

# Archaeology and Economy in the Ancient World



35

**Men, Goods and Ideas travelling over the Sea:  
Cilicia at the Crossroad of Eastern Mediterranean Trade Network**

Panel 5.16

Eugenia Equini Schneider (Ed.)



**Proceedings of the  
19<sup>th</sup> International Congress of Classical Archaeology**

**Volume 35: Men, Goods and Ideas Travelling over the Sea**

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**Archaeology and Economy in the Ancient World**

**Edited by**

**Martin Bentz and Michael Heinzelmann**

**Volume 35**





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**PropylaeuIII**

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# Propylaeum

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Tracheia (photo by Eugenia Equini Schneider)

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# CONTENTS

## **Eugenia Equini Schneider**

Men, Goods and Ideas Travelling over the Sea: Cilicia at the Crossroad of Eastern Mediterranean Trade Network 1

## **Pascal Arnaud**

Non-Coastal Cilician Cities and their Maritime Outlets 3

## **Hakan Öniz**

Dana Island Shipyard and Underwater Research of the Cilicia Coast 2017 15

## **Kamil Levent Zoroğlu**

A New Context of Late Roman Pottery from Kelenderis:  
A Preliminary Discussion 27

## **Claudia Tempesta – Maria Francesca Pipere – Valentina Cassiani**

Under the Auspices of Aphrodite Euploia: Port Infrastructure and Urban Transformation at Elaiussa Sebaste from the Hellenistic to Byzantine Age 39

## **Annalisa Polosa**

Elaiussa Sebaste: Monetization 53

## **Edoardo Radaelli**

Cilician Amphorae in Rome and Ostia during the Middle Imperial Age (2<sup>nd</sup> – Early 3<sup>rd</sup> Centuries AD) and Reflections about the Consumption of Their Contents 63

## **Veronica Iacomi**

Pottery Production in the Urbanscape and the Over Regional Commerce: LR1 Amphorae at Elaiussa and Beyond 79



## PREFACE

On behalf of the 'Associazione Internazionale di Archaeologica Classica (AIAC)' the 19<sup>th</sup> International Congress for Classical Archaeology took place in Cologne and Bonn from 22 to 26 May 2018. It was jointly organized by the two Archaeological Institutes of the Universities of Cologne and Bonn, and the primary theme of the congress was 'Archaeology and Economy in the Ancient World'. In fact, economic aspects permeate all areas of public and private life in ancient societies, whether in urban development, religion, art, housing, or in death.

Research on ancient economies has long played a significant role in ancient history. Increasingly in the last decades, awareness has grown in archaeology that the material culture of ancient societies offers excellent opportunities for studying the structure, performance, and dynamics of ancient economic systems and economic processes. Therefore, the main objective of this congress was to understand economy as a central element of classical societies and to analyse its interaction with ecological, political, social, religious, and cultural backgrounds. The theme of the congress was addressed to all disciplines that deal with Greco-Roman civilization and their neighbouring cultures from the Aegean Bronze Age to the end of Late Antiquity.

The participation of more than 1200 scholars from more than 40 countries demonstrates the great response to the topic of the congress. Altogether, more than 900 papers in 128 panels were presented, as were more than 110 posters. The publication of the congress is in two stages: larger panels are initially presented as independent volumes, such as this publication. Finally, at the end of the editing process, all contributions will be published in a joint conference volume.

We would like to take this opportunity to thank all participants and helpers of the congress who made it such a great success. Its realization would not have been possible without the generous support of many institutions, whom we would like to thank once again: the Universities of Bonn and Cologne, the Archaeological Society of Cologne, the Archaeology Foundation of Cologne, the Gerda Henkel Foundation, the Fritz Thyssen Foundation, the Sal. Oppenheim Foundation, the German Research Foundation (DFG), the German Academic Exchange Service (DAAD), the Romano-Germanic Museum Cologne and the LVR-LandesMuseum Bonn. Finally, our thanks go to all colleagues and panel organizers who were involved in the editing and printing process.

Bonn/Cologne, in August 2019

Martin Bentz & Michael Heinzelmann



# **Men, Goods and Ideas Travelling over the Sea: Cilicia at the Crossroad of Eastern Mediterranean Trade Network**

**Eugenia Equini Schneider**

Thanks to its specific geographic position, at the crossroads of the most important sea and land routes, in a necessary point of transition and interconnection between Syria, Cyprus and Egypt, Cilicia has always played a distinctive role within the context of cultural and commercial exchanges in the Mediterranean area. In particular, during its romanization, that gradually took place and was subsequently intensified with the constitution of the province, the commercial relations with various areas of the empire and in particular with the Eastern Mediterranean, which were substantially and constantly maintained until the first Byzantine age, were of fundamental importance. This area of Anatolia has recently become object of a renewed interest on behalf of Turkish and international universities and research institutions. These research projects are providing new insights on significant sites as Kelenderis and Elaiussa Sebaste that can be considered case-studies for the analysis of the development of historical, archaeological and paleo-environmental knowledge of southeastern Anatolia almost until the 7<sup>th</sup> century AD.

They also offer a unique opportunity for the application of innovative technologies and models taking into account the overall potential of the area – not only from the point of view of its archaeological heritage, but also from that of its natural environment – in order to establish a homogeneous relationship between people, nature and monuments.

Aim of this panel is the assessment of the present knowledge on production exchanges, trade and transport in the Mediterranean, analyzing and discussing new diachronic evidence of the network of Cilicia's relations. In addition it outlines an exhaustive picture of the changes and transformation involving the region and its urban centers throughout centuries as a result of large-scale economic and social processes. The definition of the maritime, fluvial and land-routes that connected the coastal settlements of Cilicia to the interior and to other regions of the Mediterranean basin is discussed and clarified through the integrated use of underwater research, archaeological and geophysical investigations about the harbors' basins, study of the production facilities, analysis of material culture and numismatic evidence. The following papers provide a great amount of information and offer diverse perspectives on the role played by the region - both as a production center and a market place – but also as a strategical node – within the network of the ancient Mediterranean trade-routes. They further implement data concerning Roman and Byzantine port basins, creating standard samples for comparative use by other research programs underway in Cilicia and in eastern and southern Turkey.





