The Harbour of Olbia[1]

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Abstract

The systematic study of harbours in the ancient world is a relatively recent development, which has progressed significantly in the last few decades. In the larger Northern Black Sea area the number of explored harbours is still very small, and only very few of them have demonstrated evidence for the presence of artificial facilities in antiquity. The Milesian colony of Olbia Pontica on the Northwestern Black Sea coast has produced considerable archaeological evidence with respect to its harbour and harbour area. The present work is a comprehensive analysis of relevant inscriptions, graffiti, and architectural remains from the Lower City of Olbia, as well as other pertinent material, which allows a reconstruction of the Olbian harbour area for some periods of its existence. It shows, in particular, that during the Hellenistic period the Olbian harbour area must have been comparable to major contemporaneous Mediterranean harbours in structure and organization. It also demonstrates that the harbour of the Berezan settlement, established by Milesian colonists in the 7th century BC prior to the foundation of Olbia Pontica in the same area, may have functioned for a longer period than is often recognized and possibly for different reasons than have been suggested before.

Keywords
Olbia, Berezan, harbour, *emporion*, underwater exploration

The systematic study of harbours in the Graeco-Roman world has advanced significantly in the last few decades, prompted by the development of underwater and marine archaeology as special disciplines.[2] Already in the 1960s and 1970s, when marine archaeology was still "in its infancy",[3] it was pointed out

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[2] See, for example, Plat Taylor 1965, 160-189; Casson 1971, 361-370; Shaw 1972; Frost 1974; Muckelroy 1978, 75-84; Blackman 1982; Raban 1985; Höckmann 1985, 144-156; Lazarov, Angelova 1994; Patai 1998, 132-159. For an extensive bibliography up until 1994 on the history and archaeology of ports and installations, see Illsley 1996, 239-253.

[3] Frost 1974, 35.

that this field should not be "confined to the study of ancient shipping and routes, but must include ports, harbours, and roadsteads".[4] Paradoxically, what initially stimulated interest in ancient harbours also predetermined the limitations of the progress in the study of them. For several decades harbours remained just another topic within the field of marine archaeology, along with shipwrecks, seaborne trade and communications, navigation, ship-building, naval power, and piracy. Recent years have witnessed a shift in this approach, brought by the realization that the history of harbours is inseparable from that of cities and entire regions and should be discussed in the context of the development of the latter.[5] Archaeologists presently working in this direction address a large number of issues and use a broad variety of approaches.

One of the most important questions concerns harbours as physical installations set into a particular local landscape. Scholars seek to establish which features in a harbour's appearance were accidental and which were predetermined by its status in relation to the city; whether a harbour was a dynamic district organically integrated into the urban landscape or a topographically isolated quarter; and to what extent changes in the physical structure of a harbour and associated facilities can be understood as a response to economic and political transformation.[6] Other aspects of present-day harbour studies include the relationship between ports and their "maritime hinterland", the mechanisms of state control over harbours, and the different components of the economic life of harbours.[7]

These questions drawn from current research on the subject have not been raised yet in relation to the ancient harbours of the Northern Black Sea coast. In the last decades a great amount of new data from the North Pontic area became available; however, no synoptic study of ancient harbours in this region has been offered so far. One explanation for this can be that the study of ancient harbours is generally complicated by a number of factors. First of all, material evidence is often very limited or absent altogether, and reconstructions have to be based mostly on literary and epigraphical sources; and wherever there are remains of harbour installations and other relevant structures preserved, it is often impossible to distinguish between the different stages of harbour development. Furthermore, as a result of geological processes which have occurred since antiquity many coastal areas subsided into the sea or silted up, so that the remains of harbours are no longer visible and can be detected only by means of special underwater investigations.[8] The dif-

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[4] Plat Taylor 1965, 160.
[5] Purcell 2005a.
[6] Kingsley 2001, 69-70.
[7] See, for example, Reden 1995; Gabrielsen 1997; Greaves 2000; Wilson 2001, 291.
[8] Shaw 1972, 94; Nikonov 1998, 64.

ficulty of examining architectural remains underwater is self-evident, and individual objects recovered from the seabed are hard to put into context, which complicates the interpretation of material evidence.

The number of explored ancient harbours in the Northern Black Sea area is relatively small, and so far only very few of them have demonstrated evidence for the presence of man-made facilities in antiquity.[9] Olbia on the Northwestern Black Sea coast is one of the sites where extensive underwater investigations have been undertaken.[10] In addition, excavations on land have revealed some archaeological evidence that should be examined in relation to the Olbian harbour area. Attempts have been made to discuss the harbour and the maritime activities of the Olbiopolitai in general on the basis of epigraphical material, graffiti, and the results of the exploration of the submerged part of Olbia.[11] However, the pertinent archaeological evidence is more diverse and more informative than has been recognized. This article presents a systematic analysis of this evidence and offers a comprehensive review of the development of the Olbian harbour area.

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The site of Olbia is located on the right bank of the Bug liman (ancient Hypanis), near its confluence with the Dniepr liman (ancient Borysthenes) (Fig. 1), at the modern village of Parutino in the Nikolaev region in Ukraine.[12] Founded by Milesian colonists no later than the second quarter of the 6th century BC,[13] it ceased to exist in the 4th century CE and, unlike other ancient centers on the Northern Black Sea coast, was not reoccupied.[14]

Ancient Olbia occupied a triangularly-shaped territory on a plateau and topographically consisted of three parts: the Upper City on top of the plateau,

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[9] Recent excavations in Phanagoria yielded some very important results that will help to promote interest in the study of the harbours of the Northern Black Sea region. For preliminary excavation reports, see Kuznetsov *et alii* 2003; Kuznetsov *et alii* 2006.

[10] Farmakovskii 1915, 23; Blavatskii 1962; Blavatskii 1985, 170-172, 221, 224-225; Blavatsky 1972, 118-121; Shilik, Fedorov 1968; Krÿzhitskii 1984; Krÿzhitskii 1985, 26; Kryzhitskii, Krapivina 1994, 193-195.

[11] See, for example, Nazarov 1994.

[12] Kryzhitskii 1997, 101.

[13] For the earliest archaeological material from Olbia and the possible date of the foundation of the city, see Kopeikina 1976, 137-140; Krizhits'kiï, Rusyaéva 1978; Krÿzhitskii 1979, 119-120; Krÿzhitskii 1979a, 9-11; Rusyaeva 1986, 42, note 85; Rusyaeva 1988, 169; Rusyaeva 1998, 160-161, 164; Buiskikh, Krapivina 2001; Il'ina 2004, 77-81; Krapivina, Buiskikh 1997, 123; Krapivina, Buïs'kikh 2004, 181; Buiskikh 2004, 37-40; Buiskikh 2005, 157; Buiskikh 2005a, 184; Bujskich 2005, 19-20, 30; Bujskich 2007.

[14] Kryzhitskii, Krapivina 1994, 182; Kryzhitskii 1997, 101.
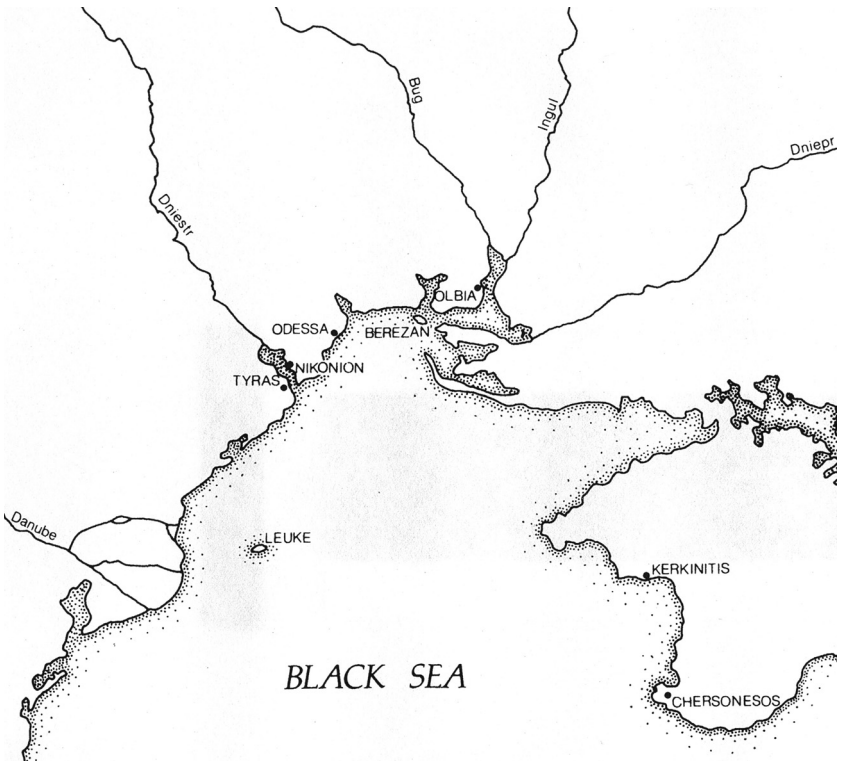
Fig. 1. Map of principal archaeological sites in the Northwestern Black Sea
area. (After Treister and Vinogradov 1993, 522 fig. 1).

the Lower City down at the water, and the Terrace Area on the slopes of the
plateau.[15] Today the extant territory of the settlement measures about 30 ha,
but it is estimated that over time the waters of the Bug liman have destroyed
about 20 to 25 ha.[16] In antiquity the populated area of the city must have
continued for at least 200 m east beyond the modern cliff, and the ancient
shoreline probably lay 300 to 500 m away from the cliff.[17]

From the very beginning of the excavations at Olbia archaeologists empha-
sized the strategically advantageous location of the Lower City, including its

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[15] Vinogradov 1989, 43; Kryzhitskii 1997, 101.
[16] Kryzhitskii, Krapivina 1994, 182.
[17] Krÿzhitskii 1984, 41, with references to Shilik 1975, fig. 8; 76, fig. 14.

convenient access to natural harbours,[18] and were convinced that a port with port-structures, such as docks and moles, must have existed there.[19] Until recently it was generally assumed that the Lower City had not been settled before the 5th century BC.[20] More than 200 ceramic fragments from the Late Archaic period have been found in this area so far, some of them dating to the second half of the 6th century BC,[21] but no architectural remains from that time were discovered. Moreover, the results of paleogeographical research undertaken in the Lower City suggested that dugouts or semi-dugouts could not have existed there.[22] However, a semi-dugout from the Late Archaic period was found in the eastern part of the sector NGSs during the excavation season of 1995 (Fig. 2). This structure was probably not used as a dwelling, but its
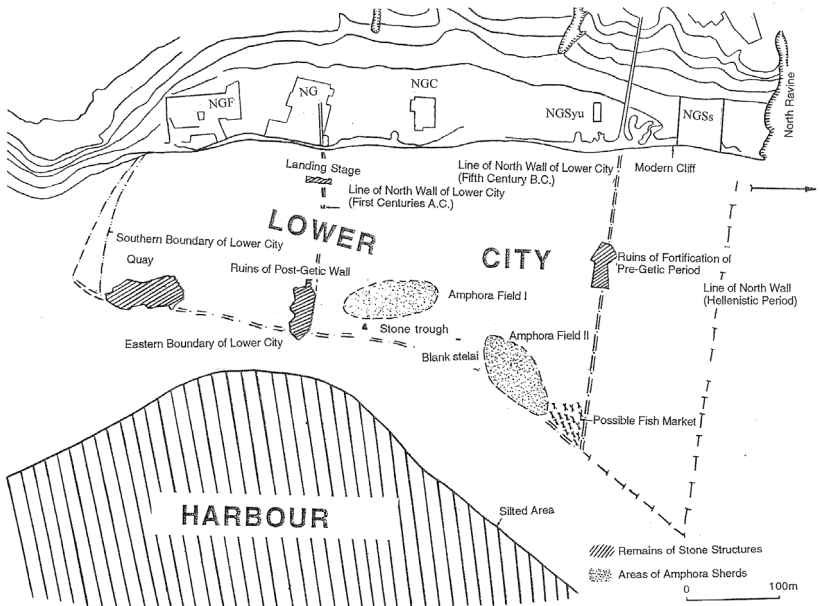

Fig. 2. Plan of the submerged part of Olbia. (After Kryzhitskii and Krapivina 1994, 194 fig. 3).

