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## GARUM OR GRAIN? CRIMEA AND THE PROVISIONING OF CONSTANTINOPLE (7<sup>TH</sup> TO 9<sup>TH</sup> CENTURIES)

**Abstract.** Historians have relied for too long on written sources (the letters that Pope Martin I wrote from Cherson, as well as *De Administrando Imperio*) to assess the economic situation in the Crimea, especially in Cherson, during the so-called Dark Ages (7<sup>th</sup> to 9<sup>th</sup> centuries). Many still believe that that city could not have survived without shipments of grain from the outside, particularly from the lands along the southern coast of the Black Sea. Seals of Byzantine officials found in Cherson tell a different story, as they indicate commercial exchanges between the Crimea and Constantinople. If the peninsula participated in trade, something must have been offered in exchange for the goods coming from the Capital. The archaeological evidence strongly suggests that during the 8<sup>th</sup> and 9<sup>th</sup> centuries, the hinterland of Cherson, as well as the Kerch Peninsula (eastern Crimea) witnessed rapid economic development, largely based on the cultivation of crops. Silos found on several settlement sites, both open and fortified, suggest a surplus, which was most likely commercialized. If so, the closest markets were across the Black Sea, to the south, primarily in Constantinople. Other commodities, such as wine transported in amphorae, traveled in the opposite direction, across the Sea of Azov and into the interior of Khazaria. In exchange, the peninsula received shipments of grain from the Capital, Cherson and the rest of the Crimean Peninsula in fact supplied Constantinople with food. Numerous vats for the production of fish sauce have been found in Cherson, and many were in operation before 900. A good deal of the garum served at tables in Constantinople between the 7<sup>th</sup> and the 9<sup>th</sup> century must have come from Cherson. The archaeological evidence therefore calls for a re-assessment of the economic situation in the Crimean Peninsula during the “Dark Ages”.

**Keywords:** Crimea, lead seals, crop cultivation, silos, cereal seeds, agricultural implements, amphorae, fishing industry

*And so God knows that, except from the boats which arrive from the lands of Romania – as those who live here call them, while referring to the lands of the Greeks as the Pontic parts – not once was I able to buy grain from that region, even for one third of a gold coin. So wrote Pope Martin I (649–655) in a letter sent in 655*

from Cherson in the Crimea<sup>1</sup>. The Russian historian Oleg Borodin has convincingly demonstrated that to the addressee of Pope Martin's fourth letter, the "lands of Romania" were those around Constantinople<sup>2</sup>. Many have interpreted the information in Pope Martin's letter as an indication that Cherson relied on imports, and not on its hinterland for agricultural supplies. Far from supplying Constantinople with food, Byzantine Crimea relied in the mid-7<sup>th</sup> century on shipments of grain from the Capital, for *Cherson was the center of a grain deficit area on the north shore of the Black Sea*<sup>3</sup>. Historians rushed to point out that Pope Martin's report is supposedly confirmed three centuries later by that in *De Administrando Imperio*, according to which *if grain does not pass from Aminos and from Paphlagonia and the Boukellarioi and the flanks of the Armeniakoi, the Chersonites cannot live*<sup>4</sup>. Bracketed by those two sources, the economic situation of Cherson during the Dark Ages is hastily labeled as one of utter decline. Extrapolating back in time from the mid-10<sup>th</sup> century, some have concluded that at any point between Pope Martin I and Emperor Constantine VII Porphyrogenitus, Amisos (modern-day Samsun, in Turkey) in Paphlagonia, the Boukellarioi region, as well as the theme of Armeniakon supplied Cherson with grain, without which the city could not exist<sup>5</sup>. Moreover, *there is no reason to doubt that such grain could also be slipped*

<sup>1</sup> Slightly adapted version of the translation of the *Fourth letter of Martin*, in *Seventh-Century Popes and Martyrs. The Political Hagiography of Anastasius Bibliothecarius*, ed. et trans. B. NEIL, Turnhout 2006 [= SAA, 2], p. 225, 227. The letter survives in a 9<sup>th</sup>-century Latin translation from Greek by the papal librarian Anastasius Bibliothecarius. According to B. NEIL, *From tristitia to gaudia. The Exile and Martyrdom of Pope Martin I*, [in:] *Martyrdom and Persecution in Late Antique Christianity. Festschrift Boudewijn Dehandschutter*, ed. J. LEEMANS, Leuven–Paris–Walpole 2010, p. 184, Martin's complaints cannot be taken at face value, for they are mere variations on the literary *topos* of physical hardship most typical for the consolation genre going back to Ovid.

<sup>2</sup> О.Р. БОРОДИН, *Римский папа Мартин и его письма из Крыма (статья, перевод, комментарий)*, [in:] *Причерноморье в средние века. К XVIII Международному конгрессу византинистов*, ed. С.П. КАРПОВ, Москва 1991, p. 188. Borodin is right: according to the Greek *vita* of Pope Martin written at some point after 726 but surviving in a 10<sup>th</sup>-century manuscript from Patmos, he wrote to a friend in Constantinople ("Byzantion") to ask for a few things, such as grain, as nothing could be found in Cherson. Cf. S. ALBRECHT, *Quellen zur Geschichte der byzantinischen Krim*, Mainz 2012 [= MRGZ, 101], p. 153–154.

<sup>3</sup> J.L. TEALL, *The Grain Supply of the Byzantine Empire, 330–1025*, DOP 13, 1959, p. 118.