# Non-Coastal Cilician Cities and their Maritime Outlets<sup>1</sup>

Pascal Arnaud

The preparation of the commented edition of the so-called *Stadiasmus Maris Magni*<sup>2</sup> on behalf of Brill's *Neue Jacoby* Vol. 5, due Feb. 2019, has focused my attention on striking connectivity between non-coastal cities and the sea in Asia Minor. The sources used by the *Stadiasmus Maris Magni* between Syria and Caria generally go back to the 2<sup>nd</sup> century BC and can sometimes be assigned to the reign of Antiochus IV. They are always older than the Roman conquest. They pay much attention to the relationship between non-coastal cities and the sea, considering these cities as maritime cities. The description of Cilicia, combined with other sources, provides us with an interesting set of case-studies for understanding what a maritime city could be, how far from the sea it could be, how it could be linked to the sea and the kind of infrastructure these links relied on, as well as the kind of boats that make these possible. A higher tonnage and draft, using round ships instead of oared merchant-galleys would prevent boats from sailing upstream and impose transshipment somewhere close to the river-mouth and deeper maritime harbours or ports. As long as medium-sized merchant-galleys used to be the most common to merchantmen within the Mediterranean (roughly until the early 1<sup>st</sup> cent. BC),<sup>3</sup> cities situated rather far inland and upstream such as Rome or Pella could be considered by the ancients as maritime cities. This is an opportunity to revisit part of the Cilician hinterland, its complex relationship to the sea (including piracy) and its evolution. The ERC funded program *PortusLimen* has pointed out that who would seek artificial ports characterized by heavy infrastructure (moles, breakwaters) would miss great parts of the ports. Ports were primarily interfaces that could take a variety of forms: river mouth, beach, or any place where a ship could be loaded and unloaded either directly or using lighters, under legal control. Having an access to the sea was so essential that some cities were depending on very poor anchorages: if correctly located, Kalabantia (Sancaklı liman)<sup>4</sup> in western Lycia was an awful place: just a cliff opened to the meltem. But it is mentioned in the Attic tribute lists as early as 425 BC and was the unique access to the sea that the city of Sidyma could enjoy.<sup>5</sup> The city eventually made the anchorage accessible from land opening a path in the cliff itself.

## Towards a Rehabilitation of Rivers in Southern Anatolia and elsewhere

Recent historiography has pointed out that rivers, including some that may seem of minor importance today, were of major economic importance from Spain to Anatolia and from the Nile to the Rhine;<sup>6</sup> these studies partly challenge the once prevailing view that “few (harbours) were on rivers except at their mouths, since few Mediterranean rivers were navigable far upstream in antiquity”.<sup>7</sup>

The figures driven from Diocletian's prices edict<sup>8</sup> show that river-borne transportation upstream was 4.5 times cheaper than land transportation using donkeys or camels and five

times cheaper than using chariots. River-borne transportation downstream used to be twice cheaper than river-borne transportation outside. Transportation through lagoons would stand in between. Notwithstanding this, taking as a reference the route between Alexandria and Rome (calculated along the orthodromic route and therefore likely underestimated in Duncan-Jone's estimates) sea-borne transportation would be 4 times cheaper than river-borne transportation downstream, 6 times cheaper than sailing a lagoon, 8 times cheaper than river-borne transportation upstream, 34 times cheaper than using donkeys or camels, and 42 times cheaper than using chariots on a road. Actual figures would likely show an even major gap.

Even distant from the sea, some cities situated far upstream could be considered maritime ones by ancient authors, especially geographers. In the west, Narbo, Arles, Aquileia, Rome itself, and also Pisa, Minturnae, Terracina, Gela, were accessible only through a river and were sometimes quite distant from the sea: up to 60 stades (or 11 km) for Aquileia,<sup>9</sup> almost 30 km between Arles and the sea, almost 20 km in straight line between Ostia and Rome (much more following the river).

In Asia Minor, Myos lied 30 stades upstream on the course of the Meander,<sup>10</sup> the Lethôon and Xanthos were 10 + 60 stades upstream;<sup>11</sup> such was also the case of Limyra,<sup>12</sup> Myra,<sup>13</sup> Perge, 60 stades upstream,<sup>14</sup> Aspendos, at the same distance from the sea,<sup>15</sup> Side,<sup>16</sup> Séleucia on the Kalykadnos,<sup>17</sup> Tarsus,<sup>18</sup> and Mallos/Antioche du Pyrame...<sup>19</sup> Nonetheless, these cities all were considered maritime ones by ancient writers.

Ancient *periploi* make a distinction between two ways of using rivers marked by different expressions: up to 20 stadia (roughly 4 km), the word *anaplous* is followed by *kata* + name of the river. *Anaplous* is there used in its common meaning of 'channel of entrance to a port'.<sup>20</sup> The river is here just considered as a long channel of entrance to a maritime port. When distance is longer than 20 stadia, *anaplous* is followed by *ana* and name of the river. Ancient authors then considered that the river was more than a channel and that a real navigation upstream was necessary to reach the destination.

There were four main patterns of relationship between a river-city and the sea, which relied on various kinds of boats and relating infrastructure:

- Transshipment between merchant ships and riverboats.
- Towing maritime ships upstream
- Small coasters with special rigging (e.g. spritsails) able to sail upstream
- Maritime merchant galleys able to row upstream

The importance of the latter pattern has been heavily underestimated, as has been the role of merchant galleys in general. Until the early 1<sup>st</sup> century BC, merchantmen were widely using, and maybe prevalingly merchant galleys.<sup>21</sup> Even later, the Papyrus Bingen 77,<sup>22</sup> dated about 165 AD, shows that all the ships sailing in summer between Pamphylia, Cilicia and Egypt were *akatoï*, which were a type of merchant galleys, usually of small size, although one of these had a capacity of burden of at least 175 metric tons. Having small draft, these boats were able to get through sandbars that mark river mouths, to beach and, to some extent, to row upstream.

