The Ship from Uluburun and the Ship from Tyre: An International Trade Network in the Ancient Near East
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Published by: Deutscher verein zur Erforschung Palästinas
Stable URL: http://www.jstor.org/stable/27931843
Accessed: 19-01-2016 03:04 UTC

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The Ship from Uluburun and the Ship from Tyre: An International Trade Network in the Ancient Near East

By Hayah Katz

Abstract
International trade existed in the eastern Mediterranean basin as early as the end of the 3rd millennium B.C.E. This article deals with comparing the trade network in this area along time-line. Two sources are the basis for this research: the cargo found in the Uluburun ship and the commodities catalogue in Ezekiel 27. The Uluburun ship represents the trade during the second half of the second millennium B.C.E., while Ezekiel’s list reconstructs the nature of international trade during the first half of the 1st millennium B.C.E. The comparison between these two sources indicates that even the changes occurring throughout the various periods, we can define continuity from the international trade systems of the Late Bronze period into those of the Iron Age, despite the changes in the political power systems of the eastern Mediterranean basin in these periods.

The reconstruction of the international trade network is usually based on analysis of imported goods, such as Cypriot, Cypro-Phoenician, and the East Greek Wares, collected at the sites studied. The discussion in this article is limited to two sources: the cargo found in the Uluburun ship and the commodities catalogue in Ezekiel 27. I have chosen to limit the scope of discussion to these two sources, due to their unique character, since each one includes a full catalogue of goods including raw materials alongside finished products. Since the Uluburun wreck was fully discussed in many previous studies (PULAK 2001; 2005; YALÇIN/PULAK/ SLOTTA [ed.] 2005 and see discussion there), I shall only summarize the finds from the ship, and focus my discussion on the commodities catalogue in Ezekiel 27. In the following, I shall examine how the commodities listed in Ezekiel 27 serve as a basis for a model that describes and explains the nature of the international trade in the beginning of the 6th century B.C.E.

International trade in the eastern Mediterranean basin has already existed as early as the end of the 3rd millennium B.C.E. (LAMBRou-PHILLIPSON 1990; SILVER 1991, 194–199, and see discussion there). However, this system did not evolve into a widespread mercantile system until the Late Bronze age, during the second half of the second millennium B.C.E. This period, called by researchers the International Period, is characterized by maritime trade that encompassed the entire eastern Mediterranean basin (CLINE 1994). The Uluburun ship, discovered in 1982 in cape Uluburun, east of the Turkish town of Kaş, affords us a glimpse into the international trade of the period. Its large and varied cargo included raw materials, such as oxhide and bun shaped copper and tin ingots, glass bars, elephant and hippopotamus tusks and remains of ebony wood. In addition, the ship yielded dozens of jars (of the “Canaanite jar” type) and pithoi (PULAK 2001; 2005). The ship’s cargo may be regarded as a faithful reflection of the nature of mercantile activity during the Late Bronze age throughout the ancient Near East.
The maritime trade system in the eastern Mediterranean basin ceased to exist towards the end of the Late Bronze period, concurrently with the crisis that affected the whole region and brought about the destruction of its many civilizations. The absence of international trade relations is one of the most prominent traits of the latter half of the 12th century and the beginning of the 11th century B.C.E. The re-appearance of Cypriote pottery in various sites in the region during the latter half of the 11th century B.C.E. marks the recuperation of the trade system in the eastern Mediterranean basin (GILBOA 1989; 1998). The emergence of the various states in the Fertile Crescent region, during the 10th – 9th centuries B.C.E., generated new markets, to which international trade could direct anew the various commodities.

A source that helps reconstruct the nature of international trade during the first half of the 1st millennium B.C.E. can be found in Ezekiel’s prophecy on the fall of Tyre (Ezek 27). The prophecy, comparing Tyre to a luxury ship, includes a detailed list of the numerous countries and goods associated with Tyre’s commercial activity. The dating of this prophecy is controversial. In MAZAR’S view, the historical basis of the text is an ancient Tyrean tradition of the 9th century B.C.E., which the prophet had heard from the exiles in Nippur, not far from his dwelling place (MAZAR 1986, 81). Since some of the countries named in the list do not exist prior to the 7th century B.C.E., the prophecy may presumably be dated to the early 6th century B.C.E., prior to Tyre’s destruction by the Babylonians in 585 B.C.E. (DIAKONOFF 1992, 191–192). A comparison of the commodities on both lists – the sunken ship’s cargo and the Biblical text – would enable us to examine the changes that occurred in international trade over time. Although the types of finds discussed in this paper are very different – archaeological finds recovered from the bottom of the sea versus a verbal description taken from the prophetic text – it seems that nevertheless one may still compare the two sources and reach conclusions derived from the processes taking place in the eastern Mediterranean basin throughout the various periods.