<sup>4</sup> CONSTANTINE PORPHYROGENITUS, *De administrando imperio*, 53, ed. G. MORAVCSIK, trans. R.J.H. JENKINS, Washington D.C. 1967 [= CFHB, 1; DOT, 1], p. 286–287. In case of rebellion in Cherson, imperial agents are to be sent to Paphlagonia *and the coast of the province of Boukellarioi* to prevent local merchants to cross the sea with cargoes of *grain or wine or any other needful commodity or merchandise*.

<sup>5</sup> L. ZAVAGNO, *The Byzantine City from Heraclius to the Fourth Crusade, 610–1204. Urban Life after Antiquity*, Cham 2021, p. 97 believes that a seal of a *dioiketes* of Amastris is an indication of *shipping of crops between Amastris and Crimea*. However, a *dioiketes* was a fiscal officer (and tax collector), who had nothing to do with shipment of any commodity, much less of crops.

to the capital<sup>6</sup>. Cherson could not have possibly offered anything valuable to that capital, for it supposedly *exported its salt fish and amphoras to the north, and the Crimean wine to Dalmatia and southwest Asia Minor*<sup>7</sup>.

Meanwhile, however, the material evidence tells a different story. Coins were struck in Cherson during the 8<sup>th</sup> and the 9<sup>th</sup> centuries, no doubt in response to the needs of cash on the local market<sup>8</sup>. Seals of *kommerkiarioi* are known from Cherson<sup>9</sup>. Those were state officials in charge with controlling and most likely taxing the trade, a clear indication that there was an interest in Constantinople in the trade going in the Crimea, if not also in the commodities involved in that trade. Two identical, 9<sup>th</sup>-century seals of a "count of Hieron" named Cosmas have been found in Cherson. He was in charge with the control of goods coming to the Straits from the Black Sea or returning to the Black Sea from Constantinople<sup>10</sup>. In other words, the seals were attached to some official documents issued by Cosmas to a merchant (or merchants) sailing to Cherson<sup>11</sup>. The seal of Paul, count of Abydos, which is also dated to the 9<sup>th</sup> century, may be interpreted in the same way<sup>12</sup>. The sigillographic evidence strongly suggests therefore the existence of commercial relations between the Crimea, particularly Cherson, and Constantinople<sup>13</sup>. However, that evidence cannot answer questions pertaining to the nature

<sup>6</sup> L. BRUBAKER, J. HALDON, *Byzantium in the Iconoclast Era (c. 680–850)*, Cambridge–New York 2011, p. 507.

<sup>7</sup> A.E. LAIOU, C. MORRISSON, *The Byzantine Economy*, Cambridge–New York 2007, p. 84. There is no evidence of salted fish being exported anywhere north of Cherson, much less of Crimean wine in Dalmatia.

<sup>8</sup> М.М. ЧОРЕФ, *Монетное дело Херсона в первой половине VIII в.*, МАИАСК 2, 2010, p. 192–197; ИДЕМ, *К вопросу об атрибуции монограмм на гемисфолисах Херсона первой половине IX в.*, П.ИПК 3, 2010, p. 121–125.

<sup>9</sup> Н.П. ЛИХАЧЕВ, *Датированные византийские печати*, ИРАИМК 3, 1924, p. 175–176 and pl. X/8; И.В. СОКОЛОВА, *Византийские печати VI-первой половины IX в. из Херсонеса*, ВВ 52, 1991, p. 205–206; Н.А. АЛЕКСЕЕНКО, *Чиновники Балкано-малоазийского региона на моливдовулах Херсонского архива*, [in:] *Нумизматични и сфрагистични приноси към историята на западното Черноморие. Международна конференция, Варна, 12–15 септември 2001 г.*, ed. В. ЙОТОВ, И. ЛАЗАРЕНКО, Варна 2004 [= AMV, 2], p. 265–275. For 9<sup>th</sup>-century seals of *kommerkiarioi*, cf. N.A. ALEKSEENKO, *L'administration byzantine de Cherson. Catalogue des sceaux*, Paris 2012 [= OccM, 4], p. 51–53, 181–200.

<sup>10</sup> N.A. ALEKSEENKO, *Les relations entre Cherson et l'empire, d'après le témoignage des sceaux des archives de Cherson*, SBS 8, 2003, p. 80.

<sup>11</sup> Н.А. АЛЕКСЕЕНКО, *Моливдовулы адресантов Херсона VII–IX вв. (новые находки)*, ДХиае 1996, p. 124 fig. 4, 127–128; N.A. ALEKSEENKO, *Sfragistyka bizantyńska. Molibdobule Chersonu*, Poznań 2015, p. 93–94 and fig. 64.

<sup>12</sup> Н.А. АЛЕКСЕЕНКО, *Моливдовулы...*, p. 128–129; 124 fig. 5. By contrast, the seal of Niketas, imperial *spatharios* and *dioiketes* of Amastris (now Amasra, in Turkey) in Paphlagonia cannot be dated before the 10<sup>th</sup> century (N.A. ALEKSEENKO, *Sfragistyka...*, p. 96 and fig. 69).

<sup>13</sup> Cf. С.Б. СОРОЧАН, *О торгово-экономической политике Византии в Таврике VII–IX вв.*, [in:] *Проблемы археологии древнего и средневекового Крыма. Сборник научных трудов*,

of those commercial exchanges, especially what exactly was sent from Cherson to Constantinople. Could the ships entering the Straits from the north have transported Crimean grain for the provisioning of the capital?