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[18] Farmakovskii 1915, 21.

[19] Slavin 1950, 93; Lapin 1962, 64.

[20] Krÿzhitskii 1979, 119-120; Krÿzhitskii 1984, 49.

[21] Leipunskaya 2004, 231.

[22] Shilik 1975, 61-63; Krÿzhitskii 1979, 120; Krÿzhitskii 1979a, 11.

discovery has prompted scholars to question the established view on the development of the Lower City in the Late Archaic period.[23]

Ship Graffiti and Anchor Stocks

We do not have any archaeological evidence for the existence of an harbour area in Olbia in the 6th century BC,[24] and while extensive settling of the territory of the Lower City took place during the 5th century BC,[25] the harbour-related evidence we have for this period is very limited and indirect. Some relevant information can be deduced from ship drawings, at least four of which date to the 5th century BC. Thus, a fragment of a black-glazed vessel of an open shape has graffiti on both sides (Fig. 3).[26] The schematic drawing on the outer side shows a ship with a small square sail, five rowing oars and one steering oar, and a ladder (Fig. 3, *a*). The ship has been identified as a commercial vessel.[27] The drawings on the inside of the fragment are also thought to represent parts of ships with oars (Fig. 3, *b*).[28] Another schematic representation of a ship is drawn on a bone plaque (Fig. 4, *a*).[29] The ship, probably a commercial vessel, has a rounded outline and a sail.[30] The inscription Διον next to the prow of the ship, interpreted as Διόν(υσος), prompted scholars to connect the plaque with the cult of Dionysus, which was very prominent in Olbia from the 5th century BC onwards.[31]

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[23] Leipunskaya, Samoilova 1995, 32; Leipunskaya 2004, 231.

[24] The only document indirectly referring to the maritime activities of the Olbiopolitai during this period is a graffito on a fragment of an amphora in the Fikellura style (inv. No. 0-69/232), dated from the mid-6th to the third quarter of the 6th century BC. The text of the graffito (twelve lines, partially preserved) is a letter, which, among other information, contains a report of an unknown person to the main priest about the inspection of certain places in the Lower Dniepr area, to where some third person went on a ship (line 6: [ἐκπ]λῆι ἐνθεῦθεν ἐς τὴν Ὑλαί[ην]) (Krÿzhitskii 1987, 146; Vinogradov 1981, 15; Vinogradov 1989, 65-66).

Hylaia was mentioned in the letter as a place from where wood was sent, probably to Olbia. This detail suggests that, first of all, wood from Hylaia was transported to its destination by means of ships, and, secondly, that if the shipment was meant for Olbia, it most likely was used in the city's building activities (Krÿzhitskii 1987, 147; Nazarov 1994, 94-95).

[25] Krÿzhitskii 1979, 121; Krÿzhitskii 1979a, 11; Vinogradov, Kryžickij 1995, 33.

[26] The fragment comes from the 1926 excavations and is presently preserved in the Archaeological Museum in Nikolaev (inv. No. A 763/1513) (Yailenko 1980, 87, No. 87a, 115, fig. XI, *8*).

[27] Peters 1982, 46-48, fig. 7.

[28] Yailenko 1980, 87, No. 87b, fig. IX, *1*.

[29] Inv. No. O-48/4193 (Rusyaeva 1979, 74, fig. 37, *7*; 79).

[30] Peters 1982, 46, 47, fig. 6.

[31] Rusyaeva 1979, 72-79 (the author discusses this object in connection with other plaques associated with the cult of Dionysus in the area).
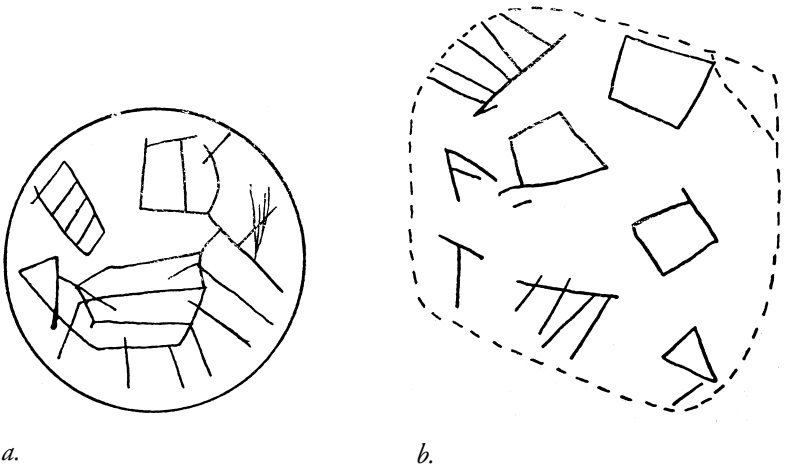
a.   *b.*

Fig. 3. Ship graffiti on a pottery fragment from Olbia: *a* – outer side (after Yailenko 1980, 115 fig. XI, *8*); *b* – inner side (after Yailenko 1980, 113 fig. IX, *1*).
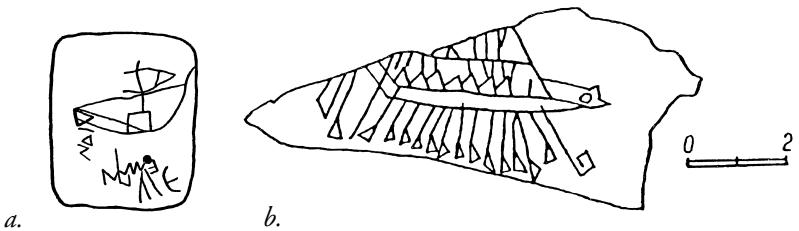

a.   *b.*

Fig. 4. Ship graffiti from Olbia: *a* – graffito on a bone plaque (after Rusyaeva 1979, 74 fig. 37, *7*); *b* – graffito on a pottery fragment (after Nazarov 1994, 95 fig. 1, *3*).

The most interesting piece of evidence is a ceramic fragment discovered during the excavation season of 1988 in one of the sectors of the Upper City of Olbia. The fragment comes from the lower part of the foot of a black-glazed Attic vessel, maybe a large stemmed bowl, and has representations of ships scratched on both sides of its surface (Fig. 5).[32] V.I. Denisova, who published the graf-fito, tentatively dated it to the 5th century BC. Using iconographical parallels, she established that the two larger ships in the drawing are most likely sailing merchantmen, *i. e. holkades*. She rightly pointed out that *holkades* were not very maneuverable and needed a lighter vessel – *epholkion* or *epholkis* – to tow them or to transport their cargo in and out of harbour. In fact, Denisova iden-tified two such auxiliary boats on the same drawing next to one of the *holkades* (Fig. 5, *b*).[33] Following her interpretation, we may conclude that by the end of the 5th century BC some sea-going vessels coming to Olbia were of consider-able size and could not enter the harbour without assistance. The presence of service boats that towed these ships or helped them to unload their cargoes indicates that the Olbian harbour had a service component.

According to Denisova, this sherd or the whole vase was probably used as a votive gift.[34] This corresponds very well to the emergence of a new category of votive gifts in Olbia in the 5th century BC, namely, anchor stocks. Several anchors and anchor stocks were found during the excavations of the Western Temenos.[35] In particular, two large anchor stocks dated to the 5th century BC were discovered in the southeastern part of the *temenos*, next to the remains of a rectangular altar. Both stocks were carefully made out of limestone; one was intact, whereas the other was broken in half. Based on their good state of pres-ervation, as well as on the fact that there were no traces of their attachment to an anchor shank, archaeologists concluded that these stocks were never used for their primary purpose and most likely were meant as votive gifts from the very beginning. The altar next to which they were found probably functioned from the beginning of the 5th century BC until the end of the 4th century BC, and the stocks must have been placed there soon after the structure was

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[32] Denisova 2000.

[33] She also noted that the main proportions of the ships and the most characteristic details of the gear are represented realistically and concluded therefore that the artist had the correspond-ing models right in front of his eyes (Denisova 2000, 114). Although this claim cannot be sub-stantiated, we can assume with some certainty that usually graffiti were locally produced (Nazarov 1994, 96).

[34] Denisova 2000, 118-119.

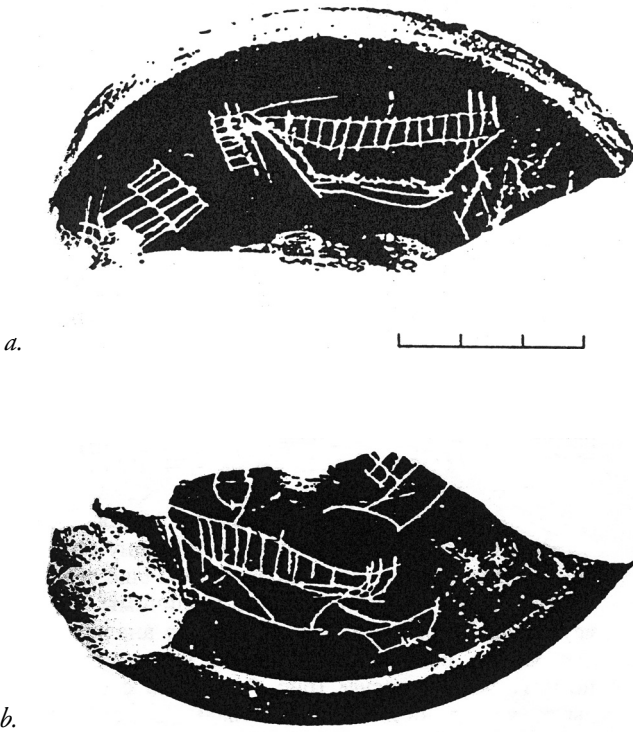[35] Rusyaéva, Diatroptov, Khomchik 1998, 143; Rusjaeva 2003, 105.

a.

b.

Fig. 5. Ship graffiti on a pottery fragment from Olbia. (After Denisova 2000, 113 figs. 1, *a*, *b*).

built.[36] The emergence of this new type of votive offering may be a sign of increased seaborne activities and further development of the Olbian harbour.

Sample-Market, Temenos, and Agora

The Olbian decree in honor of Protogenes (*IOSPE* I² 32), dated from the 3ʳᵈ to the beginning of the 2ⁿᵈ centuries BC,[37] states that Protogenes built a

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[36] Rusyaeva, Diatroptov 1993, 107; Zolotarev 2002, 35; Diatroptov 2006.

[37] Knipovich and Karÿshkovskii dated it on paleographical grounds to no earlier than the second half or the end of the 3ʳᵈ century BC (Knipovich 1966) and to the beginning of the 2ⁿᵈ century BC (Karishkovs'kiï 1968), respectively. Marchenko and Shchukin suggested lower dates, based on the contents of the document: the first to the third thirds of the 3ʳᵈ century BC

gateway (πυλών) on the sample-market (δεῖγμα).[38] Δείγματα are generally associated with harbour areas, but in the case of Olbia this connection has been overlooked and therefore deserves special attention here.