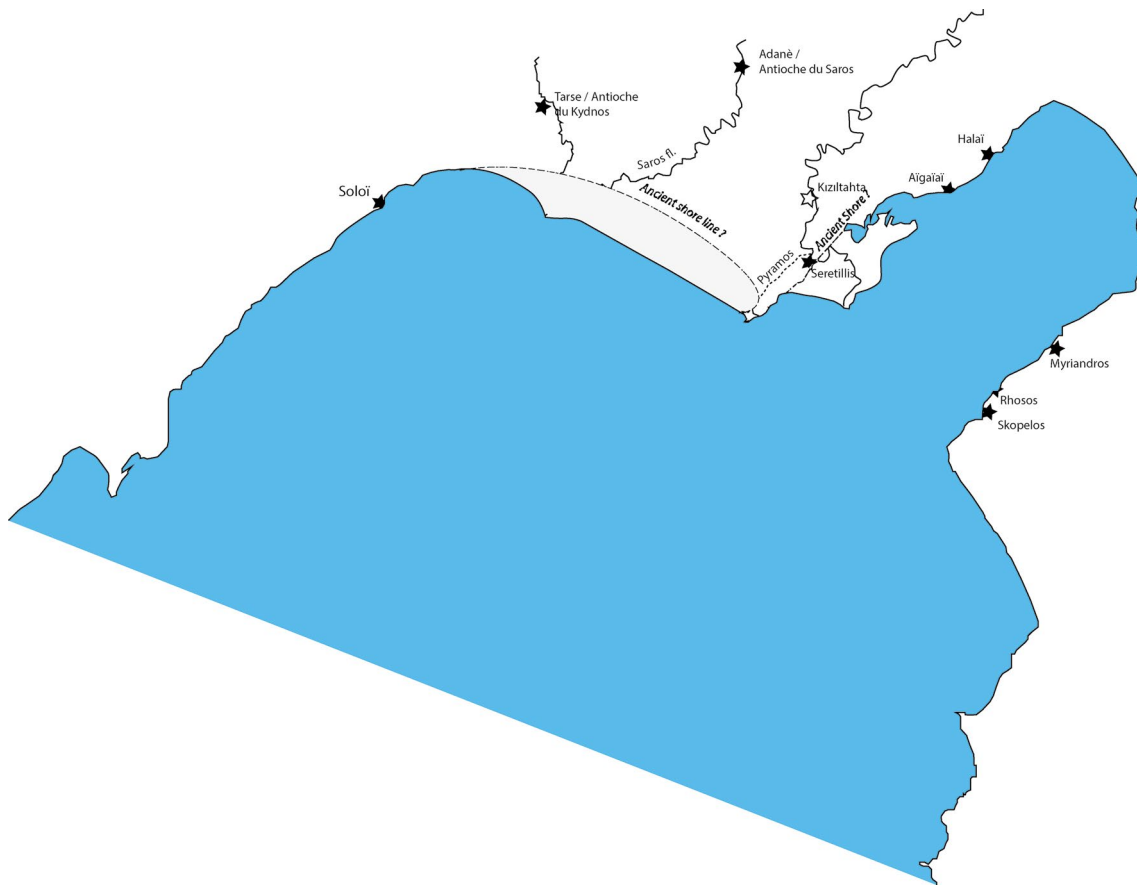


Fig. 1: The coastline between Issus and Tarsus.

### **Cilicia Pedias: the Lower Course of Pyramos, Saros and Kydnos Rivers – Mallos, Adana and Tarsus**

Cilicia Pedias was a complex area, characterised by a high level of quick silting. This was so important that an oracle would predict the day when the sediments brought by the Pyramos would reach the shores of Cyprus.<sup>23</sup> Although a significant amount of coring only will provide us with a clear idea of the coastal paleomorphology of the area, information driven from the *periploi* is enough to allow reconstruction. The sources the Cilician section of the *Stadiasmus* relies on all are older than the Roman conquest of Cilicia. In that section, the *Stadiasmus* combines, with variable success, two or three main sources: a periplus written under Antiochus IV and older, though imprecisely dated, documents.<sup>24</sup>

Although the *Stadiasmus* makes many mistakes, for its compiler did not understand that some of the places it named were bearing different names in the two or more sources it was using, it is rather easy to identify a couple of firm points: East, it names the coastal town

Seretile (159–160), likely identical to Ptolemy's *Serraiopolis* or *Serrepolis* on the coast (5.8.4), likely mentioned after the same tradition. This place is undoubtedly modern Sırtıntılın Çintlik, as the name itself indicates.<sup>25</sup> In the *Stadiasmus*, it was part of a sketch of coast that started at *Aigeai*, described as an 'abrupt' one (159), while there is no allusion to any alluvial plain of the *Pyramos* river that side of the *Pyramos*. The ancient landscape would have been quite different from the actual. The *Stadiasmus* nevertheless closely associates Seretile with the *Pyramos* river. This seems to indicate the existence of a mouth of the *Pyramos* east of cape Karataş, also suggested by Pliny the Elder,<sup>26</sup> while the river also emptied itself through another well-documented mouth west of Cape Karataş, close to the sanctuary of *Magarsus*. The idea of the existence of a delta is supported by the coins minted at *Mallos* between Tiberius and the mid-3<sup>rd</sup> century AD, which represent *Mallos* seated on two river-gods.<sup>27</sup> This delta would have existed at least between the late Hellenistic period and the mid-3<sup>rd</sup> century AD.

According to the *Stadiasmus* (161–166), the same cape (Karataş) bore two names: the older *Ianoua* or *Ionia akra* and the more recent Cape *Kephalè* – more likely these were the names of two ends of the rocky promontory that stood between the two arms of the *Pyramos*.