I have recently suggested that after the fall of Egypt to the Arabs (642), Crimea became, together with Sicily, a new granary of the empire. The change is reflected in the shift of activity in the harbors of Constantinople. The Theodosian harbor of Yenikapı was abandoned, with new harbors gaining significance, such as Pro-sphorion and Neorion in the Golden Horn Bay, which opens towards the Black Sea<sup>14</sup>. While next to nothing is known about agriculture in 7<sup>th</sup>-century Crimea, the archaeological evidence for the following two centuries suggests both intensification and diversification. Particularly relevant is the situation in the Kerch Peninsula, where many rural settlements were reoccupied in the late 8<sup>th</sup> century, with even more, new sites dated to the first half of the 9<sup>th</sup> century<sup>15</sup>. Typical for those settlements are silos, each of about 660 gallons (2.5 kl), located next to dwellings<sup>16</sup>. A very large silo – 3.7 m deep and 3.5 m in diameter – was found at Tiritake, on the southern side of modern Kerch<sup>17</sup>. That such silos were for storing grain results from the seeds of barley, rye and wheat found on another settlement site farther to the south, at Geroevs'ke<sup>18</sup>. That the crops in question were locally produced, and not brought from elsewhere results from the find of a hoe on that same site, a tool dated to the 8<sup>th</sup> or 9<sup>th</sup> century<sup>19</sup>. It is possible that the grain produced in eastern

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ed. Ю.М. МОГАРИЧЕВ, И.Н. ХРАПУНОВ, Симферополь 1995, p. 114–122.

<sup>14</sup> G. CSIKY, *Sinope in the Early Medieval Economy of the Black Sea Region (Questions and Problems)*, *Ats* 33, 2015, p. 330; F. CURTA, *The Long Sixth century in Eastern Europe*, Leiden–Boston 2021 [= ECEEMA, 72], p. 93 with n. 59.

<sup>15</sup> A.V. SAZANOV, *La campagne et les villages en Crimée à l'époque protobyzantine: chronologie et évolution*, [in:] *XX<sup>e</sup> Congrès international des études byzantines, Collège de France-Sorbonne, 19–25 août 2001. Pré-actes*, Paris 2001, p. 222.

<sup>16</sup> Л.Ю. ПОНОМАРЕВ, *Салтово-маяцкие поселения керченского полуострова (краткий обзор по археологическим данным)*, *Ха* 12, 2014, p. 145. For the 8<sup>th</sup>- to 9<sup>th</sup>-century settlements in the Kerch Peninsula, cf. ИДЕМ, *Хозяйственная деятельность населения салтовской культуры Керченского полуострова (краткий обзор археологических источников)*, *СМАК* 2, 2012, p. 67–79.

<sup>17</sup> В.Ф. ГАЙДУКЕВИЧ, *Раскопки Тиритаки в 1935–1940 гг.*, [in:] *Боспорские города*, ed. ИДЕМ, М.И. МАКСИМОВА, Москва 1952 [= МИА, 25], p. 103.

<sup>18</sup> А.В. ГАДЛО, *Раннесредневековое селище на берегу Керченского пролива (по материалам раскопок 1963 г.)*, *КСИА* 113, 1968, p. 83; Л.Ю. ПОНОМАРЕВ, *Салтово-маяцкие поселения...*, p. 147; А.И. АЙБАБИН, *На границе Византийской империи и Хазарского каганата. Конец VII–IX в.*, [in:] *История Крыма*, vol. I, ed. А.В. ЮРАСОВ, Москва 2019, p. 243.

<sup>19</sup> А.В. ГАДЛО, *Раскопки раннесредневекового селища у деревни Героевка*, *САрх* 1, 1969, p. 164 fig. 4/2. For silos in Geroevka 3, cf. В.Н. ЗИНЬКО, *Новые раннесредневековые памятники Восточного Крыма*, [in:] *Международная конференция “Византия и Крым”, Севастополь, 6–11 июня 1997 г. Тезисы докладов*, Симферополь 1997, p. 40–41; Л.Ю. ПОНОМАРЕВ, *Салтово-маяцкое поселение Героевка-3 на Керченском полуострове (по материалам раскопок А.В. Гадло 1963 г.)*, *ИАК* 1, 2014, p. 387–388 and 398 fig. 13/1. Most settlement features discovered between 2011 and 2015 across the Kerch Strait, in Gora Chirkova near Vinogradnyi, on the southeastern coast of the Taman' Peninsula, are also silos. Cf. А.А. СУПРЕНКОВ, В.Е. НАУМЕНКО, Л.Ю. ПОНОМАРЕВ, *Поселе-*

Crimea was shipped to Cherson, but if so, there is no way to find out whether it was shipped farther to Constantinople or, perhaps, retained for local consumption. Moreover, the archive of over 400 seals found in the harbor of Sugdaia (now Sudak), on the southeastern coast of the Peninsula shows that beginning with the first half of the 8<sup>th</sup> century, the town became a major trade center of eastern Crimea<sup>20</sup>. In other words, if it was at all transported to Constantinople, the grain from eastern Crimea may have been shipped from Sugdaia, not from Cherson.

However, there is good evidence of agricultural production in the hinterland of Cherson as well. Seeds of rye and soft wheat have been found on the 8<sup>th</sup>- to 9<sup>th</sup>-century settlement sites in Honcharne and Novobobrivs'ke, both to the east from Cherson, as well as at Rodinkove near Simferopol<sup>21</sup>. Wheat seeds are known from three different settlement features from the stronghold at Bakla (near Skalyste, in the district of Bakhchesarai), as well as from open settlements at Pampuk Kaia (near Holubinka, 6 miles east of Sevastopil') and Bazman (near Bakhchesarai)<sup>22</sup>. The wheat from Bakla has been identified as of three kinds – durum, common, and club wheat<sup>23</sup>. Both Bakla and Pampuk Kaia have produced evidence of rye and barley production, while at Kordon-Oba (near Kurortnoe) and Sudak, on the southeastern coast only millet was found<sup>24</sup>. The local production of those cereals is attested by such finds as the plowshare discovered in 1929 at Bakla and the sickles from Gornyi Kliuch (near Povorotne, less than 4 miles north of Sevastopil'), Honcharne, Peredove (north of the Chornorichyns'ke reservoir, southeast of Sevastopil'), and Tau Kipchak (now under the Balanovskoe reservoir, east of Simferopol)<sup>25</sup>.