In the Greek world the Δεῖγμα was known as the place in the Piraeus where merchants displayed samples of their wares. It was either an area or a building located inside the *Emporion*, the commercial zone in the Grand Harbour of the Piraeus.[39] Timaeus, the author of the *Lexicon Platonicum*, compiled sometime in the early centuries AD, defines the Δεῖγμα as τόπος ἐν Πειραιεῖ ἐν τῷ καλουμένῳ ἐμπορείῳ (Δ 428 Dübner). He is followed by other lexicographers, including Harpocration (2nd-3rd centuries AD), Hesychius (5th century AD?), Photius (9th century AD), the *Etymologicum Magnum* (12th century AD), and Bekker's *Anecdota Graeca*.

Ancient authors use the word primarily in connection to Athens/the Piraeus, even if not always specifically in a harbour-related context.[40] Even when literary sources employ the term in a more general or metaphorical sense, without any obvious reference to some particular location, they still seem to be doing so with the Athenian port in mind.[41] As to epigraphical texts, to my knowledge, there are only two other inscriptions, apart from the decree in honor of Protogenes, that mention a δεῖγμα, and both of them refer to the one in Piraeus.[42]

There is, however, evidence for the existence of δείγματα in harbour-cities other than Athens. Polybius (3rd-2nd centuries BC) and Diodorus Siculus (1st century BC) both write about the δεῖγμα of the Rhodians.[43] It is significant that both these sources date to the 3rd century BC and after. As we know, from the 3rd century BC onwards Rhodes was becoming a leading commercial

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(Marchenko 1985) and the second third to the mid-3rd century BC (Shchukin 1993), respectively. It has also been suggested that the events featured in the decree should be ascribed to one period, whereas the inscription itself must have been carved some time later (Yailenko 1985, 169; Shchukin 1993, 106; Rusyaeva 1993, 15; Andreeva 1999, 98-99). For a summery of the debate, see Yailenko 1985, 164-165; Vinogradov 1989, 181-182, note 16.

[38] *IOSPE* I² 32, side B, lines 48-9: κατεσκεύασε δὲ καὶ τὸμ πυλῶ[ν]α τὸν ἐπὶ τοῦ δείγματος.

[39] Garland 1987, 83-95, 152-154.

[40] Xen. *Hell.* 5.1.21; Lysias *Fr.* 75.6, *cf.* D.H. *Dem.* 11; Dem. *Lacr.* 29, *Polycl.* 24; Polyaen. 6.2.2.

[41] Ar. *Eq.* 979 (= Suda Δ 300); Plut. *De curiositate* 8; Theophr. *Char.* 23. In his 2004 edition of the latter, J. Diggle actually even translates δεῖγμα as *the market at the Piraeus*, although the text is of a general character and contains no particular reference to the Athenian port (Diggle 2004, 130-131). Diggle also provides an extensive list of the ancient literary and epigraphical sources that use the term δεῖγμα (*ibid.,* 432, note 2).

[42] *IG* II², 1103.12-13; *IG* II², 1035.47.

[43] Polyb. 5.88.8; Diod. Sic. 19.45.4.

power in the Mediterranean and beyond, gradually taking this role away from Athens.[44] Thus, it seems that a sample-market was a feature characteristic only of large and well-developed commercial harbours, such as Athens and Hellenistic Rhodes, since only for these two we have clear evidence for the presence of a δεῖγμα in their harbours. Apparently, the only other place which also possessed such a sample-market was Olbia, where the existence of a δεῖγμα is attested by *IOSPE* I² 32. Since this document, dated from the 3ʳᵈ to the beginning of the 2ⁿᵈ centuries BC, states that Protogenes built the gateway at the sample-market, it can be assumed that the latter must have existed in Olbia prior to this date, probably as early as in the 4ᵗʰ century BC, when the city was in the heyday of its development.[45] The presence of a δεῖγμα in the Olbian harbour area is important because it demonstrates that by the 3ʳᵈ century BC the city was a major trading center with a well-developed commercial harbour, comparable – at least to a certain extent – to other large harbours of the Greek world.

In addition to δεῖγμα, ancient sources name other important parts of harbour areas to be found at Athens or elsewhere. Hyperides, who wrote in the 4ᵗʰ century BC, mentions a wharf (ἐξαίρεσις).[46] Julius Pollux (later 2ⁿᵈ century AD), elaborating on the text by Hyperides, provides a much fuller list of such components in his *Onomastikon* (9.34 Bethe):

> *The parts about the harbor are sample-market* (δεῖγμα), *mole* (χῶμα), *mart* (ἐμπόριον), *and as Hyperides says, wharf* (ἐξαίρεσις), *where the cargo is being discharged, just as the name of the sample-market derives from giving samples of the goods to the buyers, as Hyperides says in his speech about the importer of salt fish. The parts about the mart are shops* (καπηλεῖα) *and brothels* (πορνεῖα), *which one could also call taverns; and there are not only "nautical" people, as many as one can count around the ships, but also traders and shop-keepers, and all those engaged in this field of work.*[47]

Heraclides Creticus (3ʳᵈ century BC) places an *emporion* and an *agora* into the area adjacent to the harbour walls of Chalcis:

> *The stream which comes from Salganeus in Boeotia and the Euboean sea flows in the same direction and into the Euripus; it passes along the harbour walls where there is the gate to the mart* (ἐμπόριον), *which is next to the agora; the agora is spacious and enclosed by three colonnades. As the agora lies near the harbour and the unloading of the*

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[44] Garland 1987, 95; Gabrielsen 1997, 73-74.

[45] For an overview of Hellenistic Olbia, see Krÿzhitskii and Leipunskaya 1999.

[46] Hyp. *Fr.* 186 Jensen. The only other word apparently preserved in this fragment is δεῖγμα (*cf.* Cooper 2001, 149).

[47] Trans. by author.

cargoes from the ships is quickly done, there is a large number of people who come by sea to the mart. The Euripus has two entrances and so it attracts the trader to the city.[48]

Diodorus Siculus (19.45.4) mentions a sanctuary of Dionysus located next to the δεῖγμα on Rhodes: ὁ περὶ τὸ δεῖγμα καὶ Διονύσιον τόπος. Later sources indicate the presence of a temple of Apollo in the harbour of Iusagura, an island near Phalasarna on Crete.[49]

In the case of Olbia, there may be evidence that at least some of these important features were present in the harbour area of the ancient city in addition to the δεῖγμα. Particularly, a large open space revealed during excavations of strata of the late 4th to the early 2nd centuries BC in the sector NGSyu (Fig. 2) has been tentatively interpreted by archaeologists as an *agora* or a *temenos*.[50] This interpretation is consistent with the discovery of ruins of some public or cult structure that were reported to have been found just south of this sector. First, the excavations of N. Arkas and F. Brun in 1870 revealed remains of a *stylobate*, two column drums, and a part of a column capital. And a few years later I.E. Zabelin also discovered remains of a stepped *stylobate* in the course of his excavations.[51] Both discoveries were not very well documented and the trench excavated by Arkas and Brun is not clearly designated on any plan. S.D. Krÿzhitskii, after a thorough analysis of their report, came to the conclusion that they probably worked in the same area as Zabelin did, and that the remains both they and the latter discovered belonged to one and the same *stylobate*. Krÿzhitskii dated the structure from the 3rd to the 2nd centuries BC, on the basis of material from the sectors later excavated north and south of it.[52] However, it is possible that similar constructions existed in the area also prior to this date. In 1958 Lapin worked in a sector located immediately on the shore and adjacent to the area excavated by Zabelin, southeast of the latter.[53] He too unearthed remains of what he termed a *stylobate*, dated to the first half of the 5th century BC, and interpreted it as part of a cult or public building. This allowed him to suggest that a second *agora* may have been located in the Lower City of Olbia in addition to the one excavated in the Upper City.[54]

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[48] Heraclid. Cret. 1.29. Trans. by Austin (1981, No. 83, 154).

[49] Hippolytus 594 Helm 1955; *cf. Stadiasmus* 336 Müller.

[50] Kryzhitskii, Krapivina 1994, 192; Kryzhitsky, Krapivina 1994, 41; Krÿzhitskii, Leipunskaya 1999, 170.

[51] Lapin 1962, 175; Krÿzhitskii 1985, 19-20 (with references to the original reports).

[52] Krÿzhitskii 1985, 20.

[53] Lapin 1962, 175.

[54] Lapin 1962, 169-176, figs. 3-5. Krÿzhitskii does not mention the remains of a *stylobate* discovered by Lapin, but he does place the ruins unearthed by Zabelin into the area which was

A *temenos*, however, is probably a more plausible explanation accounting for the open space in the sector NGSyu, because for practical reasons the *agora* (or/and the *emporion*) may have been placed closer to the ancient harbour proper, as was the case with harbour areas in other regions of the Greek world.[55] In the 4th-century-BC Olbia the *agora*, the *emporion* (if there was one), and the δεῖγμα could all have been located in what is now the submerged zone of the Lower City – within the city walls and near the water.[56]

Harbour Facilities

We may have a better – although still hypothetical – idea about the location of warehouses in the Olbian harbour area during the 4th century BC. The investigations of the submerged part of the Lower City, undertaken by Krÿzhitskii from 1971 to 1977, revealed concentrations of amphora fragments – the so-called "amphora-fields" (Fig. 2). Based on ceramic analysis, Krÿzhitskii interpreted "amphora field I"[57] as the remains of storage facilities, which, according to him, must have been in use during the 4th century BC.[58]

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later excavated by Lapin (Krÿzhitskii 1985, 20). If he is correct, then it is possible that Lapin found remains of either the same structure as Zabelin did (and then two different dates – the 5th century BC and the 3rd to the 2nd centuries BC – cannot be easily reconciled) or a successive structure of the same type (and this would mean that the area in question may have been used for the same purpose from the 5th century BC onwards).

[55] Apart from Heraclides Creticus's description of the harbour of Chalcis quoted above, we have archaeological evidence, for example, for the closed Classical harbour of Thasos, where an *agora* was excavated in the Lower City near the gate in the harbour's defensive wall (Archontidou-Argyri *et alii* 1989, 57; Cole 1995, 310).

[56] This assumption is indirectly supported by the fact that a number of unfinished stone slabs for *stelai* were found in the southwestern part of "amphora field I" and south of "amphora field II" (Fig. 2) (Krÿzhitskii 1984, 54-55, 58-60). It is well known that *stelai* were often placed both in the *agora* and in the δεῖγμα (the latter is attested, for example, by *IG* II² 1103.12-13 and by Polyb. 5.88.8).

[57] "Amphora-field I" was a zone of dark, slightly silted sand, measuring at most *ca.* 100 × 40 to 50 m and located 145 to 155 m off the shoreline and 2.0 to 2.3 m under the water. Scattered within the zone, stones were found, some of them with traces of cutting. The most numerous finds were large amphora fragments, spread over the area (they comprised *ca.* 90% of the total of *ca.* 1,500 recovered objects). A dozen complete amphorai were found as well. The analysis of the collected fragments showed that more than 70% of the amphora finds dated to the 4th century BC, about 10% from the 6th to the 5th centuries BC, about 9% from the 3rd to the 2nd centuries BC, and only 7% to the early centuries AD (Krÿzhitskii 1984, 51-53; Kryzhitskii, Krapivina 1994, 195).

[58] Kryzhitskiï 1984, 57; Kryzhitskii, Krapivina 1994, 195.