1. The Ship of Uluburun

In 1982, a shipwreck was discovered in the waters of Uluburun. The ship, built of Lebanon cedar and oak, measured nearly 15 meter in length and probably carried at least 20 tons of cargo. The ship’s cargo comprised mostly of raw materials, along with some finished products. The 14th century dating is based on the Mycenaean pottery used by the sailing crew, which was found during the excavations (PULAK 2005, 46). The ship’s location, east of the Turkish town of Kaş, attests to the existence of a maritime trade route that traversed the Mediterranean from east to west.

Of the main raw materials found aboard, one should mention in particular the copper and tin ingots. Most of these were of the oxhide shape, typical of the 14th century B.C.E. The total weight of the oxhide ingots was 10 tons, whereas the total weight of the tin ingots was about a ton. Chemically, bronze alloy consists of copper and tin in exactly this ratio of 10:1 (PULAK 2005, 36). Besides the oxhide, the excavators found bun shaped copper ingots (PULAK 2001, 18). The analyses carried out on the ingots traced the origins of most of them to a single mine, or group of mines, in a rather limited area of Cyprus (GALE 1991, 229–231; PULAK 2001, 21). The origins of the tin have not been traced so far – it may have come from the east, possibly Iran or even Afghanistan (PULAK 2005, 38).

1 For a comprehensive discussion of this issue, see GREENBERG 1997, 568–569.
In addition to the copper and tin ingots, the ship’s cargo also included one gold and several silver ingots, as well as cut down silver and gold jewelry, intended as raw material to be melted down and reused (PULAK 2001, 24). The style of these jewels, and our knowledge of beaten gold craft during the Late Bronze period, enable us to assign these gold objects an origin in the southern Levant. In analyses carried out on the silver objects found aboard, their source turned out to have been the silver mines in the southern-central part of the Taurus Mountains, in southern Anatolia (PULAK 2001, 24). In conclusion, the metal cargo aboard ship was quite large and included copper, tin, silver and gold ingots. Analyses carried out on these metals indicate that the copper and silver came from mines in the eastern Mediterranean basin. The gold objects came, apparently, from the southern Levant, yet the metal itself was probably mined in Egyptian mines located in the eastern desert, between Qena-Quseir in the north and Soudan in the south (OGDEN 2000, 161). Among the other raw materials found aboard ship one should mention the glass bars, totaling at least 350 kilograms in weight, with an average weight of 2 kilograms per bar (PULAK 2001, 25). Most of the glass bars are of the cobalt blue type, originating in Egypt (NICHOLSON et al. 1997; PULAK 2001, 29). The ship also carried over 25 ebony wood logs. These logs, originating in the tropical regions of Africa, were brought to Egypt, that probably acted as the intermediary in the ebony trade (PULAK 2001, 31). The elephant tusk and twelve hippopotamus teeth found aboard reflect the thriving ivory trade throughout the ancient Near East in this period (PULAK 2001, 37–39). The cargo also included varied organic materials. All in all, over 150 Canaanite jars containing Atlantic pistachio (Pistacia atlantica) resin have been found (MILLS/WHITH 1989; PULAK 2001, 33–34). Petrographic analysis carried out on these jars revealed their origins to have been the northern coast of Israel (YUVAL GOREN, oral communication), where the tree itself is quite common. It seems that the resin itself, used to perfume wines, also came from the northern coast of Israel. Additional Canaanite pithoi contained remains of grains, almonds, figs, pomegranates, olives and grapes (HALDANE 1993, 353)2.

In conclusion, the cargo found aboard the Uluburun shipwreck attests to the scope of the trade system during the Late Bronze period. Even assuming that the goods reflect a royal interest (BACHHUBER 2006), the variety of commodities, as well as the origins traced through chemical analyses, speak of the nature of international trade throughout the eastern Mediterranean basin during the latter half of the second millennium B.C.E.3.