The *Stadiasmus* then gives the direct distance to Soloi then indicating that by the time of its source, the coast between cape Karataş and *Soloi–Pompeiopolis* formed a gulf and that this was rather deep. It then mentions in between, the mouth of the *Areion* river (usually named *Saros*) and the mouth of the lagoon of *Rhegmoi*, and thence the *Kydnos* river. This may have emptied itself into the lagoon in the form of a cataract or rapid. This is suggested by the name *Rhegmoi* as well as by the verb *epipiptei* used by Strabo 'fall into'.

The *Pyramos*,<sup>28</sup> the *Saros*<sup>29</sup> and the *Kydnos* all three are said to have been navigable rivers by various authors relying on second-hand material gathered from various sources. How sustainable was that situation is unclear; to what point, with what kind of boats these rivers were navigable, and whether these were navigable straight from the sea is quite unclear too.

The case of Tarsus and the *Kydnos* river is the clearest one. The current of the river still was mighty at Tarsus near the Gymnasium of the Youth.<sup>30</sup> This probably was a limit to the navigability of the river, which river emptied itself in the lagoon of Tarsus at *Rhegmoi* or *Rhegma*, a word that means a fissure or fracture. The verb *epipiptei* used by Strabo suggests that the river emptied itself into the lagoon through a fall or cataract passing through this fracture. The mouth of the river and that of the lagoon were in theory distinct, but the same name *Rhegmoi* (or *Rhegma*) applies to both the mouth and fall of the river and to the lagoon and relating port infrastructure as described by Strabo.<sup>31</sup> The port of Tarsus was situated at *Rhegmoi*, where the arsenal (*neoria*) of Tarsus once stood. Strabo also considers the whole lagoon as the *epineion* of Tarsus: this word characterises a port used and managed by a distant city. These clues suggest that sea-going ships would not normally sail up to Tarsus. But the river could be sailed

upstream: Cleopatra sailed up the *Kydnos* river to meet Mark Antony for first time.<sup>32</sup> But she did that on a very special kind of boat, named *porthmeion*. This would be some kind of an oared ferry used on rivers, lagoons or between islands. We are typically here in a context where the lagoon was the seaport, where a direct passage from the sea to the river was likely impossible, and where transshipment from sea-going ships to river-boats made it possible to bring the goods upstream, at least up to Tarsus.

The case of *Adana*, now situated 35 km upstream, is very interesting too. *Adana* is named *emporion Adane* by Pseudo-Skylax.<sup>33</sup> The classical meaning of the word *emporion* seems to indicate that Adana then had a maritime outlet that bore its name. The same toponomastic situation does appear at Perge, which is situated in the mainland but was also considered as a port of entry by Roman customs Law of Asia.<sup>34</sup> This port was also the city's *emporion*. *Emporion* eventually became the proper name of this place in late Hellenistic times and this was still the port of Perge in early Byzantine times.<sup>35</sup> At Adana, the *emporion*, likely situated at the mouth of the Saros river (Seyhan), did not apparently have such a good fate. Authors like Strabo do not record the mouth of the river in their periplus and the *Stadiasmus* does not mention any relationship between the mouth of the Saros and Adana and Q. Curtius Rufus only considers the rivers the *Kydnos* and the *Pyramos* noteworthy.<sup>36</sup> The fact that like Adana, the city was chosen by Pompey to settle pirates likely makes it a poor maritime city.<sup>37</sup> Ptolemy places the town on the same meridian as the mouth of the *Pyramos* (Ceyhan), thus implicitly connecting it with the basin of the *Pyramos* rather than to that of the *Saros*. The morphology of the mouth area may have been subject to rapid changes: About 400 BC Xenophon describes one mouth, sized 3 plethra or 300 feet (80 m.),<sup>38</sup> but Livy relating events that took place two centuries later mentions several mouths.<sup>39</sup> By the times of Procopius, it is said to be navigable (*nausiporos*).<sup>40</sup>

The location of Mallos is an irritating problem that is being discussed elsewhere.<sup>41</sup> It is usually located upstream at Kızıldahta. But this view is highly debatable. The city was considered a part of the shoreline by all ancient writers. The whole medieval and ancient tradition places Mallos on cape Karataş, and all of the edicts published both under the name of Mallos or under that of Antioch-on-the-Pyramos (the name of Mallos under Antiochos IV) were displayed at Karataş, where Mallos/Antioch is likely to be located. The only epigraphic document mentioning the institutions of Mallos at Kızıldahta belongs to a mausoleum and mentions funerals at public expense of the city of Mallos. It is absolutely irrelevant to support the location of Mallos at Kızıldahta. The only evidence that would support a location upstream is Pseudo-Scylax, where the word *anaplous* has been misunderstood.<sup>42</sup> It just indicates here that the port of the city was accessible through the river mouth. Mallos likely was surrounded by the two arms of the *Pyramos* and had a port upstream close to the river mouth just north of cape Karataş and Magarsus. The fact that like Adana, the city was chosen by Pompey to settle pirates likely makes it a poor port.<sup>43</sup>

According to Strabo,<sup>44</sup> the *Pyramos* was a navigable river. To what point is uncertain. According to Xenophon, the river was one stade large at a point that was likely upstream.<sup>45</sup>