Although there is no archaeological evidence to substantiate the assumption that similar warehouses exited in Olbia both before and, especially, after the 4th century BC, they almost certainly must have been there. According to some scholars, land-routes that connected the wooded-steppe zone and the shore of the Dniepr-Bug liman must have existed prior to the Greek colonization of the region.[59] The foundation of the Greek colonies in the area led to the intensification of these connections, and both waterways and land-routes from Olbia to the steppes were extensively used for trade purposes.[60] The nature of the relations between Olbia and Scythia during the 5th century BC is still unclear, but their existence is beyond doubt.[61] For the later period it has also been suggested that Olbia may have either acted as a middleman between the Scythians and other Pontic cities, such as Chersonesos, or served as a transit point for merchants who came from other places on the Northern Black Sea coast by sea and then continued their way into the wooded steppes by land.[62] The city was a crossroad of both land- and sea-routes, and this must have inevitably had a bearing on the appearance of its harbour area. The goods that were delivered via waterways and intended for the population of the wooded-steppe zone had to be repacked and reloaded before continuing their journey farther inland; some of them probably also had to be stored for a period of time. It would be logical to conclude that the appropriate facilities must have been available in the Lower City of Olbia.

City Planning and City Walls

Harbour areas of ancient coastal cities often formed topographically separate quarters.[63] Similarly, the harbour proper, *i. e.* the sea-part of it, could be physically considered part of the city or not, depending on place and circumstances. For example, for the 4th century BC, Demosthenes (23.77-8) provides us with some important information concerning court sessions held near the Zea Port in the Piraeus. According to the author, a defendant who had been banished from the city and still was in exile while accused of another crime was allowed to arrive by boat and have his trial in the area on the coast referred

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[59] Ostroverkhov 1981, 84; Boltrik 2000, 122.

[60] Ostroverkhov 1981; Vinogradov 1989, 127; Boltrik 2000; Zolotarev 2000; Gavrilyuk 2001.

[61] Kryzhitskiy 2005, 123.

[62] Zolotarev 2000, 24.

[63] In fact, sometimes the harbour was actually physically located in a town different from the metropolis altogether, such as, for example, the Piraeus of Athens, Kenchreai of Corinth, and Mekyberna of Olynthus (Garland 1987; Scranton *et alii* 1978; Chaniotis 1988).

to as "in Phreatto", but was prohibited to set foot on land.[64] This clearly shows that while the land-part of the harbour was still considered the territory of the city in this case, the sea-part of it was not. On the other hand, a law from Delos of *ca.* 250-200 BC states that no one was allowed to sell wood or charcoal "if he has bought them on Delos, nor even if he has bought any of these [on board] ship".[65] Considering that these regulations probably also concerned the ships anchored in the harbour, it is significant that the authorities viewed a transaction completed on board ship equal to a purchase conducted on land and regarded both as a violation of the law.

In the case of Olbia the harbour area seems to have been integrated into the city proper, at least during certain periods of its existence. The building activities undertaken in the city during the Hellenistic period provide evidence for this development.[66] After major reconstructions that started in both the Upper and the Lower City in the last third of the 4th century BC,[67] Olbia still did not have a uniform regular plan and a rectangular pattern of streets, typical for other Hellenistic cities; however, the latitudinal streets in some areas of the Lower City seem to have been oriented towards the harbour.[68] Archaeologists based this conclusion on the results of the excavations in the southern and northern parts of the Lower City (sectors NGF and NGS, respectively) (Fig. 2), which revealed that these two areas had radial layouts, with a 10˚-15˚ difference between their plans.[69]

At the same time, the decree in honor of Protogenes, mentioned above, informs us that there had not been any walls that protected the city from the side of the river, at the harbour and at the former fish-market,[70] until

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[64] Garland 1987, 81.

[65] *Syll.*³ 975, lines 2-4: μὴ] | πριάμενον ἐν Δήλωι πωλεῖν, μηδὲ ὄν[τα ἐν τῶι] | πλοίωι τούτ[ω]ν μηθὲν πριάμενον.

Trans. by Austin (1981, No. 109, 188).

[66] For similar developments in the harbour areas of other Greek cities during the Hellenistic period, see Casson 1971, 366.

[67] Krÿzhitskii 1979, 122; Krÿzhitskii 1979a, 11; Leipunskaya 1995, 30; Vinogradov, Kryžickij 1995, 42.

[68] Krÿzhitskii, Leipunskaya 1999, 170. The general orientation of streets towards the harbour was manifest also in coastal cities with a regular plan. Heraclea Pontica, for example, had a main street, which ran from one city-gate to another, while the side streets intersected the former at a right angle and ran towards the acropolis and the harbour (Höpfner, Schwandner 1994, 12).

[69] Krÿzhitskii, Leipunskaya 1999, 166.

[70] *IOSPE* I² 32, side B, lines 1-4:

Ἔτι δὲ τοῦ πλείστου μέρους τοῦ πρὸς τὸμ ποτ[α]|μὸν τῆς πόλεως ἀτειχίστου ὄντος, τοῦ τε κα[τὰ]| τὸν λιμένα παντὸς καὶ τοῦ κατὰ τὸ πρότερ[ον] ὑπάρχον ἰχθυοπώλιον

Protogenes built those walls.[71] It has been assumed that Protogenes had either built the eastern defensive wall, which must have run along the shore, parallel to the shoreline,[72] or that he had continued the northern and the southern fortification lines down to the shoreline.[73] The former is more in line with the actual text of the decree, whereas the latter would explain why the underwater expeditions undertaken in 1970 to 1977 did not find any large stone piles arranged parallel to the shoreline that could have been interpreted as the defensive wall built by Protogenes.[74] Despite the uncertain location of these walls, we can at least assume that during the Hellenistic period the Olbian harbour area was fully incorporated into the city proper, judging by the fact that it lay within the city walls and that its location predetermined the orientation of the streets in the Lower City.

Studies from other parts of the ancient world show that harbour areas were not only topographically isolated, but sometimes also appeared as demographically and politically distinct. The evidence in support of social "otherness" of an harbour district and its political significance is elusive, and therefore it could be (and has been) convincingly demonstrated only for very few cases, most conspicuously, for that of the Piraeus.[75] This characteristic was not necessarily a constant feature, but may have been manifest at some times while much less so at others.[76] For example, a treaty of the alliance between Rhodes and Hierapytna in Crete, dated to *ca.* 200 BC, states that "the Hierapytnians shall assist the people of Rhodes, and make available their city (πόλιν), harbours (λιμένας) and naval bases (ὁρματήρια)".[77] The political significance of the harbour, apparent in this part of the treaty, is emphasized further in the same document, where the potential loss of customs and harbour revenues is paralleled by the overthrowing of democracy, so that the two are presented as the worst possible violations of the rights of the Hierapytnians.[78] A treaty of

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[71] *IOSPE* I² 32, side B, lines 29-37.

[72] Vinogradov, Kryžickij 1995, 42.

[73] Krÿzhitskii 1985, 99.

[74] Krÿzhitskii 1984, 66.

[75] Reden 1995 (with further references).

[76] In the case of the Piraeus, "...on at least four occasions its population either chose, or was compelled, to constitute itself into a separate civic entity and to run itself without reference to Athens". (Garland 1987, 83).

[77] *Syll.*³ 581, lines 9-10. Trans. by Austin (1981, No. 95, 166). For similar treaties between Rhodes and other Cretan cities, including Olous and Chersonesos, see *SEG* XXIII, 547; Gabrielsen 1997, 40-41, 171, note 90.

[78] *Syll.*³ 581, lines 67-71. Trans.:

And if anyone deprives the Hierapytnians of their lawful revenues
from the sea, or subverts the established democracy of the Hierapyt-

sympoliteia between Stiris and Medeon in Phocis (2ⁿᵈ century BC) mentions the harbour among other essential constituents of a polis, such as sanctuaries and a *chora*. They all were parts of the city but clearly had a special status, since they are named together and in addition to the city:

> *The Stirians and Medeonians have formed a single city, with their sanctuaries* (ἱερά), *their city* (πόλιν), *their territory* (χώραν), *their harbours* (λιμένας)…[79]

In the case of Olbia the available evidence, or rather the absence of it, does not allow us to discuss the harbour area as a community separate from the rest of the city. A much anticipated publication that will feature the results of recent excavations in the Lower City may clarify some points or at least will possibly allow some speculations, particularly on the subject of demography.[80] At this point, however, a few words can be said about the administrative branch of the Olbian harbour area.

Harbour Administration

The earliest inscriptions granting certain individuals entrance to and exit from the Olbian harbour (ἐσπλεῖν/εἰσπλεῖν καὶ ἐκπλεῖν or εἴσπλουν καὶ ἔκπλουν), along with free import and export of their goods, come from the 4ᵗʰ century BC.[81] Moreover, the majority of such inscriptions found in Olbia date to this period (such as *IOlb* 2; 3; 5; 6; 8; *IOSPE* I² 20; 23),[82] while fewer have been ascribed

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nians, and the Hierapytnians ask for an auxiliary force, / the Rhodians
shall send two triremes to the Hierapytnians… (Austin 1981, No. 95, 167, 169, note 7).

[79] *Syll.*³ 647, lines 8-9. Trans. by Austin (1981, No. 134, 230). *Cf. Syll.*³ 646, lines 17-18, 20-21.

[80] An edited volume published by the Danish National Research Foundation's Centre for Black Sea Studies is forthcoming.

[81] The majority of the inscriptions discussed in this article have been dated on paleographical and stylistic grounds. A new edition of the entire corpus of the epigraphical material from the Northern Black Sea coast (*IOSPE*³) is now in progress, and it is highly probable that new dates and interpretations will be offered for at least some documents. I am very obliged to Prof. A.I. Ivantchik, who is currently preparing the texts of the Olbian inscriptions for this new edition, for information about his dating of some of the documents considered in the present study.

[82] Knipovich and Levi date *IOlb* 2 to the end of the 5ᵗʰ century BC (Knipovich, Levi 1968, 14-15), whereas Ivantchik argues for the beginning of the 4ᵗʰ century BC; the latter also dates *IOSPE* I² 20, for which Latŷshev gives the 5ᵗʰ century BC (Latyshev 1916, 27-28), to the second quarter of the 4ᵗʰ century BC (Ivantchik, *forthcoming*). Latŷshev only saw a drawing of *IOSPE* I² 20, since the original was no longer to be found (Latyshev 1916, 28). Knipovich and Levi date *IOlb* 3 to the first half of the 4ᵗʰ century BC (Knipovich, Levi 1968, 15-16); Vinogradov suggests the end of the 5ᵗʰ to the beginning or the first quarter of the 4ᵗʰ centuries BC (Vinogradov, Karŷshkovskii 1976, 24), and Ivantchik agrees with the latter date (Ivantchik, *forthcoming*).

to the 3rd century BC (such as *IOSPE* I² 27; *IOlb* 17; 18).[83] These documents provide clear evidence that by the 4th century BC the Olbian harbour possessed an administrative component. There was administrative control over ships entering and exiting the harbour, as well as over the collection of taxes levied on these ships and on imported and exported goods.