2 This agricultural produce is typical of Israel’s economy in ancient times. Archaeo-botanical evidence for these crops can be found from the Chalcolithic period and up to the economy of the traditional Arab village. For a discussion of this topic see FELIKS 1994; KATZ 2008, 29–43; BOROWSKI 2002. 3 In LIVERANI’s opinion, one of the most prominent characteristics of Late Bronze international trade was its being a royal venture. The traders were either part of the official state establishment, or merely independent traders operating under royal patronage (LIVERANI 2003, 120–122). In any case, when examining the variety of goods and their origins, one cannot tell which benefited the most from the goods.
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emphasize both. The list of peoples and countries with which Tyre traded forms a part of the
description of Tyre’s might (COOKE 1967, 287; WEVERS 1969, 199; GREENBERG 1997, 564–
568; ALONSO CORRAL 2002, 2–7).

The commodities catalogue in Ezekiel 27 includes a geographically arranged list of coun-
tries. To the west there are Tarshish and Greece; in Asia Minor – Togarma, Dedan, Syria and
Israel; and finally southern Arabia and the peoples of the east. The list of commodities
encompasses the gamut of products: metals, animals, ivories, precious woods, textiles, agri-
cultural produce, perfumes, precious stones and gold⁴. LIVERANI divides the geographical
regions mentioned in the prophecy into four zones. The first covers the area of the kingdoms
of Phoenicia, Israel, Judea and the Transjordan, with their characteristic commodities – agri-
cultural produce. The second zone covers the area from northern Syria in the north to northern
Arabia in the south, and is characterized by animal trade. The third zone includes Greece in
the west, Assyria in the east and central Arabia in the south, and its typical wares are mainly
various textiles. The fourth and last zone includes southern Arabia on the one hand and the
western Mediterranean on the other, and is characterized by exotic commodities such as
perfumes, precious stones and different kinds of metals (LIVERANI 1991).

A discussion of the goods described in this catalogue would enable us to examine Phoe-
nician trade and compare it to the international trade that had flourished in the same geo-
ographical region several centuries previously⁵.

2.1. Trees and Timbers

“Thy borders are in the heart of the seas, thy builders have perfected thy beauty. Of junipers-trees
(barōšîm) from Senir have they fashioned all thy planks; they have taken cedars from Lebanon to
make masts for thee. Of the oaks of Bashan have they made thine oars; thy deck have they made of
ivory inlaid in larch, from the isles of the Kittites” (Ezek 27:4–6).

“They brought thee as tribute horns of ivory and ebony” (Ezek 27:15).

The description of the ship itself (Ezek 27:5–6) includes the following details: the ship’s
hull was built of juniper trees (barōšîm) from Senir, the mast was made of cedars of Lebanon,
whereas the oars were made of oak trees growing in the Bashan. Larch was also used,
although it is not quite clear for what purpose. A realistic description of such a ship appears
on a bulla recently excavated in the City of David – the seal imprint is of a ship equipped with
a high mast (REICH/SHUKRON/LERNAU 2007, 34). The widespread use of cedars for ship
building had started in Egypt as early as the pre-dynastic period, and continued throughout
the succeeding periods up to the New Kingdom (LANDSTRÖM 1970, 23, 35; WARD 2000,
84–85). Cedars were especially suitable for shipbuilding since they grow to a height of up to
40 meter and can be easily sawn into flat planks. Their trunk, although thick, is soft and easy

⁴ In GEYER’s opinion, the description of the ship in Ezekiel 27 is reflecting mythic perception that was
influenced by the Egyptian mythology. Therefore, there is no meaning to the historical data that

⁵ Two shipwrecks (8th century B.C.E.) that were discovered off the cost of Ashkelon provide archaeo-
logical evidence of the Phoenician trade as described in Ezekiel’s prophecy. The cargo of each ship
included about 400 “torpedo” jars that contained wine (BALLARD et al. 2002). The fact that this type
of jar is characteristic for the Phoenician coast supports the assumption that the ships left the port of
Tyre; however, it does not indicate that the contents of the jars were locally produced (BALLARD et
al. 2002, 166).

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to shape into the required form (LANDSTRÖM 1970, 19; MEIGGS 1982, 55; WARD 2000, 20–21). In view of the widespread use of cedars in shipbuilding, attested to by the Egyptian evidence and the Uluburun finds, one may reasonably assume that cedars of Lebanon were widely used in the building of Phoenician ships. The Uluburun finds support further the association of cedars of Lebanon and oaks, mentioned in the verses describing the ship’s hull, since the ship’s planks, made of cedars of Lebanon, were joined together by oak tenons inserted into mortises and then locked in place with oak pegs (PULAK 2005, 44).