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ние VIII–X вв. Гора Чиркова 1 на Таманском полуострове: хозяйственные комплексы группы 2 (по материалам раскопок 2015 г.), ИАК 12, 2020, p. 223–231.

<sup>20</sup> Т.И. МАКАРОВА, А.И. АЙБАБИН, *Крым в VIII–IX веках. Хазарское господство*, [in:] *Крым, северо-восточное Причерноморье и Закавказье в эпоху средневековья. IV–XIII века*, ed. Т.И. МАКАРОВА, С.А. ПЛЕТНЕВА, Москва 2003, p. 58–59. For the seal archive discovered in Sudak, cf. Е.В. СТЕПАНОВА, *Судацкий архив печатей: предварительные выводы*, АДСВ 32, 2001, p. 97–108; ЕАДЕМ, *Новые находки из Судацкого архива печатей*, [in:] *Сурож, Сугдея, Солдая в истории и культуре Руси-Украины. Материалы научной конференции (16–22 сентября 2002 г.)*, ed. Н.М. КУКОВАЛЬСКАЯ, А.М. ФАРБЕЙ, В.И. ЗУБАР, Г.И. ИВАКИН, И.Е. МАРГОЛИНА, О.П. МОЦЯ, М.В. ПАНЧЕНКО, Киев–Судак 2002, p. 231–233; Е.В. СТЕПАНОВА, В.С. ШАНДРОВСКАЯ, *Еще раз о Судацком архиве печатей*, АДСВ 35, 2004, p. 295–297.

<sup>21</sup> С.Б. СОРОЧАН, *Византийский Херсон (вторая половина VI – первая половина X вв.)*. Очерки истории культуры, Москва 2013, p. 402.

<sup>22</sup> At Pampuk Kaia, the wheat was mixed with rye. А.Л. ЯКОВСОН, *Раннесредневековые сельские поселения Юго-Западной Таврики*, Ленинград 1970, p. 149.

<sup>23</sup> И.А. БАРАНОВ, *Таврика в эпоху раннего средневековья (салтово-маяцкая культура)*, Киев 1990, p. 72.

<sup>24</sup> *Ibidem*; А.И. АЙБАБИН, *На границе...*, p. 243.

<sup>25</sup> А.Л. ЯКОВСОН, *Раннесредневековые сельские поселения...*, p. 89 and 90 fig. 51/2; А.И. РОМАНЧУК, Л.А. ОМЕЛЬКОВА, *Средневековое поселение на левом берегу реки Бельбек*, АДСВ 16, 1979, p. 101 fig. 5/7; И.А. БАРАНОВ, *Таврика...*, p. 71 and 70 fig. 24/1. Sickles have also been found on sites on the southeastern coast of the peninsula, at Kordon Oba, Kastel' (near Alushta), and Tepsen' (near Koktebel).

Most other tools known from 8<sup>th</sup>- to 9<sup>th</sup>-century sites in the Crimea are mattocks and hoes<sup>26</sup>.

Three strongholds in the hinterland of Cherson – Eski Kermen (5.6 miles to the east from Sevastopol'), Kach Kal'on (7.4 miles to the east-north-east from Sevastopol'), and Bakla have produced abundant evidence of silos. Unlike silos in the open settlements of eastern Crimea, those discovered in the strongholds cluster in specific areas, many of them away from any dwellings. Carved into the rock, some of those silos have openings of 36 to 40 cm in diameter and were likely covered with lids. The body of each silo is quite large, between 340 and 430 gallons (1.3 to 1.6 kl)<sup>27</sup>. Some 200 silos have been found at Bakla, while in both Kach Kal'on and Eski Kermen there are fewer, but larger silos (with openings of 55 cm on average)<sup>28</sup>. Assuming that all silos were in use at the same time, up to 100 tons of grain, or more could be stored in any of those three strongholds in the hinterland of Cherson<sup>29</sup>. It is unlikely that this large quantity of grain was meant for local consumption alone. If the grain was produced locally, as it seems likely, then its storage may have been only temporary, until shipped to the market in nearby Cherson<sup>30</sup>. How much grain could produce an early medieval rural community in the Crimea? Based on archival materials pertaining to the agricultural production at Tau Kipchak in 1872 (when there were 18 households with 87 people, who cultivated 1,318 acres of land), the Crimean archaeologist Igor Baranov (1946–2001) has estimated an annual production in the early Middle Ages of about 6 tons per family. With yields no larger than 1 to 4.5, a rural settlement like Tau Kipchak could produce over 100 tons annually, a production that was most likely meant for the Byzantine market<sup>31</sup>. Based on such estimates, the rural settlements in southwestern and southern Crimea may have been able to produce 6,000 tons of grain annually by the late 7<sup>th</sup> century. A century later, however, the agricultural production of the peninsula doubled<sup>32</sup>. Even if the city of Cherson with an estimated population of no more than 10,000 absorbed half of that quantity of grain, there still was a substantial surplus, which must have been shipped to other markets, primarily that of Constantinople.

<sup>26</sup> А.Л. ЯКОБСОН, *Раннесредневековые сельские поселения*, p. 149 and 150 fig. 98/1; И.А. БАРАНОВ, *Таврика...*, p. 70 fig. 24/4–9.