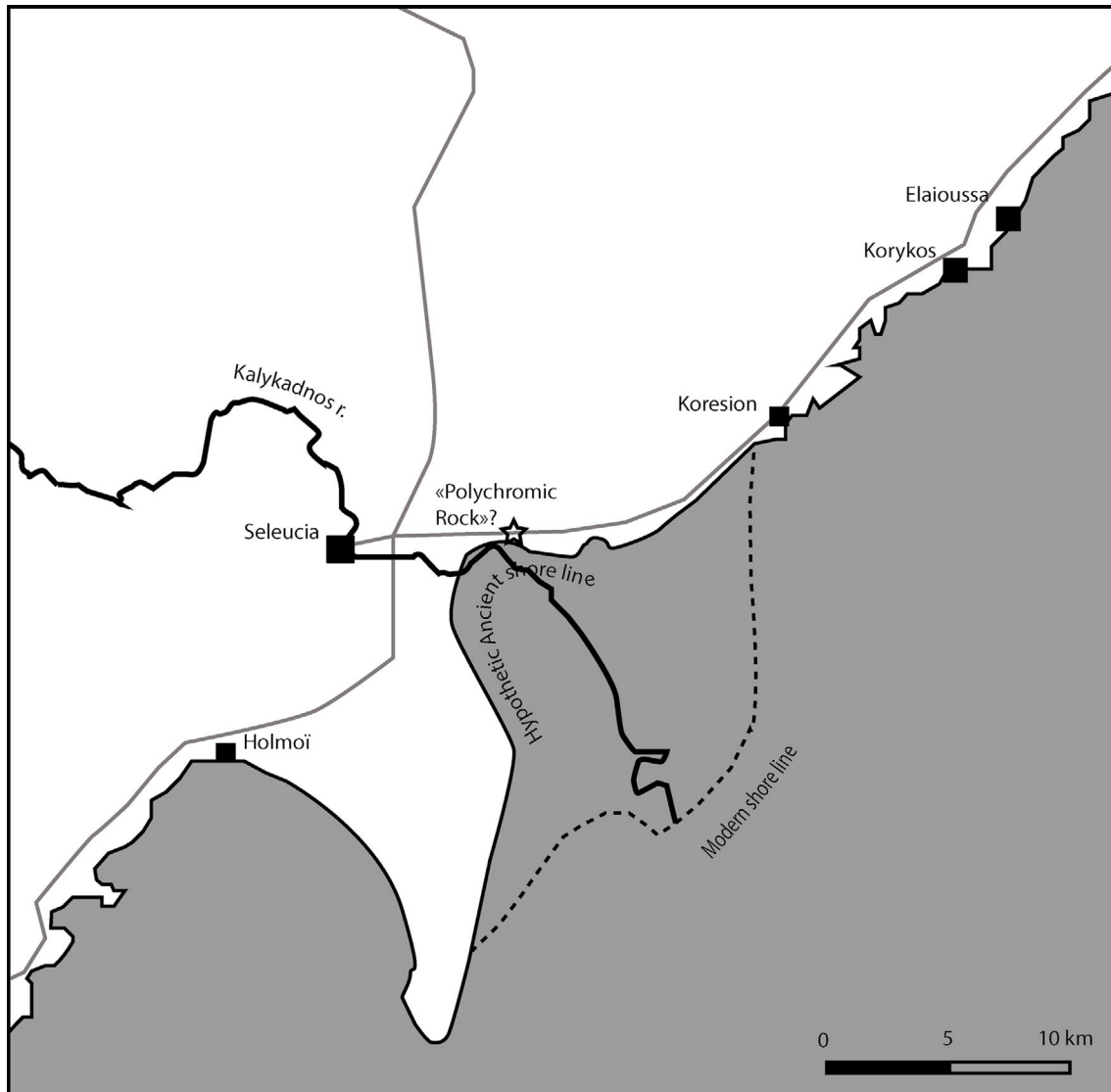


Fig. 2: The coastline around the Kalykadnos.

### Rough Cilicia

The only noteworthy river outside Cilicia Pedias was the *Kalykadnos*, once again considered a navigable river.<sup>46</sup>

The topography of the area of the mouth of the river, which also marked cape *Sarpedon* is again a bit confusing. Here again *Holmoï* and *Seleucia-on-the-Kalykadnos* may well be two names for one and a same place.

After *Kalon Korakesion* (same as *Korasion* and likely as *Pseudokorasion* as well), located at Susanoğlu, and before the *Kalykadnos*, the *Stadiasmus* (175–176) mentions an interesting

feature. At a place called the «polychromic rock», also named by Strabo, there used to be a ladder or stairs cut in the rock that led to the road to Seleucia. As for the interface between land and sea I shall come back soon. At first, this occurrence means that the shoreline was again a rocky one, and that it roughly followed the road, at least at some point between Susanoğlu and the ancient bed of the river. This implies that in that precise area, part of the alluvial plain was not formed when Seleucia already was named.

Seleucia-on-the-Kalykadnos was undoubtedly a port. A *naukleros* who had his origin at Hermione was settled there in the late 3<sup>rd</sup> – early 4<sup>th</sup> cent. AD, before he moved to Cyzicus, as one learns from his funerary inscription (IK 18 Kyzikos 184).

Both Strabo and the *Stadiasmus*,<sup>47</sup> likely relying on the same source describe the same staircase cut into a colourful rock that provided access to the road that led to Seleucia. A first interface between the sea and Seleucia-on-the-Kalykadnos was therefore made through a road. It allowed people sailing from the east to drop their passengers or goods off.

The river provided another interface, as Strabo makes it explicit: ‘The river has a channel that leads to Seleucia.’<sup>48</sup> Seleucia apparently could be reached directly from the sea by sea-going ships. The distance of 120 stades provided by the *Stadiasmus* is an estimate, not the result of a measurement;<sup>49</sup> and it is given from the edge of cape Sarpedon. It is therefore impossible to state the distance from Seleucia-on-the-Kalykadnos to the mouth of the river. This casestudy is quite illustrative of the complexity of accesses to cities situated upstream either sailing upstream or finding other interfaces with roads.

This quick survey would need confrontation with more reliable paleomorphological information that is an absolute pre-requisite to any attempt in historical topography and geography. It nevertheless allows a certain number of reliable hypotheses for the reconstruction of the ancient maritime landscape and of its evolution, and brings light on the variety of patterns provided by interfaces between sea and rivers and on their importance for the development of coastal cities, in Cilicia and elsewhere.