The Hebrew ḥarōḏ (juniper) is mentioned, in this context and in other written sources, as a tree suitable for building.6 Apparently, the correct identification is with the Junipers, prevalent in the Lebanon and mount Hermon, or the Biblical Senir, and growing alongside the cedar, rather than the Cupressus, which is identified nowadays with this tree (see for instance EICHRODT 1970, 378; GREENBERG 1997, 545). The Junipers wood is fragrant, and eminently suited to building, wood-paneling and furniture making. The Cupressus, on the other hand, is not very common to these regions, is not widely used in building and in addition, has rather an unpleasant scent that persists for years (FELIKS 1997, 172–174). Verse 7 mentions larch, brought from the isles of the Kittites – identified nowadays as Kittion in Cyprus. Traditional commentators have followed the earlier translations in identifying the taʿāṣṣūr with Buxus – boxwood. The boxwood is prevalent in southern Turkey and northern Syria, so much so that in one of his inscriptions, Tiglat-Pileser III calls mount Amanos “boxwood mountain”.7 This identification fits well with the ivory mentioned in verse 7, since boxwood is a rather low tree used in furniture making and suitable for ivory inlays. LÖW (1924, 48; 1934, 33), and consequently others, identify taʿāṣṣūr with Cypress, mainly because it is very common in Cyprus, unlike the boxwood, which is quite scarce there (EICHRODT 1970, 378; GREENBERG 1997, 545). However, as we have already mentioned, the cypress is not suitable for building. It seems, then, that both suggested identifications are fraught with difficulties which preclude a satisfactory solution. Another wood in the commodities list is ebony, originating in tropical Africa and well known from Egyptian inscriptions describing the importation of this wood to Egypt (GALE et al. 2000, 338–340; WARD 2000, 22). Much like the boxwood, ebony was also used in furniture making, and it seems that its inclusion in the list of commodities, together with ivory – “they brought thee as tribute horns of ivory and ebony” (Ezek 27:15) – stems from its nature, as its lustrous black color was enhanced even further when inlaid with pale ivory (MEIGGS 1982, 61; FELIKS 1997, 176).

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6 The cutting down of cedar and juniper (or cypress) trees along the Syrian-Lebanese coast is mentioned in Mesopotamian sources as early as the end of the 3rd millennium B.C.E., and is a recurrent historiographic theme up to the times of the Assyrian empire (MALAMAT 1965). The practice of covering a structure with juniper is mentioned in the description of Solomon’s temple (1 Kgs 6:15). Even if the biblical description of the temple is no earlier than the 7th century B.C.E., it does attest to a reality which the Biblical editor witnessed when these trees were actually used for construction.

7 ELAT reads “Amanos, boxwood mountain” – in north-western Syria (ELAT 1977, 59). However, it seems one should accept “Amana, boxwood mountain” – meaning the Anti-Lebanon mountains (POSTGATE 1992, 184; TADMOR 1994, 61; YAMADA 2000, 270 n. 120).
2.2. **Metals**

“Tarshish was thy merchant by reason of the multitude of all kinds of riches; with silver, iron, tin, and lead, they traded for thy wares” (Ezek 27:12).

“Vedan and Javan traded with yarn (‘ūzzāl) for thy wares; massive iron, cassia, and calamus, were among thy merchandise” (Ezek 27:19).

Metals, used to manufacture agricultural tools and weapons, had enormous economic importance in the ancient world. Ezekiel mentions Tarshish as the place from which the Tyreans brought various metals: “Tarshish was thy merchant by reason of the multitude of all kinds of riches; with silver, iron, tin, and lead, they traded for thy wares” (Ezek 27:12). Two places could have served as sources for these metals: one source, in Asia Minor, is the region encompassing Armenia, Cappadocia, Cilicia and Cyprus (see below). The other region from which metals could have been imported was in southern Spain (ELAT 1977, 50–53; AUBET 2001, 70; KING 1999, 98*)8. The existence of these two potential sources for metals has created a controversy over the identification of Tarshish. Some scholars think it should be identified with Tartessos, in southern Spain, an identification that would link Tarshish with the Phoenician western expansion during the 9th and 8th centuries B.C.E. (ELAT 1977, 50–53; AUBET 2001, 70; KING 1999, 98*). Others identify Tarshish in Tarsus in Cilicia, mentioned in the inscriptions of Shalmaneser III, Sennacherib and Esarhaddon9.