<sup>27</sup> А. ГУСЬКОВ, *Атлас пещерных городов Крыма. Путешествие к строителям и обитателям пещер*, Харків 2007, p. 33.

<sup>28</sup> *Ibidem*, p. 22, 32, 112.

<sup>29</sup> А.И. АЙВАНИН, *On Byzantium's Northern Border. The Rural Population of the Mountainous Crimea in the 6<sup>th</sup> to 9<sup>th</sup> centuries*, [in:] *Les villages dans l'Empire byzantin, IV<sup>e</sup>–XV<sup>e</sup> siècles*, ed. J. LEFORT, C. MORRISON, J.-P. SODINI, Paris 2005 [= RByz, 11], p. 420 and fig. 5; 421 fig. 6.

<sup>30</sup> С.Б. СОРОЧАН, *Византийский Херсон...*, p. 403–404.

<sup>31</sup> И.А. БАРАНОВ, *Таврика...*, p. 74.

<sup>32</sup> С.Б. СОРОЧАН, В.М. ЗУБАРЬ, Л.В. МАРЧЕНКО, *Жизнь и гибель Херсонеса*, Севастополь 2006, p. 215.

At Tau Kipchak, the intensive agriculture practiced from the 8<sup>th</sup> century onwards on the slopes towards the river Zui led to erosion and the change of the river's bed<sup>33</sup>. Some have therefore insisted upon the fact that the soil and climate conditions in the valleys of southwestern Crimea were not conducive for large-scale agriculture, being more appropriate for vineyards. Indeed, wine presses and vats multiplied in the region after ca. 700. There is evidence of wine production on most 8<sup>th</sup>- to 9<sup>th</sup>-century settlement sites in the valley of the river Bel'bek, immediately to the east from Cherson<sup>34</sup>. The wine industry stimulated the pottery production, particularly of transportation jars. As a matter of fact, most centers of pottery production in 8<sup>th</sup>- to 10<sup>th</sup>-century Crimea produced amphorae and no other types of vessels<sup>35</sup>. The conspicuous standardization of production was clearly designed to meet the demands of the growing production of wine<sup>36</sup>. Wine in large quantities was brought to Cherson, and then sold on the markets on the southern coast of the Black Sea, in exchange for grain<sup>37</sup>. However, judging from finds of amphorae, in which the Crimean wine was transported, large shipments moved in the opposite direction, across the Sea of Azov and beyond it, deep into Khazaria. That much results from the episode of the late 830s, when the spatharocandidate Petronas Kamateros, who was sent by Emperor Theophilus to Khazaria together with a team of Byzantine engineers, to build the fortress of Sarkel. According to Theophanes Continuatus, *once arrived at Cherson, Petronas brought up the long ships and left them on land; and embarking his forces on round boats, he crossed over to the Tanais, where he was to build the city for them*<sup>38</sup>. The “round boats” with which the Byzantines reached the delta of the river Don were most likely commercial ships that frequently moved between Cherson and Tanais, which was located in Khazar territory. To be sure, Crimean amphorae have been found at Tanais,

<sup>33</sup> И.А. БАРАНОВ, *Таврика...*, p. 73.

<sup>34</sup> A.I. ROMANČUK, *Chersonesos und sein ländliches Territorium im 8./9. Jahrhundert*, [in:] *Studien zum 8. und 9. Jahrhundert in Byzanz*, ed. H. KÖPSTEIN, F. WINKELMANN, Berlin 1983 [= BBA, 51], p. 43. For wine production in the close environs of Cherson, cf. also А.Ю. АРЖАНОВ, *Виноделие в ближней округе раннесредневекового Херсона*, ХС 21, 2020, p. 108–133.

<sup>35</sup> For the Crimean Globular amphorae of the 8<sup>th</sup> and 9<sup>th</sup> centuries, cf. А.В. САЗАНОВ, *Глобулярные амфоры причерноморского типа (Crimean Globular Amphorae) и проблемы хронологии комплексов VIII–IX вв.*, [in:] *Труды VI (XXII) Всероссийского археологического съезда в Самаре*, vol. II, ed. А.П. ДУРУВЯНКО, Н.А. МАКАРОВ, О.Д. МОЧАЛОВ, Самара 2020, p. 266–268.

<sup>36</sup> A.I. ROMANČUK, *Studien zur Geschichte und Archäologie des byzantinischen Cherson*, Leiden–Boston 2005 [= CollP, 11], p. 115–118.

<sup>37</sup> А.И. РОМАНЧУК, *Город и деревня юго-западного Крыма в 8–9 вв.*, [in:] *XVI. internationaler Byzantinistenkongress. Akten. II*, vol. III, ed. W. HÖRANDNER, C. CUPANE, E. KISLINGER, Wien 1982 (= JÖB 32.3), p. 554.

<sup>38</sup> *Chronographiae quae Theophanis Continuati nomine fertur libri I–IV*, III, 28, ed. et trans. M. FEATHERSTONE, J. SIGNES CODOÑER, Berlin–Boston 2015 [= CFHB.SBe, 53], p. 177. For the interpretation of the “round boats” as commercial ships, cf. S. ALBRECHT, *Quellen...*, p. 46.

as well as at Krymskii, 55 miles farther to the east-north-east<sup>39</sup>. They also appear elsewhere in the steppe to the east and southeast from the Tanais, in present-day Kalmykia and Adygia<sup>40</sup>. However, Crimean amphorae have been found much farther afield, in the forest-steppe region along the Middle Volga to the northeast, as well as the Middle Dnieper to the northwest<sup>41</sup>. The presence of those amphorae on settlement sites in the forest steppe belt is particularly important, because that was the main granary of Khazaria<sup>42</sup>. In other words, it is likely that at least part of the shipments of wine in amphorae that reached the Khazar lands was exchanged for the grain produced in the rural settlements of the forest-steppe region. If so, then a quantity of grain must have been available on the market of Cherson that was even greater than needed for local consumption. The surplus was probably re-exported to Constantinople.

