to recall (see above), that the disappearance of Egyptian pottery coincides with the cessation of other long-lived maritime interactions between Dor and regions overseas, with a total transformation of the town's urban landscape, and with a change in the role of its anchorage. These concurrent radical changes are understood as resulting from the transformation of the Phoenician town into an Israelite administrative centre ca. the mid-9<sup>th</sup> century BCE (GILBOA, SHARON and BLOCH-SMITH 2015), which may have also been accompanied by a change in population. Therefore, and based on the foregoing discussions, I suggest that the disappearance of Egyptian ceramics and the cessation of the liaisons embodied by them, are likely linked to Dor's specific political fortunes, and not to transformations on the Egyptian side.

### To Conclude

Scholarly (and ancient) fascination with cedars, the perception of 'Phoenicia' as encompassing Leba-

<sup>35</sup> And somewhat earlier Egyptian involvement in overseas ventures is vividly preserved in Papyrus Lansing: "The ships' crews of every (commercial house) have received their loads so they may depart from Egypt to Djahi. Each

man's god is with him. Not one of them (dares) say "We shall see Egypt again" (CAMINOS 1954).

<sup>36</sup> A Semitic loan word; HOCH 1994, 240–241.

non only (BELL 2006; BROODBANK 2013, 449),<sup>37</sup> and till recently the lack of relevant archaeological data, have left an important tract of the early Iron Age Levantine littoral in the shadows. This, I hope, has now changed. Regardless of all the uncertainties enumerated above, the Dor finds must draw our attention to hitherto unattested enduring exchanges between Egypt and the Carmel (and Sharon?) region. Surely, the most coveted Mediterranean product in Egypt was cedar, which could not be acquired south of the Lebanese mountainous regions. This is also the commodity highlighted in texts originating in elite contexts and/or of propagandistic nature such as the Wenamun account. But the Dor port was reputed in Egypt not only because it provided, in times of need, a useful anchorage when sailing to Lebanon, but mainly since for hundreds of years ships from this port frequented Egypt (and vice versa) to exchange a medley of commodities.

Undoubtedly Dor and the Carmel/Sharon regions were not the only Mediterranean suppliers of various commodities to Egypt in the period under consideration. There were probably several circuits of exchange, based *inter alia* on different networks of social relations (FRIEDLAND and ROBERTSON 1990; ROUTLEDGE and MCGEOUGH 2009, 28). In the southern Levant, mainly Ashkelon, Tell Abu Hawam and 'Akko should be considered. The latter two were important for the shipment of arboreal and agricultural produce from the Galilee and Israel's northern valleys.<sup>38</sup> Currently, however, archaeology showcases mainly Egypt's long-lasting commercial contacts with Dor. As well, the conjunction between text and archaeology, the endurance of the contacts between Egypt and Dor, and the very uneven distribution of Egyptian jars along the coasts of the Levant, illuminates non-random, destination-conscious shipping – even if the archaeological evidence at hand telescopes, so to speak, many instances of *ad-hoc* shipping. This stands in opposition to assessments that in antiquity coastal tramping was the norm (most notably in BRAUDEL 1972, 102–107, his 'floating bazaars'; HORDEN and PURCELL 2000, 141, 150, 160 and *pas-*

*sim*: "The short hops and unpredictable experiences of cabotage" (p. 365).

The selection of possible commodities discussed above certainly constitutes only part of the overall picture. The range of merchandise transported must have been modified constantly, *ad hoc*, to fulfill periodical, even annual shifts in demands of the societies involved in these exchanges. For example, fluctuations in grain, fish and wood availability, well-documented at least for parts of Egypt particularly for the reigns of Ramesses IX–XI (but also earlier, see above; ANTOINE 2009b), may have affected Egyptian demands from its neighbours in the north.

Only future discoveries and studies<sup>39</sup> will elucidate the extent and manner in which Egypt's early Iron Age contacts with Dor were distinctive, relative to those with other regions and specific polities in the Levant.

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<sup>37</sup> Which is indeed correct from about the mid-9<sup>th</sup> century BCE and on, but not for the early Iron Age (e. g., GILBOA, SHARON and BLOCH-SMITH 2015).

<sup>38</sup> But for the caveat regarding Tell Abu Hawam, see n. 33. In addition, the maritime role of Jaffa in the early Iron Age is as yet unclear, and generally data regarding this period

there are currently very scant; see BURKE 2011, 70–71. Perhaps we are also yet ignorant of another major port along the northern Sharon; Tell Zeror is a candidate.

<sup>39</sup> Such as fabric analyses of 'Phoenician' containers in Egypt. See ASTON *et al.* 1998, 142–143 for the variety of Levantine fabrics in late New Kingdom and TIP contexts.



courtesy of ParadiVe, Israel; figures 3 and 4 were taken by Michael Eisenberg; fig. 5 was photographed from the yacht *Carmen* (Dudi Goldglass, captain) by Evgeny Kaminsky. The Tel Dor Project is supported by the Goldhirsh-Yellin Founda-

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