MUHLY (1998, 316–317) is of the opinion that during the first half of the first millennium B.C.E there was no long range trading into the western parts of the Mediterranean. This assertion is based on the results of a Carbon 14 test from Rio Tinto in southern Spain, the site of silver production activities. According to the 14C analysis, there was no silver production on site prior to ca. 395 B.C.E. When tested for chemical composition, only a single coin out of the 115 coins in a hoard of Greek coins dating to the beginning of the 5th century B.C.E. contained silver that may have originated in southern Spain. In view of all the above, MUHLY concludes that even if Phoenicia came into contact with southern Spain, these contacts were an exception to the rule. The peoples of the eastern basin of the Mediterranean, he concludes, used mainly metals originating in the mines of western Asia (MUHLY 1998, 324)10. Iron is mentioned again later on in the prophecy: “Vedan and Javan traded with yarn (‘ūzzāl) for thy wares; massive iron, cassia, and calamus, were among thy merchandise” (Ezek 27:19). In view of the existence of iron mines in Asia Minor, ELAT identifies ‘ūzzāl with Usawalas, in the southern part of the Armenian mountains (ELAT 1983). The mention of Tubal and Meshek, in the eastern part of Asia Minor, with reference to copper vessels (Ezek 27:13) may support the assumption that all metals mentioned in the commodities list had indeed originated in the eastern Mediterranean basin.

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8 In ALBRIGHT’s opinion, “Tarshish” does not relate to a specific place but rather to multiple places that are used for smelting activities (ALBRIGHT 1961, 346–347).
9 The first to identify Tarshish in Cilicia was Josephus, who writes in The Antiquities of the Jews 1,27: “Tarshish […] for thus is named Cilicia.” For a definitive discussion of the possible identifications of Tarshish, see LIPIŃSKI 2004, 225–265.
10 For a comprehensive discussion of the local copper production centers, founded all over western Asia during the first half of the first millennium B.C.E., see CURTIS (ed.) 1988.
2.3. Agricultural Produce

“Judah, and the land of Israel, they were thy traffickers; they traded for thy merchandise wheat of Minnith, and meal (pannag), and honey, and oil, and balm” (Ezek 27:17).

The origin of the agricultural produce listed in Ezekiel’s prophecy is mainly the region of Israel and the Transjordan. Wheat and pannag are associated with grain products. In addition, the list includes olive oil, honey and balm – apparently resin of *Pistacia atlantica*, used as perfume. The earliest evidence for the existence of such crops in Israel dates to prehistoric times. However, it was only with the massive settlement in the hill region, during the Early Bronze age I period, that these crops began playing a central role in the economy (LIPHSCHITZ et al. 1991; FINKELSTEIN/GOPHNA 1993, 14). Their importance is manifest in the historical evidence throughout the various periods, from Biblical times and up to the traditional Arab village of the early 20th century C.E. The town of Minnith, mentioned as the source of wheat traded by the Tyreans, is also mentioned in Judg 11:33, and apparently should be identified in the Ammonite kingdom (GREENBERG 1997, 556). The pannag also refers to grains, and perhaps should be associated with the *paennigu* of Akkadian documents, meaning a kind of ground grain (COOKE 1967, 303 followed by GREENBERG 1997, 556). Besides grains, olive oil was one of the main agricultural products of the region. In Biblical times, the olive tree was regarded as the pride of fruit bearing trees and its crops were a central element in the agriculture, culture and economy of the land (EITAM/HELTZER [ed.] 1996; FRANKEL 1999). The archaeological finds confirm the central role olive oil played in the country during the Iron Age. Beam and weights oil presses, which could produce oil in quantities beyond the requirements of the individual household, became common in Israel during the 9th – 7th centuries B.C.E., so that the local oil industry relied on these installations for its oil production (FRANKEL 1999, 61–67; EITAM 1996; GITIN 1996). Evidence for this type of presses were excavated in Hirbet Hadaš and Hirbet Kela, in the south-western region of Samaria (EITAM 1992; RIKLIN 1997), as well as Beth Shemesh and Tell Bêt Mirsim in the Judean Shefelah (KATZ 2008, 36–42). The Ekron excavators found over 115 installations related to oil making, ranged in a ring around most areas of the mound (GITIN 1996). The massive quantities of oil produced in Ekron far exceed local state activities, and should be regarded as a part of the Assyrian trade system (GITIN 1996, 230, 233). Thus, the mention of oil as one of the commodities originating in Israel and traded by the Phoenician commercial system is in keeping with our knowledge of oil production in Israel during the Iron Age in general, and the trade in this commodity in particular.