Far from being “a center of a grain deficit area”, relying on shipments from the capital of the empire, early medieval Cherson may have well been a key supplier of Constantinople. However, the main city in the Crimea had a lot more to offer to the capital than just grain. In Late Antiquity, Chersonesus was a major center for the commercialization of salted fish and fish sauce (*garum*). Both were products of the fishing industry, which was likely responsible for the prosperity of the

<sup>39</sup> Л.Ю. НИДЗЕЛЬНИЦКАЯ, С.М. ИЛЬЯШЕНКО, *Раннесредневековые поселения на территории Танаиса*, [in:] *Средневековые древности Дона*, ed. Ю.К. ГУГУЕВ, Москва–Jerusalem 2007 [= МИАД, 2], p. 193–214; И.А. СКОРИКОВ, *Керамический комплекс Крымского городища на амфорном материале 2011 года*, [in:] *IX Международная археологическая конференция студентов и аспирантов “Проблемы археологии Восточной Европы” (материалы конференции)*, ed. Е.В. ВДОВЧЕНКО, Ростов-на-Дону 2014, p. 85–88. According to M. ŠEŠNOVÁ, *Silk on the Northern Border of Byzantium: Intentions, Possibilities, Findings*, Bsl 80.1–2, 2022, p. 101, finds of 9<sup>th</sup>-century Crimean pottery and amphorae in the lands to the east from the Sea of Azov indicate a segment of the Silk Road reaching Crimea. However, it remains unclear how ceramic finds can tell anything about the silk trade.

<sup>40</sup> А.В. ТАРАБАНОВ, *Поселения болгар на правом берегу Кубани*, [in:] *Древности Кубани и Черноморья*, ed. А.В. ПЬЯНКОВ, Н.Ф. ШЕВЧЕНКО, Краснодар 1993 [= StPC, 1], p. 115–122, 205–213; М.А. ОЧИР-ГОРЯЕВА, А.Г. СИТДИКОВ, Я.А. КИЯШКО, Т. НАГА, *К изучению памятника эпохи раннего средневековья Башанта-II*, ПАрх 4, 2016, p. 23–36. For the presence of Crimean amphorae in the steppe lands north of the Sea of Azov, cf. В.К. ГРИБ, *Доброе Поле – памятник раннесредневекового времени в северо-восточной части Донецкого края*, ДАЗ 18–19, 2014–2015, p. 286–300.

<sup>41</sup> Ю.В. БОЛТРИК, О.В. КОМАР, *Хазарский курган на правом берегу р. Молочной*, [in:] *Днепр-донское междуречье в эпоху раннего средневековья (сборник статей)*, ed. А.З. ВИННИКОВ, Воронеж 2005, p. 82–93; Н.А. ЛИФАНОВ, “Княжеский” курган на Самарской Луке: вопросы культурно-хронологической атрибуции, Э 25.1, 2017, p. 92–119; О.В. ПЕТРАУСКАС, *Волинцевский комплекс ранньослов'янського поселення Обухів 2*, Арх 1, 2019, p. 67–82.

<sup>42</sup> V.V. KOLODA, S.A. GORBANENKO, *Agriculture in the Forest-Steppe Region of Khazaria*, Leiden–Boston 2020 [= ECEEMA, 66]. For other Crimean imports in Khazaria, cf. also В.С. АКСЕНОВ, В.К. МИХЕЕВ, *Крымский импорт и хронология некоторых салтовских памятников верховий Северского Донца*, [in:] *Культуры евразийских степей второй половины тысячелетия н.э. (вопросы хронологии). Материалы II Международной археологической конференции 17–20 ноября 1997 г.*, ed. Д.А. СТАШЕНКОВ, А.Ф. КОЧКИНА, Л.В. КУЗНЕЦОВА, Самара 1998, p. 344–357.



city reflected in the building boom of the second half of the 6<sup>th</sup> and the first decades of the 7<sup>th</sup> century<sup>43</sup>. The annual production of *garum*, which according to some calculations was worth about 7,000 gold coins, was geared towards the market in Constantinople and beyond<sup>44</sup>. There are no signs that the trade that boomed around 600 slowed down a century later. Nonetheless, because the word *garon* may be found only in lexica and in medical and similarly scientific texts, the Austrian historian Johannes Koder believed that between the early Byzantine period and the 11<sup>th</sup> century, *garum* was neither common, nor popular<sup>45</sup>. But the archaeological evidence sharply contradicts that conclusion. The flourishing fishing industry of late antique Chersonesus relied primarily on the biannual migration of large shoals of anchovies to the shallow coastal area in the north Black Sea region, as well as the Sea of Azov, into which the rivers Dnieper and Don pour fresh water. The production of fish sauce (*garum*) had two annual cycles, which depended upon the fishing seasons. During the 6<sup>th</sup> and early 7<sup>th</sup> century, the fish-salting vats in Chersonesus were deep installations (as deep as 3 meters), but of relatively small capacity (between 157 and 189 barrels each). That those installations served for the production of *garum* (as opposed to salted fish) results from the bones of anchovies found on the bottom of many vats<sup>46</sup>. To fill a vat completely, one needed the catch of about 30 boats, each manned by two or three persons. Moreover, a single person needed 80 to 90 days of labor to fill a vat<sup>47</sup>. The distribution of vats in the city suggests that the fishing and fish salting industry was a family business. After a while, vats were backfilled to make room for new houses, but new vats were built elsewhere. In fact, fish-salting cisterns continued to be built in Cherson through the 10<sup>th</sup> century. On the basis of careful stratigraphic observations, particularly of coins and artifacts in the filling of abandoned vats, it has been possible to sort out cisterns chronologically. For example, vat 91 was built anew in the 9<sup>th</sup> century and remained in operation for another century<sup>48</sup>. A little less than a quarter of all 101 vats known so far must have been in operation before 900<sup>49</sup>. However, it is important to remember that only about a third of ancient city of Chersonesus has been excavated; the number of vats in existence at any given moment may have