## Notes

<sup>1</sup> The research for this project has received funding from the European Research Council under the European Union’s Seventh Framework Programme (FP/2007–2013) / ERC Grant Agreement no. [339123] “PortusLimen”.

<sup>2</sup> References to the *Stadiasmus Maris Magni* (hereafter abridged SMM) are given following Müller 1855, 427–514, although the text edited by Müller is highly debatable.

<sup>3</sup> Arnaud 2015, 112–115.

<sup>4</sup> This identification is being challenged by F. Onur in an article to come. Cavalier – des Courtils 2011, 456. 461–463.

<sup>5</sup> Arnaud 2009, 181.

<sup>6</sup> Adams 2017; Aliquot 2016; Arnaud 2015b; Arnaud 2016; Arnaud 2019; Chic-García 1990; Chic-García 2002; De Boer 2010; De Izarra 1993; Lebreton 2012; Melchor 2002; Mirschenz 2018; Muñoz 1997.

- <sup>7</sup> Blackmann 1982, 186.
- <sup>8</sup> Duncan-Jones 1974, 366–369. The figures given here have been re-calculated using the value of the *modius kastrensis* established by Duncan-Jones 1976.
- <sup>9</sup> Strab. 5, 1, 8.
- <sup>10</sup> Strab. 14, 1, 10.
- <sup>11</sup> Ps.-Skyl. 100; Strab. 14, 3, 6.
- <sup>12</sup> Ps.-Skyl, 100; SMM, 236.
- <sup>13</sup> App. BC, 4, 10, [82].
- <sup>14</sup> Strab. 14, 4, 2; SMM, 219.
- <sup>15</sup> Ps.-Skyl.101; Strab. 14, 4, 2.
- <sup>16</sup> Mela 1, 78.
- <sup>17</sup> SMM, 176.
- <sup>18</sup> SMM, 168.
- <sup>19</sup> Ps.-Skyl.102; SMM, 163 f.; Strab. 1, 3, 7. 12, 2, 4.
- <sup>20</sup> Arnaud 2016, 141 f.
- <sup>21</sup> Arnaud 2015, 107-113.
- <sup>22</sup> Heilporn 2000.
- <sup>23</sup> Strab. 12, 2, 4.
- <sup>24</sup> Arnaud 2017.
- <sup>25</sup> Hild –Hellenkemper 1990, 408.
- <sup>26</sup> Plin. nat. 5, 91.
- <sup>27</sup> Imhoof-Blumer 1898, 163.
- <sup>28</sup> Strab. 12, 2, 4.
- <sup>29</sup> Prok. aed. 5, 4.
- <sup>30</sup> Strab. 14, 5,12.
- <sup>31</sup> Strab. 14, 5, 10.
- <sup>32</sup> Plut. vitae parallelae 26.
- <sup>33</sup> Ps.-Skyl. 102; Müller 1855, 77.
- <sup>34</sup> Cottier et. al. 2000, 37 ; ll. 26 [§ 9].
- <sup>35</sup> Hild – Hellenkemper 1990, 529; Grainger 2009, 192; SMM 215 ; Prok. aed. 5, 9, 38.
- <sup>36</sup> Curt. 3, 4, 8.
- <sup>37</sup> App. Mithr. 96.
- <sup>38</sup> Xen. an. 1, 4, 1.
- <sup>39</sup> Liv. 33, 41.
- <sup>40</sup> Prok. aed. 5, 5.
- <sup>41</sup> Arnaud 2019.
- <sup>42</sup> Ps.-Skyl. 102; Müller 1855, 77.
- <sup>43</sup> App. Mithr. 96.
- <sup>44</sup> Strab. 12, 2, 4.
- <sup>45</sup> Xen. an. i, 4, 1.



<sup>46</sup> Amm. 14, 8, 1: *navigabile flumen Kalykadnos*.

<sup>47</sup> Strab. 14, 5, 5 ‘After the Kalykadnos is the so-called Polychromic Rock that has a staircase cut in the rock that leads to Seleucia’ (Μετὰ δὲ τὸν Καλύκαδνον ἢ Ποικίλη λεγομένη πέτρα κλίμακα ἔχουσα λατομητὴν ἐπὶ Σελεύκειαν ἄγουσαν).

SMM 175. ‘From the Kora[ke]sion to the Polychromic Rock, that has a staircase, that provides access to the road to Seleucia-on-the-Kalykadnos, 70 stades. 176. From the Polychromic Rock to the Kalykadnos river, 40 stades’ (Ἀπὸ τοῦ Κορακησίου ἐπὶ τὴν ποικίλην πέτραν, ἣτις ἔχει κλίμακα, δι’ ἧς ἐστὶν ὁδὸς εἰς Σελεύκειαν τὴν ἐπὶ Καλυκάδνου σταδίων ο’. 176. Ἀπὸ τῆς κλίμακος ἐπὶ τὸν ποταμὸν Καλυκάδνον στάδιοι μ’.).

<sup>48</sup> Strab. 14, 5, 4. “ἔχει δὲ ὁ ποταμὸς ἀνάπλουν εἰς τὴν Σελεύκειαν πόλιν”.

<sup>49</sup> Arnaud 1993.

### Image Credits

Fig. 1–2: by the author.

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# **Dana Island Shipyard and Underwater Research of the Cilicia Coast 2017**

**Hakan Öniz**

Two different studies have been carried out on the coast of Cilicia with the permission of the General Directorate of Cultural Heritage and Museums of Turkey in 2017. The first one is archaeological surface research, drawing works and plant cleaning operations on Dana Island, which is at the center of Rough Cilicia (Cilicia Trachaea). In situ presence of at least 274 slipways from different periods was discovered on the Island in 2015 and 2016. During the 2017 project, many buildings behind of the slipways such as workshops, houses, fortification walls, about 270 cisterns, possible temples and churches have been identified. The second study is a systematic underwater survey from the west of Rough Cilicia to the middle of Plain Cilicia (Cilicia Pedias). Because of the known past of the Cilician region with thousands of years of historical background, finding the shipwrecks and other sunken remains are not surprising. An underwater survey of 2017 also has resulted in discovering a total of 20 unknown ancient shipwrecks and other archaeological remains.