At this point we do not know what kind of officials may have been in charge of these activities. By the 4th century BC Olbia possessed an harbour area that may have included, among other facilities, warehouses, *temenos*, *agora*, and δεῖγμα. The evidence from other regions of the Greek world shows that the administrative system of a large commercial harbour could be rather complex, with various magistrates having different responsibilities at different times. Most of the information in this respect comes from the Piraeus. There is a document from a later period (the end of the 2nd century BC) that testifies to the existence of a generic *epimeletes tou limenos*.[84] The rest of the evidence concerns officials associated with trade, most of whom, according to Aristotle, had their counterparts in the city proper.[85] The *agoranomoi* oversaw the commercial activities on the market place, assisted by the *pentekostologoi*, who registered all the imports, and the *metronomoi*, who examined the weights and measures of the merchandise offered for sale. Prior to selling, the merchants had to state the prices of their wares to the *agoranomoi* and the *pentekostologoi*. Other pertinent personnel in the Piraeus included the *epimeletai tou emporiou* and the *sitophulakes*, both in control of different aspects of the grain trade. The naval zone of the Piraeus was in the care of yet another group of officials.[86]

Vinogradov dates *IOlb* 8 to the second quarter of the 4th century BC and *IOlb* 5 and *IOlb* 6 to the 340s-330s BC (Vinogradov, Karÿshkovskii 1976, 25; Vinogradov 1990, 58). Ivantchik assigns all three inscriptions to the second half of the 4th century BC (Ivantchik, *forthcoming*), agreeing on this with Knipovich and Levi, who specify that *IOlb* 5 should not be dated much later than the mid-4th century BC (Knipovich, Levi 1968, 17-19, 21). Finally, Vinogradov suggests the 330s-320s BC as the date for *IOSPE* I² 23 (Vinogradov, Karÿshkovskii 1976, 24-25), which corresponds to the more general dates of the 4th century BC and the second half of the 4th century BC provided by Latÿshev (Latyshev 1916, 31) and Ivantchik (Ivantchik, *forthcoming*), respectively. Yailenko argues that *IOSPE* I² 23 and *IOlb* 9 are fragments of one and the same inscription and dates it from the last third of the 4th to the first quarter of the 3rd centuries BC, along with *IOlb* 5, *IOlb* 6, and *IOlb* 8 (Yailenko 1985, 216-217).

[83] Vinogradov dates *IOSPE* I² 27 to the first half of the 3rd century BC (Vinogradov, Karÿshkovskii 1976, 26), whereas Latÿshev gives a more general date of the 3rd century BC (Latyshev 1916, 38-39). Knipovich and Levi date *IOlb* 17 and *IOlb* 18 to the second half of the 3rd century BC (Knipovich, Levi 1968, 26-28).

[84] Garland 1987, 83.

[85] Arist. *Ath. Pol.* 51.1-4.

[86] Garland 1987, 77-81. At the same time, Hellenistic Rhodes, for example, provides no evidence for naval administration, such as a board of officials in charge of dockyards. And yet, the existence of this kind of personnel is almost certain, because the infrastructure of the famous

Some of these magistrates are also known outside of the Piraeus. The presence of the *epimeletai tou emporiou* is testified for Miletos.[87] An inscription from Delos of *ca.* 250 to 200 BC mentions the *agoranomoi* and the *pentekostologoi*.[88] The law stated that those importing wood or charcoal had to declare the price of their goods before selling, first to the *pentekostologoi* (who also collected taxes imposed on imports) and then to the *agoranomoi*; the merchants who enjoyed the privilege of importing their wares tax-free reported only to the latter. The *agoranomoi* also exacted fines from those who violated this law and were found guilty by the court.[89] In 3rd-century-BC Thasos similar functions were assigned to the *epistatai*, who were in charge of collecting fines from ship owners who had disobeyed the regulations concerning the hauling up of ships within the harbour.[90]

In Olbia the existence of the office of the *agoranomoi* is testified from the 4th century BC onwards. The evidence includes locally produced stamped measuring vessels and bronze weights. The number of magistrates filling the office varied from three to five during different periods.[91] A similar administrative body may also have existed prior to this period, as attested by a fragment of a Gray Ware oinochoe from the second half of the 6th century BC, found on the island of Berezan.[92] The fragment bears the graffito [δ]ίκαιον, on account of which it has been concluded that this oinochoe must have served as a standard measuring vessel. This conclusion implies that some system of control over weights and measures in trade was already functioning in the *polis* by the 5th century BC.[93] If the interpretation is correct, then a similar kind of authority was probably in place for imported and exported goods, and therefore some kind of officials must have overseen transactions in the harbour.

Since the Olbian *agoranomoi* were clearly concerned with control over the accuracy of weights and measures, it would be logical to infer that they were involved in the commercial activities in the harbour area, at least to a certain extent.[94] If the δεῖγμα was already functioning during the 4th century BC, merchants must have displayed their wares there. By analogy to the Delian

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Rhodian naval bases was very complex and the presence of such officials is attested in many other city-states (Gabrielsen 1997, 40).

[87] *Milet* 140A.33.

[88] *Syll.*³ 975.

[89] Austin 1981, No. 109, 188-189.

[90] *IG* XII Suppl. 348; Salviat 1958, 204-206; Austin 1981, No. 108, 187-188.

[91] Krapivina 2004.

[92] I am grateful to S.B. Buiskikh for drawing my attention to this important artifact.

[93] Vinogradov 1983, 386; Vinogradov 1989, 63; Krÿzhitskii 1987, 151; Buiskikh 2006, 48-49.

[94] It has been suggested that they may have also been in charge of collecting taxes on imported wares (Krapivina 2004, 127), but this claim cannot be substantiated at this point.

harbour and the Piraeus, we can assume that they probably had to declare the prices of their goods before selling them, and that later some local magistrates had to keep an eye on the sellers to ensure that they were sticking to these prices. It is possible that this too was the responsibility of the *agoranomoi* or of some of the auxiliary officials. In addition, Kanobos's decree on money (*IOSPE* I² 24), dated from the second to the third quarters of the 4th century BC,[95] obligated merchants to use exclusively Olbian coins for any payments. While the exchange of money had to take place in the ἐκκλησιαστήριον,[96] the actual transactions, no doubt, took place in the harbour area, and therefore some officials had to be present there in order to make sure that the law was observed. Violators were subject to fines, collected by individuals who bought the right to perform this task, and could be prosecuted in court.[97]

It has also been suggested that the office of ναύκληροι may have existed in Olbia in the 3rd or the 2nd century BC.[98] A graffito inscribed on a red-clay amphora fragment dated to this period, discovered in the ruins of a large public building in the western area of the *agora*, contains a possible reference to this office.[99] The editor of the graffito Shebalin restored the first two lines as follows:

τ]οῖς ναοκλήρ-
οις τ]οῖς πρὸ ἡμῶν

and interpreted the text as a letter of one group of ναύκληροι to another.[100] Following an hypothesis advanced by another scholar prior to the discovery of the fragment,[101] Shebalin tentatively suggested that the magistracy of the ναύκληροι was an office in charge of the ships owned by the city of Olbia.[102] The fact that the city had ships in its possession (τὰ πλοῖα τὰ δημόσια) is confirmed by the decree in honor of Protegenes.[103] This document also relates

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[95] Zhebelev 1953, 297-298; Karÿshkovskii 1967, 79-80; Vinogradov, Karÿshkovskii 1976, 28; Vinogradov 1989, 27-28; Ivantchik 2004, 4.

[96] *IOSPE* I² 24, lines 6-10:   ὁ δὲ θέλων πωλεῖν [ἢ
ὠν]εῖσθαι χρυσίον ἐπίσημον ἢ ἀργύ-
[ριο] ἐπίσημον πωλείτω καὶ ὠνείσθ[ω
ἐπὶ] τοῦ λίθου τοῦ ἐν τῶι ἐκκλησιασ[τη-
ρί]ω[ι

[97] *IOSPE* I² 24, lines 19-22.

[98] Shebalin 1968; Vinogradov 1989, 261; Anokhin, Rusyaeva 1999, 379.

[99] Shebalin dated it to the 3rd century BC (Shebalin 1968, 296), whereas Anokhin and Rusyaeva think that the first quarter of the 2nd century BC is a more likely date (Anokhin, Rusyaeva 1999, 379).

[100] Shebalin 1968, 298.

[101] Kolobova 1933, 97.

[102] Shebalin 1968, 298-299.

[103] *IOSPE* I² 32, side B, line 51.

that at the time of Protogenes these ships were in a very bad condition and could not be used, and that the *demos* therefore had to pay private individuals for transporting stone, and, finally, that Protogenes offered to fix the public ships.[104]

Warships, Navy, and Military Harbour

This information provided by *IOSPE* I² 32 seems to correspond well to the contents of a decree in honor of Anthesterios, dated to approximately the same time.[105] According to Vinogradov's restoration and interpretation, the decree informs us that Olbia's ships were in bad condition and that Anthesterios built a warship, fixed the vessels that had to be repaired, and provided all ships with gear:[106]

καὶ του[----------ἐξ ἐτῶν] πλε[ι-]
όνων πλ[οίων κακῶς διακειμένων (?) πε]ρί [τ]ε
προενόν[των ------ἐπιμελη]θῆγ[αι]
πλοῖον μα[κρὸν κατασκευασμένος καὶ] τ[ὰ] μ[ὴ]
πλέοντ[α διωρθωμένος κατὰ τὰ πάν]τα χορη-
γίαν διέ[θηκεν ἱκανήν (?)].

Vinogradov pointed out that in this decree πλοῖον μακρόν stands for a *warship*[107] and argued that Olbia may have possessed a military fleet during the period under discussion.[108] However, the latter conclusion may be somewhat premature since the document only mentions one warship and no other direct

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[104] *IOSPE* I² 32, side B, lines 49-53:   ἔτι δὲ τῆς πόλεως
ναῦλον τελούσης τοῖς ἄγουσι τοὺς λίθους ἰδιώ-
ταις διὰ τὸ τὰ πλοῖα τὰ δημόσια κακῶς διακεῖσ-
θαι καὶ μηθὲν ἔχειν τῶν ἀρμένων, ἐπηγγείλατο
καὶ ταῦτα κατασκευᾶν

Trans.: *Moreover, as the city was paying a freight-charge to the private individuals who transported the stones, since the public (transport) ships were in bad condition and did not have any tackle, he promised / to supply these too.* (Austin 1981, No. 97, 173).

[105] Third quarter of the 3ʳᵈ century BC (Vinogradov 1984, 54; Vinogradov 1989, 180). The text of the document is rather fragmentary, so that its reading inevitably involves much conjecture. In particular, the part featured in our discussion was heavily restored, and the restoration was actually partially based on parallels provided by the decree in honor of Protogenes (Vinogradov 1984, 70). For a critique, see Yailenko 1990, 273-274, note 69.

[106] Lines 26-30 (Vinogradov 1984, 56-57).

[107] In this translation of πλοῖον μακρόν Vinogradov followed J. Robert and L. Robert, to whose publication in *BE* 419 (1961), 193 he referred (Vinogradov 1984, 70).

[108] Vinogradov 1984, 57, 70; Vinogradov 1989, 180.

evidence concerning naval forces has been found in Olbia. A graffito showing a warship, drawn on a fragment of a black-glazed vase (Fig. 4, *b*),[109] cannot be considered evidence in this case, because it is impossible to determine with certainty whether the depicted ship was Olbian or foreign.

The city must have needed some military vessels for protection against piracy or for use in military actions (and the two cannot always be easily separated). Piracy in the Hellenistic period is a well-known phenomenon,[110] also in the Black Sea region.[111] At least two documents show that Olbia had to face this problem. The inscription *IOSPE* I² 325 from Leuke, dated to the 330s-320s BC on paleographical grounds,[112] is a decree issued by the Olbiopolitai in honor of an unknown individual (most likely an Olbian citizen) on account of his numerous services to the city, including the act of freeing "the sacred island" (supposedly, Leuke) from pirates.[113] It has been pointed out that the text of the inscription can either mean that pirates were plundering the sanctuary located on the island itself or that they were using the island as their base for attacking Greek ships in the Black Sea.[114] Another possible explanation would be that the pirates intended to capture wealthy pilgrims who came to visit the Panhellenic sanctuary of Achilles on Leuke and hold them for ransom.[115] In either case the city of Olbia, which held the protectorate over the island,[116] must have considered itself responsible for taking care of this problem and for guaranteeing the safety of the visitors. This is apparent from the text of the decree, which, after praising the recipient of the honors, emphasizes Olbia's care for the island.[117] In general, the practice of pirating near important Panhellenic sanctuaries is well attested for other regions of the ancient world.