<sup>43</sup> F. CURTA, *The Long Sixth century...*, p. 82.

<sup>44</sup> С.Б. СОРОЧАН, *Византийский Херсон...*, p. 207.

<sup>45</sup> J. KODER, *Stew and Salted Meat – Opulent Normality in the Diet of the Every Day?*, [in:] *Eat, Drink and be Merry (Luke 12:19). Food and Wine in Byzantium. Papers of the 37<sup>th</sup> Annual Spring Symposium of Byzantine Studies in Honour of Professor A.A.M. Bryer*, ed. L. BRUBAKER, K. LINARDOU, Aldershot–Burlington 2007, p. 59–72.

<sup>46</sup> F. CURTA, *The Long Sixth century...*, p. 82–83.

<sup>47</sup> A.I. РОМАНЧУК, *Studien...*, p. 106.

<sup>48</sup> А.И. РОМАНЧУК, *Новые материалы о времени строительства рыбозасолочных цистерн в Херсонесе*, АДСВ 9, 1973, p. 46.

<sup>49</sup> ИДЕМ, *План рыбозасолочных цистерн Херсонеса*, АДСВ 14, 1977, p. 20–26. For a larger percentage of early medieval vats (about a third of all 102 vats known so far), cf. A.I. РОМАНЧУК, *Studien...*, p. 109.

therefore been considerably larger. About six vats worked until the 8<sup>th</sup> or 10<sup>th</sup> century, while another seven were in use until the 9<sup>th</sup> or 10<sup>th</sup> century<sup>50</sup>. Several early medieval vats cluster in the immediate vicinity of the harbor, with others in the eastern part of the city. Throughout the early Middle Ages, Cherson was the center of the fishing industry, as no evidence exists that any fish-salting cisterns continued to be used in eastern Crimea, either at Kerch or at Tiritake<sup>51</sup>. A good deal of the *garum* served at tables in Constantinople between the 7<sup>th</sup> and the 9<sup>th</sup> century must therefore have been produced in Cherson<sup>52</sup>.

The northern region of the Black Sea is poorly represented in recent studies of the early medieval economy, as *wheat was massively bought in the Crimea* only in the 13<sup>th</sup> century<sup>53</sup>. The importance of archaeology for studying and reconstructing the economic life needs little emphasis in a region like the northern periphery of Byzantium, for which the written information is scarce and has led to wrong interpretations. The relations between the capital and Cherson have not yet received

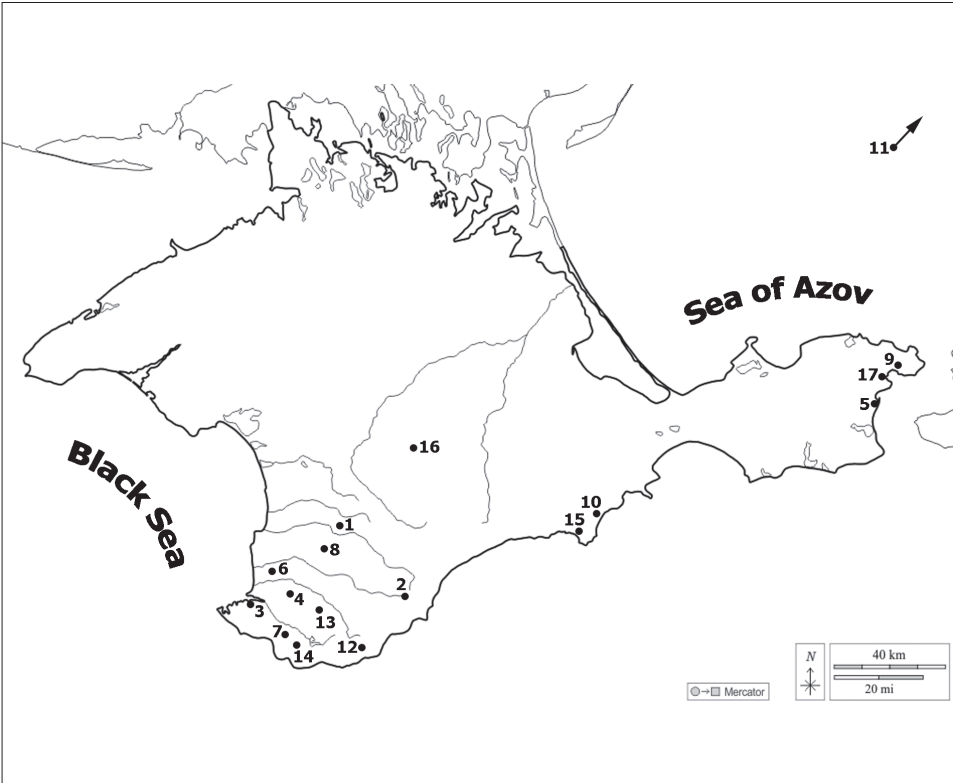
<sup>50</sup> M. ČECHOVÁ, *Fish Products and their Trade in Tauric Chersonesos/Byzantine Cherson. The Development of a Traditional Craft from Antiquity to the Middle Ages*, [in:] *Detlefsen zum 100. Todestag. Ein Colloquium der Detlefsen-Gesellschaft Glückstadt*, ed. Chr. BOLDT, K.-J. LORENZEN-SCHMIDT, Borsfleth 2014, p. 231. С.Б. СОРОЧАН, *Византийский Херсон...*, p. 401 counts 10 vats for the 8<sup>th</sup> century. For 8<sup>th</sup>- to 9<sup>th</sup>-century vats, cf. also А.И. РОМАНЧУК, А.В. САЗАНОВ, Л.В. СЕДИКОВА, *Амфоры из комплексов византийского Херсона*, Екатеринбург 1995, p. 47; А.В. САЗАНОВ, *Города и поселения Северного Причерноморья ранневизантийского времени* (Ph.D. dissertation, State University of Moscow, Moscow 1999), p. 20 with table II.