Honey, as the principal sweetener, was a staple food in ancient times. However, since during the Iron Age bees were not yet kept in Israel on a regular basis, one may assume that the main source for the honey mentioned in the Biblical text was sweet fruit: dates, figs and concentrated grape juice (FELIKS 1994, 35). Egyptian tomb paintings reveal that bee keeping for the production of honey was very common in ancient Egypt (CRANE 1983, 36). The difference stems from the very different economies of the two countries. The land of Israel has many fruit trees, and their sweet fruit are an excellent source for fruit honey. The inhabitants of ancient Egypt, on the other hand, subsisted mainly on a diet of “cucumbers, melons, leeks, onions and garlic” (Num 11:5). Thus, the art of bee-keeping did evolve in Egypt, whereas in Israel most of the honey consumed was produced from fruit.

The balm mentioned as part of the Phoenician trade is also one of the commodities Jacob’s sons take with them to Egypt (Gen 43:11). The sages identified balm with nätāp –
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one of the types of incense used in the temple, as well as qāṭāp – a precious perfume grown in the land of Israel (Babylonian Talmud, tractate Keritut, 6:71). FELIKS thinks all types mentioned are one and the same, and should be identified as balsam (FELIKS 1997, 43). So far, however, there has been no evidence for the cultivation of balsam trees in the region during the Iron Age. The earliest testimony comes from Theophrastus (372–287 B.C.E.), who reports that balsam trees grow only in two orchards in a valley in Syria. To collect the resin, the tree is cut with an iron tool. The quantities collected in this method are rather small, and a single worker may only collect a shell-full a day (Theophrastus, Historia plantarum IX,6:1–4). In his writings Theophrastus talks about a valley in Syria, but comparisons to other writers indicate he was actually referring to the En-Gedi region (FELIKS 1997, 48 n. 69). Further evidence includes, among others, Strabo of Amaseia (Geographica 16:2,41), Pliny the Elder (Naturalis historia 12,111) and Josephus, Pliny’s contemporary (Antiquitates Iudaicae 15:4,96; Bellum Iudaicum 1,6,138–140; 4,8,459–475).

The archaeological evidence excavated in En-Gedi (Tell el-‘Ôurn; ‘En Gâdî) stratum V, and interpreted by the excavators as installations for production of balm (MAZAR/DO-THAN/DUNAYEVSKY 1966, 20), attests merely to the existence of some kind of industry on the site, and bears no proof of any connection to the Biblical balsam. It seems that the finds in Uluburun, which include dozens of “Canaanite jars” containing the resin of Pistacia atlantica may give rise to the suggestion that balm, mentioned as part of the Phoenician maritime trade and originating in the land of Israel, may have actually been the resin of Pistacia atlantica, used to perfume and flavor wine.

2.4. Textile

“Of fine linen with richly woven work from Egypt was thy sail, that it might be to thee for an ensign; blue and purple from the isles of Elishah was thine awning” (Ezek 27:7).

“Aram was thy merchant by reason of the multitude of thy wealth; they traded for thy wares with carbuncles, purple, and richly woven work, and fine linen, and coral, and rubies” (Ezek 27:16).

“Haran and Canneh and Eden, the traffickers of Sheba, Asshur was as thine apprentice in traffic. These were thy traffickers in gorgeous fabrics, in wrappings of blue and richly woven work, and in chests of rich apparel, bound with cords and cedar-lined, among thy merchandise” (Ezek 27:23–24).

Ezekiel 27 includes references to several kinds of textiles, originating in different regions: šēṣ – fine, richly woven linen – from Egypt, blue and purple from the isles of Elishah (27:7), purple, richly woven work and fine linen – bûṣ – from Aram (27:16) and galômē takēlet and ginzê barômîm – wrappings of blue and richly woven work and chests of rich apparel mentioned in connection with northern Syria (27:23–24). šēṣ is the Egyptian term for fine, high quality linen fabric, whereas bûṣ (Akkadian bûsu) is the term used for high-quality linen fabric, imported into Mesopotamia from the beginning of the 1st millennium B.C.E. onwards (OPPENHEIM 1969, 254). Both, then, are identified with linen, prevalent in Egypt (VÖGEL-SANG-EASTWOOD 2000, 269). Remains of flax seeds, as well as woven linen fabrics, are found in both Upper and Lower Egypt from the 5th millennium onwards. The large tracts of land devoted to growing flax indicate the importance assigned to linen, which was, indeed, the most readily available clothing material (HALL 1986, 9; PETZEL 1987, 131–132). The reference to linen in connection with Egypt indicates this crop’s importance to Egypt’s economy.