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[109] Presently located in the Archaeological Museum of the Archaeological Institute of the National Ukrainian Academy of Sciences in Kiev (inv. No. O-64/1610) (Nazarov 1994, 95-96, fig. 1, *3*).

[110] See, for example, Archontidou-Argyri 1994, 29; Gabrielsen 1997, 43-45.

[111] Brashinskii 1973; Ostroverkhov, Okhotnikov 1995; Tsetskhladze 2000-2001.

[112] Vinogradov 1989, 164-166. Latÿshev dated it from the 4th to the early 3rd centuries BC. Yailenko agrees with the latter in terms of the date, but offers an alternative interpretation of the text (Yailenko 1990, 266-268).

[113] Vinogradov 1989, 166 (with further references).

[114] Vinogradov 1989, 166, note 94.

[115] Olbiopolitai coming to Leuke, apparently, as pilgrims, are mentioned in *IOSPE* I² 26.

[116] Pyatÿsheva 1966, 59; Karÿshkovskii 1983, 166; Okhotnikov 1993, 104; Okhotnikov 2006, 77-80; Okhotnikov, Ostroverkhov 1993, 106-113; Rusyaeva 2006, 98.

[117] Vinogradov 1989, 167. *IOSPE* I² 325, lines 12-17 (in the edition of Vinogradov 1989, 165):

κα ἡ πόλις φανερ[ν]
ποήσηι το]ῖς Ἕλλησιν, ὅτι κα τῆς νήσου πολ[ν]
[πιμέλειαν] ποεῖται κατ τ πάτρια κα τος φι-
[λοτιμου[μέ]νους ες ατν κα ζντας τιμ[αι]

For example, we know that in the 1st century BC pirates established themselves on the small and barren island of Pharmakoussa,[118] which supposedly was under Milesian control. The convenient location on the way to the sanctuary at Didyma probably allowed them to take advantage of nearby sea-traffic and of the fact that many rich pilgrims must have passed by Pharmakoussa in order to reach the Oracle.[119]

The other pertinent document – *IOSPE* I² 672 – is a dedication to Achilles, "the lord of the island", by Posideos, son of Posideos, who defeated the pirating *Satarchai*.[120] The inscription was found in Neapolis, but Posideos was identified as an Olbian citizen,[121] also known from other epigraphical sources,[122] all dated roughly to the 2nd century BC.[123] Both in this case and in the events described in *IOSPE* I² 325 warships must have been employed in order to settle the conflict and take control of the situation.

The involvement of naval forces is less certain, but still conceivable, in military actions possibly undertaken by Olbia during the same period. The restored text of the decree in honor of Anthesterios indicates that the city probably fought some war with the help of *mixhellenes*.[124] Other epigraphical sources suggest that Olbia may also have participated in a military conflict between Byzantium, on the one side, and Istria and Kallatis, on the other, about the control over the harbour of Tomis, which probably took place around 260 BC.[125]

Although epigraphical evidence indicates that Olbia must have been involved in some actions which required the active engagement of warships,

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    [καὶ τελευτήσα]σιν α[ὐτ]οῖς ἀ[ξ]ίας ἀποδίδωσι
    [χάριτας].

[118] Plut. *Caes*. 1-2.

[119] Greaves 2000, 45, 56.

[120] Ἀχιλλεῖ νήσου [μεδέοντι]
    Ποσίδεος Ποσι[δέου τοὺς]
    Σαταρχαίους [νικήσας]
    πειρατεύσαντ[ας ἀνέθηκεν?].

For an alternative restoration, see Vinogradov 1989, 243-244, note 63. For a discussion of the inscription and for further references, see Vinogradov 1989, 242-246; Nazarov 1994, 99.

[121] Vinogradov 1989, 243.

[122] *IOSPE* I² 670; 671; 168.

[123] Latÿshev dated this inscription from the end of the 3rd to the 2nd centuries BC (for the reference, see Brashinskii 1973, 130), while Yailenko and Vinogradov assigned it to the 180s BC (Yailenko 1985, 170; Yailenko 1990, 274) and to the mid-2nd century BC (Vinogradov 1989, 244-246), respectively.

[124] Vinogradov 1984, 65; Vinogradov 1989, 180. For a critique, see *SEG* XXXIV, 758, p. 207.

[125] Solomonik 1970, 434; Vinogradov 1989, 179; Domanskii, Frolov 1997, 125.

it does not specify that they constituted a fleet of considerable size. It has been repeatedly argued that archaic Greek poleis, in general, did not have their own warships but rather relied on their ship-owning citizens to provide naval vessels when needed.[126] In the 5th century BC the situation in Greece was already different, resulting from the introduction of the trireme and other socio-political changes.[127] However, it is possible that Olbia continued the general archaic practice of calling upon private citizens whenever a need for warships arose. In fact, the number of Olbian citizens who were willing and capable of helping out in these matters must have increased during the Hellenistic period. It has been pointed out that from the mid-3rd century BC onwards all *proxenies* were still put forward by private individuals, but that the right to present to the *boule* and the *demos* drafts of laws and honorary decrees passed to Olbian magistrates.[128] This, among other changes,[129] prompted scholars to speak about the prevailing institution of elite democracy that led to the rise of *euergetism*,[130] apparent in many areas of the city's life. Wealthy citizens could have contributed both by means of repairing ships owned by the city (as testified by the decrees in honor of Protogenes and Anthesterios) and by building new sea-going vessels, including warships (as Anthesterios possibly did). Some individuals may also have had warships in their private possession, for example, for the protection of their merchant vessels,[131] and these ships could have been used by the city in times of need. Some earlier sources from other parts of the Greek world even mention trireme owners, although this must have been an exception rather than common practice.[132] In the case of Hellenistic Olbia it is conceivable that the pirate-fighting Posideos from *IOSPE* I² 672 and the unknown Olbian citizen honored in *IOSPE* I² 325 were acting as private individuals employing their own naval resources on behalf of the city.

While it is quite possible that Olbia did not have a navy big enough to need a separate military harbour, the question whether such an harbour existed has been raised repeatedly and therefore should be addressed here. In most coastal cities with considerable military fleet the naval harbour was physically separated from the commercial harbour, as, for example, on the island of Aegina,[133]

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[126] Scott 2000, 93 (with further references).
[127] Scott 2000, 109-110.
[128] Vinogradov 1989, 221-223; Anokhin, Rusyaeva 1999, 370.
[129] Vinogradov 1989, 219-221.
[130] Anokhin, Rusyaeva 1999, 379-380; Anokhin 1999, 381-382.
[131] Rostovtsev 1918, 190.
[132] For further references, see Wallinga 1993, 20; Scott 2000, 109, note 66.
[133] Shaw 1972, 90.

in the cities of Rhodes, which had five ports,[134] and Thasos, which had three,[135] including *le port du guerre*,[136] or in Mytilene, which had two harbours – the northern, commercial one, known as the Great harbour in antiquity, and the southern one, where the triremes were anchored.[137] Besides, naval bases usually possessed special features, such as roofed shipsheds with slipways and other dockyard installations.[138] In the case of Olbia, the southern part of the bay (south of the post-Getic fortification wall), which had a closed shape, has been tentatively suggested as the possible location of a naval harbour.[139]

The only – indirect – evidence used in support of the claim that Olbia did have a military harbour was extrapolated from a decree in honor of Orontes from Olbia, issued by the people of Byzantium (*IOSPE* I² 79), dated to the early centuries AD.[140] This document makes a reference to "those sailing into the *emporion*",[141] which gave some scholars a reason to suggest that since the decree specifically mentions a commercial harbour, *i. e.* ἐνπόριον, then there must have been a separate naval harbour in Olbia as well.[142] In fact, after Latÿshev published *IOSPE* I² 79, no other scholar, to my knowledge, questioned his translation of ἐνπόριον as "commercial harbour".[143] And yet a similar phrase in Kanobos's decree on money (*IOSPE I²* 24) has received ample attention and gave rise to an ongoing debate that has yet to be settled. This decree proclaims the conditions under which anyone wishing "to sail into Borysthenes" is allowed to do so,[144] but does not make it clear what should be understood under *Borysthenes*. In 1913 Minns suggested that in this case *Borysthenes* "might well apply to the whole liman – to the port of Borysthenes in the wider sense".[145] In 1940 Zhebelev expressed a very similar opinion,[146] but, according to Minns, "he did not understand the wide technical sense of 'port'".[147] Some other scholars also agree that *Borysthenes* probably did not

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[134] Gabrielsen 1997, 37-38.

[135] Archontidou-Argyri *et alii* 1989, 59.

[136] Simossi 1994.

[137] Archontidou-Argyri 1994, 28; Shaw 1972, 90.

[138] Gabrielsen 1997, 38.

[139] Krÿzhitskii 1984, 62.

[140] Knipovich, Levi 1968, 22. Latÿshev cited the publication by Boeckhius, who dated the decree to the rule of Tiberius or Caligula (Latyshev 1916, 110), *i. e.* the first half of the 1st century AD.

[141] *IOSPE* I² 79, line 9: τῶν εἰς τὸ ἐνπόριον πλεόντων.

[142] See, for example, Krÿzhitskii 1984, 61-62; Nazarov 1994, 97.

[143] Latyshev 1916, 111.

[144] *IOSPE* I² 24, line 1: [εἰς Βο]ρυσσθένη εἰσπλεῖν.

[145] Minns 1913, 451, note 1.

[146] Zhebelev 1953, 297. The article was first published in 1940 (Zhebelev 1940, 275-281).

[147] Minns 1945, 112.

refer to the city of Olbia *per se*; however, they think that it must have been used to denote a larger territory, such as the whole Lower Bug region, rather than just the liman.[148] Conversely, other scholars claim (on various grounds) that the name in question stands only for Olbia, which was *Borysthenes* to foreigners.[149] And there are still others who identified *Borysthenes* as just a part of the city, namely, the *emporion* – a part of the harbour supposedly located in the Lower City of Olbia.[150] The only safe conclusion in this case is that "the formulation of the beginning of the decree does not provide any grounds for deciding whether or not the word Borysthenes here means the city or the river".[151]

It follows, then, that if *Borysthenes* in *IOSPE* I² 24 can refer to the city of Olbia as a whole, then so certainly can also ἐνπόριον in *IOSPE* I² 79. It has been argued that to foreigners, *for whom* Kanobos's decree was apparently written, Olbia was known as *Borysthenes*, and that is why the latter probably stands for Olbia in *IOSPE* I² 24.[152] If this is indeed correct, we should accept the possibility that in the decree honoring Orontes, which was written *by* foreigners, ἐνπόριον may also refer to the whole city of Olbia. For merchants, who came to the city for the sole purpose of trading, Olbia actually *was* an *emporion*. Consequently, also in this case, the only conclusion we can make is that nothing indicates that ἐνπόριον was used specifically in reference to a commercial harbour. Therefore, the accepted translation of ἐνπόριον as "commercial harbour" is rather misleading since it narrows down the meaning of the term and thus limits our understanding of whatever may stand behind it. Moreover, it certainly cannot unequivocally count as evidence in support of the existence of a military harbour at Olbia, as different from a commercial one.