<sup>51</sup> S. ALBRECHT, *Cherson als Zentralort auf der südwestlichen Krim (6.–10. Jahrhundert)*, [in:] *Grenz Übergänge. Spätromisch, frühchristlich, frühbyzantinisch als Kategorien der historisch-archäologischen Forschung an der mittleren Donau. Akten des 27. internationalen Symposiums der Grundprobleme der frühgeschichtlichen Entwicklung im mittleren Donaauraum, Ruma, 4.–7.11.2015*, ed. I. BUGARSKI, O. HEINRICH-TAMÁSKA, V. IVANIŠEVIĆ, D. SYRBE, Remshalden 2016 [= FSM, 4], p. 355–362. For 6<sup>th</sup>- to 7<sup>th</sup>-century vats in Kerch and Tiritake, cf. В.Ю. МАРТИ, *Рыбозасолочные ванны Тиритаки*, [in:] *Археологические памятники Боспора и Херсонеса*, ed. С.А. ЖЕБЕЛЕВ, В.Ф. ГАЙДУКЕВИЧ, Москва–Ленинград 1941, p. 93–95; А.В. ЗИНЬКО, В.Н. ЗИНЬКО, *Вопросы топографии города Боспора в ранневизантийское время*, [in:] *Византия в контексте мировой культуры. Материалы конференции посвящённой памяти Алисы Владимировны Банк, 1906–1984*, ed. В.Н. ЗАЛЕСКАЯ, Е.В. СТЕПАНОВА, А.А. ЙЕРУСАЛИМСКАЯ, Ю.А. ПЯТНИЦКИЙ, В.С. ШАНДРОВСКАЯ, Санкт-Петербург 2017 [= ТГЭ, 89], p. 164–176; А.И. АЙБАБИН, *Усадьба рыбака в ранневизантийском Боспоре*, [in:] *Проблемы истории и археологии средневекового Крыма. Материалы международной научной конференции посвящённой 70-летию Александра Ильича Айбабина. Симферополь, 10–11 января 2019 г.*, ed. Е.А. ХАЙРЕДИНОВА, Симферополь 2019, p. 7–17.

<sup>52</sup> G. CSIKY, *Sinope...*, p. 326 mentions the production of fish sauce in Sinope during Late Antiquity, but provides no archaeological evidence.

<sup>53</sup> А.Е. LAIOU, С. MORRISON, *The Byzantine Economy...*, p. 204. There is no mention of Crimea in M.J. DECKER, *The Byzantine Dark Ages*, London–New York 2016. Nor does С. WICKHAM, *Framing the Early Middle Ages. Europe and the Mediterranean, 400–800*, Oxford 2005 know anything about Cherson, while to M. MCCORMICK, *Origins of the European Economy. Communications and Commerce, AD 300–900*, Cambridge 2001, p. 507 only knows that the city is the terminal of the northern extension of sea lanes in the Mediterranean.

sufficient attention from archaeologists, except in one direction, from Constantinople to the Crimea<sup>54</sup>. The accumulation of numismatic and sigillographic evidence over the last few decades has considerably broadened the gamut of historical interpretation. Time is ripe to re-evaluate the contribution of the Crimean Peninsula to the economic history of the empire between the 7<sup>th</sup> and the 9<sup>th</sup> century. The center of a periphery without “Dark Ages”, Cherson was most likely one of the *bases from which the medieval economy would launch its progressive recovery in the late 8<sup>th</sup> century*<sup>55</sup>.



**Fig. 1.** The main sites mentioned in the text: 1 – Bakla; 2 – Bazman; 3 – Cherson; 4 – Eski Kermen; 5 – Geroevs’ke; 6 – Gornyi Kliuch; 7 – Honcharne; 8 – Kach Kal’on; 9 – Kerch; 10 – Kordon Oba; 11 – Krymskii; 12 – Novobobrivs’ke; 13 – Pampuk kaia; 14 – Rodinkove; 15 – Sudak; 16 – Tau Kipchak; 17 – Tiritake.

<sup>54</sup> According to L. ZAVAGNO, *The Byzantine City...*, p. 148, the economic vitality of Cherson during the 8<sup>th</sup> and early 9<sup>th</sup> century was geared toward the Khazars to the north [more] than to the Byzantines in the south.

<sup>55</sup> A.E. LAIOU, C. MORRISSON, *The Byzantine Economy...*, p. 42. The phrase “periphery without ‘Dark Ages’” as applied to Crimea, is from F. CURTA, *The Long Sixth century...*, p. 81–93.

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