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The identification of Alashiya with Cyprus, long accepted in research (HOLMS 1971; MUHLY 1972; 1996; KNAPP 1985; KNAPP [ed ] 1996) has been validated by the petrographic analyses carried out on the Alashiya letters from the Amarna archives, which identified their origins in Cyprus (GOREN/FINKELSTEIN/NA'AMAN 2004, 63–71). Seemingly, one may have presumed the blue and purple to have come from Phoenicia itself, a land famous for its purple industry. The source of purple mentioned in this context may be the Phoenician colony in Cyprus, which produced purple much like that manufactured on the Phoenician coast (GREENBERG 1997, 550).

The ginzê barônîm mentioned in connection with northern Syria (Ezek 27:16, 23–24), are of a particular interest. These goods (birmu) are known in Mesopotamian documents as early as the 2nd millennium B.C.E. (ELAT 1977, 84), and should apparently be interpreted as colored wool embroideries worked on the linen fabrics (OPPENHEIM 1969, 246). Both Mesopotamian and Egyptian sources suggest that embroidery was a specialty of the inhabitants of northern Syria. In Assyrian sources, birmu form part of the taxes and commodities brought into Assyria from the regions west of the Euphrates (OPPENHEIM 1969, 246). In Egypt, embroidered textiles do not make their first appearance before the New Kingdom, and it seems their appearance should be connected to influences outside Egypt’s boundaries (BARBER 1982). Thus, the embroidery on Tutankhamen’s shift is one of the few examples of embroidery ever discovered in Egypt. The linen shift was decorated with bands of embroidery in shades of blue, red, green and dark brown, done in Syrian style patterns (HALL 1986, 43)\(^\text{11}\). It seems, then, that the birmu in particular and embroidery in general are indeed typical of the regions which the Phoenician commodities catalogue list as their origins.

2.5. Trade in South Arabian Products

“The traffickers of Sheba and Raamah, they were thy traffickers; they traded for thy wares with chief of all spices, and with all precious stones, and gold” (Ezek 27:22).

The beginnings of long-distance trade between South Arabia and the countries of the Fertile Crescent are directly linked to the domestication of the dromedary, at the end of the 2nd millennium B.C.E. It was only the use of the camel that ended the caravans’ dependence on the watering holes along the desert routes, and enabled them to carry goods in larger quantities. Historical evidence on the trade with South Arabia includes Biblical, as well as Assyrian sources\(^\text{12}\). These sources indicate that the products brought from South Arabia were perfumes, gold and precious stones: “Herds of camels will cover your land, young camels of Midian and Ephah. And all from Sheba will come, bearing gold and incense” (Isa 60:6, and also “What do I care about incense from Sheba?” (Jer 6:20). These products are also included in the list of Hezekiah’s treasures: “Hezekiah received the messengers and showed them all that was in his storehouses – the silver, the gold, the spices and the fine oil [...] everything found among his treasures” (2 Kgs 20:13 = Isa 39:2, and also 2 Chr 32:27). The connection between perfumes and South Arabia is also seen in various Biblical names – Ishmael’s genealogy includes the name Basemath daughter of Ishmael (Gen 36:3) and Mibsam son of Ishmael.

\(^{11}\) The Brooklyn 35.1446 papyrus suggests that Asiatic women were employed in Egypt in making garments as early as the 12th dynasty, although it is not clear exactly what type of garment they produced (HAYES 1955, 105–107).

\(^{12}\) See EPHÄL 1982 for a summary of all Biblical and Assyrian sources referring to Arabian tribes.
(Gen 25:13) – both names are apparently derived from bōsem – the Hebrew term for perfume. The name of Keturah, Abraham’s concubine (Gen 25:1) is apparently derived from qatāret – incense in Hebrew. One should also mention here Keturah’s sons, some of whom can be identified with certainty with Arabian tribes, known in later sources in connection with trade in South Arabian products: Sheba, Dedan, Midian and Ephah (Eph’AL 1982, 231–233).