Berezan

When considering the possibility that multiple harbours existed in Olbia, one also has to discuss the harbour of Berezan, the site of the earliest Greek colony

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[148] For further references, see Vinogradov 1989, 28, note 88.

[149] Latyshev 1887, 34-35 (quoted in Zhebelev 1953, 291-292; Karÿshkovskii 1967, 78; Vinogradov 1989, 26-27); Karÿshkovskii 1967, 79-80; Vinogradov 1989, 27; Hansen 1997, 101.

[150] Hansen 1997, 101-102, with a reference to Dittenberger's comment to *Syll.*³ 218: "Βορυσθένης hic non urbem, sed emporium et portum indicat" (p. 294).

[151] Ivantchik 2004, 4.

[152] Latyshev 1887, 34 (as quoted in Vinogradov 1989, 26-27); Karÿshkovskii 1967, 79; Vinogradov 1989, 28.

on the Northern Black Sea coast. The island of Berezan is located about 40 km away from Olbia, at the confluence of the Dniepr-Bug and Berezan limans where they debouch into the Black Sea, not far from the city of Ochakov in modern Ukraine (Fig. 1). This uninhabited plateau, presently measuring *ca.* 890 × 485 m at its largest, is gradually being destroyed by erosion.[153] There is general agreement that ancient Berezan was a peninsula, joining the mainland on the side of the shore where Ochakov is located. At some point in antiquity the peninsula separated from the mainland and became an island.[154]

The majority of scholars now recognize the settlement on Berezan as that of Borysthenes (called so after the ancient name of the river Dniepr), a Milesian colony, mentioned in the *Chronicle* of Eusebius. Eusebius's date for the foundation of Borysthenes has been calculated as 647/646 BC (95b Helm 1956).[155] The earliest archaeological material from the site dates from the mid-7th to the third quarter of the 7th century BC,[156] and the earliest architectural remains come from the end of the 7th century BC.[157]

It has been argued that already in the 6th century BC the settlement on the island became part of the Olbian *polis* and was its *emporion*.[158] Many scholars also maintain that by the beginning of the 4th century BC Berezan lost its former importance, owing to the fact that Olbia established her own harbour.[159] However, while this development could account for the gradual decline of the Berezan settlement, it does not necessarily explain why Olbia should have lost interest in the island. The suggestion that the harbour of Berezan must have functioned for a longer period than is usually recognized has not received much attention,[160] but for a number of reasons this view is probably more correct than the traditional one.

First of all, an important trading center, such as 5th- and 4th-century-BC Olbia,[161] could have easily found use for more than one harbour. In fact, we

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[153] Vinogradov 1994, 19; Vinogradov, Kryžickij 1995, 62; Nazarov 1997a, 131.

[154] Zenkovich 1960, 70-71; Shcheglov 1965, 107-110; Agbunov 1981, 133; Shilik 1988, 90; Shelov-Kovedyaev 1990, 58-59; Bruyako, Karpov 1992, 95; Treister, Vinogradov 1993, 538; Vinogradov 1994b, 19; Vinogradov, Kryžickij 1995, 62; Nazarov 1997, 20; Nazarov 1997a, 131-133. A variety of dates ranging from the 4th century BC to the 6th century AD has been suggested and there is still no agreement on the date.

[155] For this date and a brief discussion of the question, see Vinogradov 1989, 33, 36-37, note 20.

[156] Kopeikina 1982, 6-8; 1986, 28-29; Krÿzhitskii 1987, 36; Boardman 1998, 201-202, note 3; Il'ina 2000, 201-203.

[157] Solovyov 1999, 30; Kopeikina 1979, 107, 110.

[158] Vinogradov 1976, 80-82.

[159] Vinogradov 1976, 82; Kopeikina 1979, 111; Vinogradov, Kryžickij 1995, 64.

[160] Nazarov 1994, 98.

[161] Krÿzhitskii, Leipunskaya 1999, 130-149, 210-218.

have enough evidence to demonstrate that this was precisely the case with many other Greek coastal cities. The settlement's own mother city, Miletos, had four harbours, according to Strabo (14.1.6).[162] Another famous example is, of course, Corinth, with its two ports – Lechaeum (on the Gulf of Corinth to the west) and Kenchreai (the Saronic Gulf to the east).[163] Syracuse also possessed several ports, including two that were located back to back, separated by a land-bridge that connected the island of Ortygia to the mainland and must have been in existence already in the 6th century BC.[164] Cyzicus and Old Smyrna each had two harbours, situated on either side of a headland projecting into the sea, similarly to those of Syracuse.[165]

Secondly, the possession of Berezan (whether an island or still a peninsula at that point) was a key to keeping control of the local waters, and therefore was vital for the security and defense of the Olbian city. Owing to its strategic location at the confluence of the Berezan and Dniepr-Bug limans, the island must have maintained its importance for Olbia during the entire time of her existence. Some scholars have argued that after the foundation of Olbia Berezan may have functioned as a check-point for ships entering the limans.[166] Similarly, the command of the island of Lade, located at the entrance to the Gulf of Latmos, proved crucial for Olbia's mother-city – Miletos – throughout its history, since every time the Milesians lost this island, they also lost their city.[167]

Finally, for Olbia, dominance over the adjacent seas was instrumental in maintaining control of the regional and, to some extent, interregional connections. The regional connections included not only local trade and shipping, but also communication with the coastal parts of the Olbian *chora*. On the interregional level, Berezan and the waters immediately around it were part of the cabotage route that led farther to the Northern Black Sea coast and, particularly, to the Crimean peninsula. In fact, it has been suggested that this would be another reason why the harbour of Berezan must have continued to function even after Olbia started to use her own harbour: during this period, the cabotage route along the northwestern coast was still used not only by ships sailing directly to Olbia, but also by those heading to the colonies located farther on the northern coast of the Black Sea. For the latter it probably was

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[162] For the harbours of Miletos, see Greaves 2000.
[163] Shaw 1972, 90.
[164] Castel Lentini di 1970, 312.
[165] Shaw 1972, 90.
[166] See, for example, Boltenko 1930, 39; Nazarov 1994, 98.
[167] Greaves 2000, 40, 45, 55-56.

more convenient to stop over at Berezan before continuing their voyage than to make a detour to Olbia.[168]

After ships started to use the shorter and more direct route across the sea on a regular basis, there was much less need for the "transit" harbour of Berezan. This development probably took place already at the end of the 5th to the first half of the 4th centuries BC[169] and has been linked to the foundation of the Greek city of Chersonesos on the northern coast of the Black Sea at the end of the 5th century BC.[170] This route either went straight across the Black Sea from its southern coast to its northern coast or, alternatively, combined the cabotage sailing along the western coast of the Black Sea with crossing open water from some point straight to the southern shore of the Crimean peninsula.[171] Presumably, in the 4th century BC fewer ships sailing to the North Pontic region were still using the full-length cabotage route along the Northwestern Black Sea coast. This probably caused an inevitable decrease of maritime traffic in the area and may have been one of the factors contributing to the overall decline of the settlement on Berezan. The Berezan harbour may still have continued to function, but on a smaller scale than before, serving primarily local needs and only occasionally as a stop-over for foreign ships. A similar development has been observed for other areas of the ancient world, where the introduction of open-water navigation led to changes in trade patterns that consequently affected coastal cities and their harbours.[172] However, notwithstanding this change in sailing patterns, the island of Berezan and its harbour must not have lost their importance to Olbia, for the reasons mentioned above.

Olbia's continuous interest in the island is also confirmed by the fact that during the early centuries AD Berezan housed an important cult center of Achilles *Pontarches*. Rostovtsev suggested that Olbia probably established this new sanctuary on Berezan after she had lost her protectorate over the island of Leuke, the main cult center of Achilles in the region.[173] Currently this hypothesis is accepted by many scholars, who agree that during the Roman period the

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[168] Nazarov made this observation referring to the period from the 4th century BC onwards, *i. e.* after the foundation of Chersonesos (Nazarov 1994, 98), but in fact it should rather be applied to the earlier period, during which the cabotage route along the western coast of the Black Sea was still used more extensively.

[169] Gaidukevich 1969, 11, 15-19; Zolotarev 1979, 95-96; Kats 1990, 106; Saprykin 2000, 217-218, 223; Nazarov 2003, 110.

[170] Kats 1990, 106-107; Saprykin 2000, 218, 223.

[171] Zagorovskii 1929, 39; Gaidukevich 1969, 12-14; Zolotarev 1979, 96; Kats 1990, 106; Saprykin 2000, 217 (all with the reference to Ps.-Scyl. *Peripl.* 68).

[172] Greaves 2000, 39.

[173] Rostovtsev 1918, 187.

patronage over Leuke passed to one of the West Pontic cities, most likely Tomis.[174] The harbour of Berezan must have continued to function during this period, even if only to serve the visitors of the sanctuary, who were coming by sea.[175]

Roman Olbia

In the mid-1st century BC Olbia was probably invaded by Getae, as mentioned in Dio Chrysostom's oration *Borystheniticus* (*Or.* 36.4-6). As a result, the city was ruined and its fortification walls were destroyed.[176] In the early centuries AD the territory of the city proper was approximately three times smaller than it was during the Hellenistic period.[177] Various specialized quarters appeared in place of the former residential complexes of Olbia, which during the 1st to the 2nd centuries AD were located outside the city walls. The excavations of the area in front of the northern fortification complex in the Upper City revealed some architectural remains, including paved areas and walls of some domestic structures (in the Central Quarter), wineries, and granaries. These quarters ceased to exist in the 2nd century AD, unlike the ones in the Lower City, which continued to function for some time afterwards.[178]

The latter were located outside of the defensive walls in the Lower City, in the central area of the former Hellenistic city (sector NGC) (Fig. 2). The quarters did not have a regular layout and included storage facilities, residential structures, and some production complexes. The excavations in the sector NGC produced remains of a considerable number of primitive kilns and traces associated with their function, as well as fragments of metal objects, slags, and parts of a ceramic oven, which attest the presence of small and rather primitive metallurgic and ceramic workshops in the area. South of the sector NGC a potters' quarter was excavated, also located on the outer side of the city walls.[179]

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[174] Rusyaeva 1992, 78; Rusyaeva 2005, 477; Okhotnikov 1993, 104; Okhotnikov 1996, 52; Okhotnikov 1998, 44; Okhotnikov 2006, 85; Okhotnikov, Ostroverkhov 1993, 115 (with a reference to Rostovtsev 1918, 184-185).

[175] It should be noted, however, that by that time marine transgression may have already begun, so that the old harbour of Berezan would have disappeared eventually, as the coastline changed (Nazarov 1997, 19). If this is correct, then not only the function of the harbour must have changed during the early centuries AD, but also its location.

[176] Vinogradov, 1989, 264; Krapivina 1993, 139-140; Krapivina 2005, 187.

[177] Vinogradov, Kryžickij 1995, 54; Krapivina 1993, 7, 141.

[178] Krÿžhitskii 1979a, 13; Leipunskaya 1988, 79; Krapivina 1993, 59-61, 68-71, 84-85, 88; Vinogradov, Kryžickij 1995, 55 (with further references).

[179] Leipunskaya 1988, 79-80; Krÿžhitskii 1979a, 13; Krapivina 1993, 67, 71-73, 85-88; Vinogradov, Kryžickij 1995, 56.