## **Dana Island Shipyard**

Dana Island is a small island in the east of the Rough Cilicia region – Silifke of Mersin – of Turkey. It is located 2,300 meters from the shores of the mainland, 2,700 meters in length, 900 meters in width and 202 meters in height (Map 1). The region of the island has been subjected to international politics and trade since Bronze Age because of both the cedar trees in the Taurus mountains and iron ore deposits in the Gazipaşa and Anamur regions. In situ presence of many slipways from different periods were discovered in 2015 and a number of 276 (fig. 1) seen and drawn in 2016. In 2017, the same team carried out a surface survey, plant cleaning and drawing studies on the island.

The slipways are classified according to their visible physical characteristics. Although it is not possible to date each of these exactly, their proximity to the shore and the natural damage that they were exposed to can give an idea of which slipways were built at an earlier date. The slipways of Dana Island are mainly rock-cut style. The front parts of some slipways disappeared as a result of erosion; the back parts towards the mainland remained intact. Some grass marks and other signs also indicate possible slipways which are completely covered by earth and vegetations. There are also some unstudied rock-cut constructions behind of big slipways that probably indicate special places for their service boats. Some part of slipways also had fallen to the sea due to earthquakes. Most of the slipways were built and placed side by side (fig. 2). Most of these were probably enclosed by combined roof systems. Some of the postholes around some slipways attest also the possibility of the wooden roof system. However some of them seem roofless without the ship's protection



Map 1: Research Area.

from sun and rain. Portable tents and other organic solutions may have been used. In some slipways, there are slots, in which stanchions, used for fitting and balancing the beached ship, were fixed. In some slipways, there are slot grooves that allow the ship or the cradle to slide and to be fixed after sliding (fig. 3). Also, in some of the slipways, there are bollards and tying stones that will allow the ship to stand tied to the land or stand firm when beaching. In addition, on the side parts of some slipways, there are special bollards that stopped the ship from sliding backwards, keeping the rope firm and tight while the ships were hauled with the help of animals (fig. 4).

A great number of different building remains mainly covered by vegetation and earth have been found behind the slipways. Among the surviving structures are at least six churches, houses, villas, a Roman bath, more than 250 cisterns, various workshops/mills. The number of the buildings show that a remarkable amount of population must have lived and worked on the Island. 274 slipways and connected workshops indicate a presence of a great shipyard and also presence of the population as workers, soldiers, rulers and perhaps families. The majority of the groups of buildings, which could not be identified yet, dated to the 4<sup>th</sup> century BC up to the 4<sup>th</sup> century AD. Masonry techniques that can be dated to the Bronze Age and the Iron Age have been seen in some structures whose function has not been fully understood yet. Some images on the walls of few structures prove the Crusaders' presence on the island.

About 274 slipways and other buildings behind them attest the existence of a very important shipyard and can be named as Neoria/Neoroion in the general explanations of the ancient terms such as *Neosoikos*,<sup>1</sup> *Neoria*,<sup>2</sup> *Neoroion*, *Naustathomos*,<sup>3</sup> *Naupegeia*,<sup>4</sup> and *Skeuaothekai*.<sup>5</sup> Dana Island is probably the biggest archaeologically-proven shipyard within the entire Levant. There were many reasons for choosing this location as a shipyard.

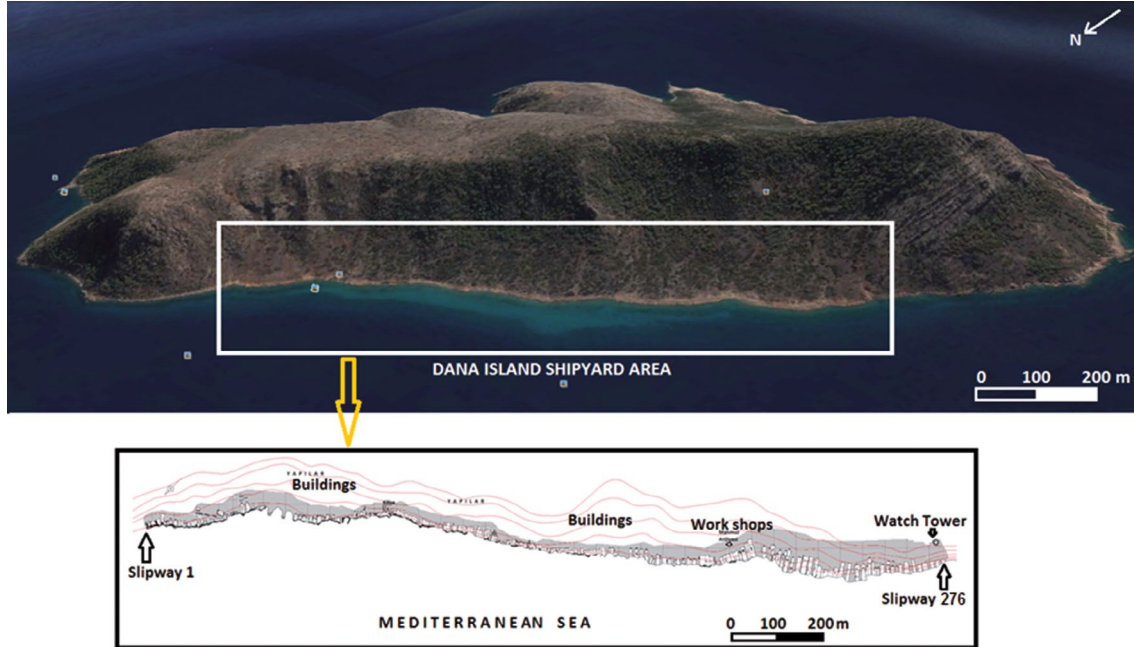


Fig. 1: Drawing of Slipways.