The earliest Assyrian evidence of trade with South Arabia is a mid-8th century B.C.E. document referring to the trade between South Arabia and Hindanu, on the Middle Euphrates (CAVIGNEAUX/ISMAIL 1990). Presumably, trade had started earlier than that, between 1075 and 890 B.C.E., as the emergence of the various states in the Fertile Crescent during the 10th – 9th centuries B.C.E. created new markets that attracted South Arabian trade (LIVERANI 1992, 112; KNAUF 1989; SASS 2005, 118–119). From the reign of Tiglat-Pileser III, who conquered the Syro-Arabian desert oases, the Assyrians maintained relations with the Arabian tribes, in an attempt to participate in the South Arabian trade system. Assyrian policy accorded the Arabian tribes freedom of trade, while securing for itself a part of the profit by imposing taxes and levies and monopolizing the purchase of goods and their import into the empire (BYRNE 2003). Ezekiel 27 mentions Sheba and Raamah as traders in perfumes, precious stones and gold (Ezk 27:22). In view of our knowledge of South Arabian trade, it would appear that this reference reflects a reality well known in the lands of the Fertile Crescent during the first half of the first millennium B.C.E.

3. Discussion

A comparison of the data from the two different sources reveals the network of international trade relations throughout the ancient Near East during the second half of the second millennium and the first half of the first millennium B.C.E. Most of the goods found on board the Uluburun shipwreck appear in the Biblical Phoenician commodities list. The similarity is particularly conspicuous with regard to ivory, ebony wood and the agricultural produce discovered in jars originating in Israel’s northern coast. Possibly, the large quantity of Pistacia atlantica resin found in the Canaanite jars may suggest it could be the balm mentioned in Ezekiel. In view of all the above, one may see a clear continuity in the nature of international trade, from the Late Bronze period into the Phoenician trade of the first half of the first millennium B.C.E. LIVERANI regards Iron Age trade as characterized by the widening range of international trade connections. Thus, the identification of Tarshish with southern Spain extends the range of trade into the western Mediterranean basin, whereas the south Arabian trade expands it into the south-east (LIVERANI 2003, 136–137). If one agrees with MUHLY, that during the first half of the first millennium, too, metals were only imported from the eastern Mediterranean basin, this range of trade shrinks back in size, and furthermore, one sees continuity in the metal production centers throughout the different periods.

Trade in glass deserves special attention. While the Uluburun shipwreck contained a large number of blue glass bars of Egyptian origin, in Ezekiel 27 glass is not mentioned at all as a part of the Phoenician trade, a condition that corresponds to our knowledge of the glass industry in the eastern Mediterranean basin. The beginnings of the glass production in northern Mesopotamia date back to the first half of the second millennium B.C.E. Apparently, it was only in the late 15th century B.C.E., in the New Kingdom, that this craft penetrated into Egypt, which soon became a major producer of glass (NICHOLSON/HENDERSON 2000, 196; BARAG 2003, 21–26). This changes with the decline of glass industry, ca. 1200 B.C.E.
Despite the evidence, albeit meager, for the use of glass in this period, glass production undergoes a significant decrease. The revival of the Mediterranean glass industry does not occur before mid-6th century B.C.E., although by then the center of production is the isle of Rhodes (ibidem). It seems, then, that the presence of glass in the cargo of a ship dating to the second millennium, when contrasted with its absence from the Phoenician commodities catalogue, may reflect the changes in the glass industry during the second half of the second millennium and the first half of the first millennium B.C.E. The absence of iron from the cargo found on the shipwreck can be explained by the fact that iron only became a significant economic factor during the first millennium B.C.E. – as indicated by the double mention of iron in Ezekiel 27. The absence of iron from the ancient metal repertoire is much more remarkable when compared to the quantities of other metals found on board.

4. Conclusions

In conclusion, the cargo found aboard the Uluburun shipwreck may serve as a data basis for a comparison of international trade relations in the ancient Near East over time. The comparison between the cargo found in Uluburun and the commodities catalogue in Ezekiel 27 indicates that the changes occurring throughout the various periods were not significant. There is continuity from the international trade systems of the Late Bronze period into those of the Iron Age, despite the changes in the political power systems of the eastern Mediterranean basin in these periods.

It seems that the basis on which the trade systems are founded is unrelated to the geographic-ecological aspects of the region, and is independent of the political entities that emerge and disappear along the time-line. Further research, involving an examination of the international commerce network during the first half of the first millennium, would enable us to estimate how far ranging these trade systems actually were.

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