In general, it has been concluded that the quarters described above must have functioned in close connection with the city proper and served its needs. In the Lower City, however, they existed longer than in the Upper City and probably played a more important role in the life of the city at that later stage.[180] In addition, "amphora field II", mentioned earlier in this article, was discovered northeast of this area.[181] Based on the pottery fragments yielded by the former, archaeologists came to the conclusion that this quarter continued to exist even after the 3rd century AD and that its function was probably associated with harbour-related activities. Although the interpretation of "amphora field II" presents a problem, the suggestion that this area contained both storage facilities and residential complexes seems plausible.[182]

The fact that the harbour area was probably located outside the city walls is indirectly supported by information provided by Dio Chrysostom, who visited Olbia in the 1st century AD. One of his discourses mentions that many people came down to the river to hear him speak, but that later he and his audience moved to the city (36.15-16). From the context it is clear that when Dio Chrysostom invited his listeners to go to πόλις he was referring to the fortified part of the city. Therefore, we may conclude that the area next to the river where he started his speech was located outside the city walls.

So, it is very likely that in the early centuries AD certain changes took place in the overall position of the harbour zone in relation to the city proper. Importantly, this area remained in use longer than the quarters located outside the defensive walls in the Upper City did and probably continued to exist into the 4th century AD.[183] All this suggests that although the harbour area was still closely connected to the city proper during the early centuries AD, strictly speaking, it was no longer a part of the latter. If this is correct, the harbour area

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[180] Leipunskaya 1988, 80; Krapivina 1993, 88, 155.

[181] "Amphora-field II", measuring *ca.* 70 to 90 × 30 to 50 m, was located 210 to 240 m off the shoreline and 2.5 to 3.0 m under the water. About 750 ceramic pieces – fragments and complete vessels – were recovered, of which amphora fragments comprised *ca.* 90%. The ceramic finds were attributed to the period from the end of the 6th-5th century BC to the 3rd (and maybe the 4th) century AD. However, material from the early centuries AD was predominant (Krÿzhitskii 1984, 57-58). The presence in this area of table and kitchen ware, as well as of handmade pottery, was rather high, including intact vessels. All but two of the dated pieces of the table and kitchen ware were attributed to the early centuries AD (Kryzhitskii, Krapivina 1994, 195).

[182] Krÿzhitksii 1984, 60. In a later publication Krÿzhitksii stated even more decisively that "there is evidence for the existence here of not only storage facilities but also living quarters for the period after the third century AD, possibly a port settlement" (Kryzhitskii, Krapivina 1994, 195). From the 1984 publication, however, it follows that the evidence to which he refers consists of pottery.

[183] Leipunskaya 1988, 80; Krÿzhitskii 1984, 60; Krapivina 1993, 88, 155; Kryzhitskii, Krapivina 1994, 195.

must have been more independent during this period than it was before; however, it is not clear whether this development had any bearing on the mechanisms of control over harbour-related activities, such as changes in administrative personnel.

From the mid-2nd century AD onwards a Roman garrison was stationed in the city, and at the end of the 2nd to the beginning of the 3rd centuries AD Olbia became part of the Roman province of Lower Moesia.[184] It has been argued for other Greek cities on the Western Black Sea coast that the tasks of the Roman military included tax collection and other administrative duties.[185] This was probably true for Olbia as well.[186]

This period witnessed a relative rise of Olbian sea-trade,[187] and the commercial harbour of the city must have still been used extensively. The date of the latest known inscription (*IOlb* 45) granting an individual free entrance to and exit from the harbour is of particular importance in this respect. The first editor of the text, S.S. Dlozhevskii, dated this document to the beginning of the 3rd century AD on the basis of its content. He argued that Ἀγαθοκλῆς ἠνοκάτος honored in the decree was an *evocatus*[188] of Greek origin and that this could not have occurred prior to the reign of Septimius Severus.[189] While it is true that the army reforms of this emperor caused a great influx of non-Italians to the Praetorian cohorts,[190] there are also quite a few cases from the 1st and the 2nd centuries AD where people of provincial origin, including Macedonians, served in the Guard.[191] On the other hand, the Roman garrison was stationed in Olbia only from the mid-2nd century AD onwards and the city formally lost its independence to Rome under the reign of Septimius Severus,[192] so that it is unlikely that an *evocatus* would have been sent there long before these events. Therefore, even if *IOlb* 45 is from an earlier period

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[184] Krapivina 1993, 151; Krapivina 2005, 189-190; Zubar', Krapivina 2004.

[185] Zahariade 1994. *Cf.* MacMullen 1959, 214 about the Roman army in the provinces: "Yet from the very beginning of their history these same men had completely non-military duties as well, which continually increased with the development of more elaborate cadasters for taxation…".

[186] The inscriptions from this period feature the governor of Lower Moesia as the eponym, followed by the *Father of the City* and the *First Archon* (Anokhin 1999, 383).

[187] Krapivina 1993, 152; Krapivina 2004, 133.

[188] For the term, see Welles 1936, 17, note 49: "These *evocati* were veterans, usually of the praetorian cohort, men who had been *principales*. They were used by the emperors for all kinds of confidential and important missions…". I am grateful to Professor T.C. Brennan for sharing his thoughts on the subject and providing some useful references.

[189] For a reference to the original publication, see Knipovich, Levi 1968, 48-49.

[190] Syme 1939, 246; Smith 1972, 495; Šašel 1972, 474.

[191] Syme 1939, 245-246; Smith 1972, 495.

[192] Rusyaeva 1992, 80 (with a reference to Latyšev 1887, 194-195); Krapivina 1993, 151; Krapivina 2005, 189-190; Zubar', Krapivina 2004.

than proposed by Dlozhevskii, it cannot be much earlier. This agrees well with the 2nd-century-AD date suggested by paleographical analysis of the inscription.[193] If these conclusions are correct, we have evidence of a functioning harbour administration from as late as the 2nd century AD. More importantly, it shows that even with the Roman presence in the region, the control over harbour revenues must have remained in the hands of local authorities, at least to a certain extent. However, as in the case of the earlier periods, we do not know what particular magistrates may have been in charge of this.[194]

The city continued to exist at least until the beginning of the 4th century AD.[195] The strata representing the final stage in the history of Olbia are not well preserved, which makes their interpretation very difficult. However, the latest archaeological material recovered from these layers so far dates from no later than the mid-4th to the second half of the 4th century AD, thus determining the period when the city ceased to exist.[196] As has been mentioned before, during this last period of Olbia's history the harbour area was located outside the city walls, surrounded by other quarters where harbour-related activities probably took place, but also by residential complexes and workshops. Since it has been argued that the latter remained in use after the 3rd century AD, one may assume that so did the harbour, along with a small settlement around it.[197] Thus, the harbour continued to function even after the city proper had ceased to exist and most of the auxiliary port structures must have disappeared.

This is hardly surprising in view of the role that the Olbian harbour played for the Northern Black Sea during the entire time of its existence. It was certainly the most important harbour in the region, but it was not only its size, the quantity of incoming and outgoing commodities, or the scale of commercial activities that made it so important. Comparable in many respects to the major Mediterranean ports, Olbia was for the Northern Black Sea what the Piraeus was for Attica – "not only the principal port of entry for goods, but a redistribution centre".[198] And although we will probably never have as much evidence for the Olbian harbour as we have for the Piraeus, the conclusions based on the analysis of the existing material show that this statement is valid.

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[193]   Knipovich, Levi 1968, 49.

[194]   The office of the *agoranomoi* continued to function during the early centuries AD, as testified by a number of inscriptions from the end of the 1st to the first half of the 2nd centuries AD and by a single inscribed lead weight from the 2nd to the 3rd centuries AD (Krapivina 1993, 151; Krapivina 2004, 132-133; Anokhin 1999, 388-389). However, their involvement in harbour activities cannot be proven at this point.

[195]   Karÿshkovskii 1968, 177; Krapivina 1993, 88, 157; Krÿzhitskii *et alii* 1999, 97.

[196]   Karÿshkovskii 1968, 177; Krapivina 1993, 88, 157.

[197]   Krÿzhitskii 1984, 60; Kryzhitskii, Krapivina 1994, 195.

[198]   Garland 1987, 92.

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Abbreviations

AAA   Ἀρχαιολογικὰ ἀνάλεκτα ἐξ Ἀθηνῶν (*Athens Annals of Archaeology*) (Athens).

ACSS   *Ancient Civilizations from Scythia to Siberia. An International Journal of Comparative Studies in History and Archaeology* (Leiden).

ADU   *Arkheologichni doslidzhennya v Ukraini* (Luts'k).

AJA   *American Journal of Archaeology* (Princeton).

ASGE   *Arkheologicheskii Sbornik Gosudarstvennogo Érmitazha* (St. Petersburg).

AVU   *Arkheologichni vidkrittya v Ukraini* (Kiev).

BCH   *Bulletin de correspondance hellénique* (Athens).

BE   *Bulletin épigraphique* in *Revue des études grecques* (Paris).

Bethe   E. Bethe, *Pollucis onomasticon* (Leipzig 1990-1937; repr. Stuttgart 1998)

Dübner   F. Dübner's edition of Timaeus's lexicon in J.G. Baiter, J.K. von Orelli, and A.W. Winckelmann, *Platonis opera quae feruntur omnia* (Zürich 1839), 969-1010.

G&R   *Greece and Rome* (Oxford).

Helm 1955   R. Helm (post A. Bauer), *Hippolytus Werke* (Berlin 1955).

Helm 1956   R. Helm, *Eusebius Werke. Die Chronik des Hieronymus*, 2nd ed. (Berlin, 1956).

IAK   *Izvestiya Arkheologicheskoï Komissii* (St. Petersburg, Petrograd)

IG   *Inscriptiones Graecae* (Berlin, 1873-).

IGAIMK   *Izvestiya Gosudarstvennoi Akademii Istorii Material'noi Kul'turÿ* (Leningrad).

IJNA   *International Journal of Nautical Archaeology and Underwater Exploration* (London).

IOlb   *Inscriptiones Olbiae* (= *Nadpisi Ol'vii*) *(1917-1965)*, ed. T.N. Knipovich, E.I. Levi (Leningrad 1968).

IOSPE   B. Latyshev, *Inscriptiones antiquae orae septentrionalis Ponti Euxini graecae et latinae* (Petropoli, 1916).

Jensen   C. Jensen, *Hyperides orationes sex* (Leipzig 1917; repr. 1963).

JHS   *Journal of Hellenic Studies* (London).

JRS   *Journal of Roman Studies* (London).

KSIA   *Kratkie Soobshcheniya Instituta Arkheologii Akademii Nauk SSSR* (Moscow).

MASP   *Materialÿ po arkheologii Severnogo Prichernomor'ya* (Kiev).
Milet   *Milet. Ergebnisse der Ausgrabungen und Untersuchungen seit dem Jahre 1899* (Berlin 1908-)
Müller   K.F.W. Müller, *Geographi Graeci Minores*. Vol. 1 (Paris 1855).
RA   *Rossiiskaya Arkheologiya* (Moscow).
SA   *Sovetskaya Arkheologiya* (Moscow, Leningrad).
SEG   *Supplementum epigraphicum graecum* (Leiden).
Syll³   W. Dittenberger, *Sylloge inscriptionum graecarum,* 3rd ed. (Leipzig, 1915-1924).
TAPhA   *Transactions of the American Philological Association* (Boston).
TGIM   *Trudÿ Gosudarstvennogo Istoricheskogo Muzeya* (Moscow).
VDI   *Vestnik Drevnei Istorii* (Moscow)
VOKK   *Visnik Odes'koi Komisii Kraeznavstva* (Odessa).
ZOAO   *Zapiski Odesskogo Arkheologicheskogo Obshchestva* (Odessa).