– The necessary wood resources for shipbuilding are very close to the island. It is known that Rough Cilicia was rich in timber, which is important for shipbuilding.<sup>6</sup> Rich sources of cedar trees on Taurus Mountains have been known since the Bronze Age. There are also plenty of pine species such as black pine, calabrian pine, and white pine, oak and sandalwood trees in the region.

– The position as an island is important to a shipyard because islands are safer places for the military shipyards. For harbouring wooden ships such as bireme and penteonters, which have a high cost of construction and maintenance, and their security, it is necessary for shipyards to have a specialized headquarters infrastructure and firewalls.<sup>7</sup> The majority of the slipways comprised wooden roofs<sup>8</sup> and piers and could easily set fire to all the shipyards and the ships. The shipyards built on the island should have been more secure than those set up on the mainland against raids that might come from land.

– Safe shelter position is also important for the ships which came to shipyard to wait for their landing operations. The northwest of the island is a safe harbour usually for all seasons. Many shipyards such as Tunisia-Carthage<sup>9</sup> and Rhodes-Eulimna<sup>10</sup> were built in the inner parts of a natural bay.

– The north of the island had natural slopes for landing, which were suitable for ramps from the sea to the land. During beaching, this incline would have ensured that ships have been hauled in such a balanced way that their own weight would not have damaged them.<sup>11</sup> The incline of Dana Island slipways varies between 3% and 15% depending on the length of the slipways.





Fig. 2: Slipways side by side.



Fig. 3: Slot for cradle and hole to fix it.





Fig. 4: A Special bollard.



Map 2: Underwater Research Locations and Dana Island.

– This part of the island is suitable for cutting rock formations. Limestone as the main rock led to have suitable slope with the rock-cut process when necessary. Some structures and the cisterns behind the slipways were also shaped by being rock-cut.

– The island offers easy an approach possibilities for ships. In the northwest of the island, ships can approach the shore directly from the open sea without any obstacles.

Among the finds brought to light during the works, most of which belonged to ships, there were lead, copper and bronze pieces, and numerous iron and bronze nails, iron carpentry materials, coins, most of which attributable to periods from 4th Century BC to 6<sup>th</sup> century AD and many ceramic remains from Iron Age to Byzantine times. Few stone, obsidian and flint tools probably not related to the use of shipyards can be related to hunters from possibly Neolithic, Chalcolithic and Bronze Age.

### Underwater Survey

Cilicia Region, known for its intense maritime trade, naval battles, and pirate activities from Bronze Age to Ottoman periods is now home to many wrecks and archaeological remains. The studies and archaeological activities performed in and around the region in recent years are prominent. These underwater archaeological explorations also contribute to the





Fig. 5: Grinding stones from a shipwreck.

establishment of an underwater cultural heritage inventory. In the summer of 2017 many shipwrecks, harbours and other remains have been found and listed below.

The Selçuk 1 Scientific Research Ship was used during the underwater research project. The ship contained remote operating devices, side scan sonars, chirp sub bottom profiler, dual beam sonars, underwater communication systems, magnetometers, drones and other research devices such as SCUBA equipments and cameras. A total of 35 underwater archaeologists and archaeology students including master students from UNESCO UniTwin Network Universities did work during the project. Islands, natural harbours, entrances to the rivers, capes and dangerous reefs were scanned by SCUBA diving devices including normal sea-scooters. Deepwater sites, which are far from the coastline have been researched by sonars and ROVs.

In the Cilicia Pedias region, Mezitli, Yenişehir, Akdeniz, Tarsus; in Rough Cilicia region, Erdemli, Silifke, Gülnar and Aydıncık coasts of Mersin and Gazipaşa of the Antalya coasts were the subject of studies in 2017 (Map 2).<sup>^</sup> About 14 shipwrecks from different periods have been found in 2017 along this coastline. Also 14 stone anchors which are usually dated to Bronze Age, stone and lead stocks, which are dated to 8<sup>th</sup>–4<sup>th</sup> century BC, iron anchors from Roman and Byzantine periods were found along the same coastline.

Mezitli coastline: Visibility of the waters of this coastline was not good in the summer season because of the alluvial fillings from Seyhan and Ceyhan rivers and of the wind direction and its waves. Standard diving methods were not used because of this reason. Sonar studies have been carried out by Selcuk 1 Research Ship in deep waters and by boat in shallow waters. No archaeological objects have been found.

Yenişehir, Akdeniz and Tarsus coastline: This coastline is just next to Mezitli and visibility was under the same conditions. The coastline has been scanned by sonars of the ship. No archaeological objects have been found due to deposits of the rivers from Cukurova that have filled almost all of the Mersin Bay.

Tarsus Karaduvar: Traces of an unknown harbour have been detected along this coastline. The harbour has no in situ position because of man-made fillings from the neighbouring factories and infrastructure works. It was probably established at the entrance of a small river. The coastline has a rich archaeological ceramic remains from the 3<sup>th</sup> century BC to the 5<sup>th</sup> century AD.

Erdemli Kızkalesi (Corycus) coastline: Visibility in the sea is better when approached from east to the west. The coastline has been surveyed by diving methods and also by sonar devices. Deep off the coastline is a sandy bottom filled by local rivers. Archeological objects from the bottom of the Roman Corycus harbour could not be seen because of the aboved mentioned reason. An excavation is needed to see the ancient layer.

Silifke Narlıkuyu Eastern Cape: This sheltered site is a natural harbour. A group of balast stones has been found at the deep of the harbour. It probably belongs to a sunken ship which had no cargo. No other archaeological remains have been found by SCUBA diving or sonar methods.

Silifke Narlıkuyu Western Cape: This sheltered site is close to the dominated wind of the region from the western direction. Two shipwrecks and other amphora remains have been found between 12–18 meters depth in this natural harbour and they are dated to the 4<sup>th</sup>–5<sup>th</sup> century AD and 11<sup>th</sup>–12<sup>th</sup> century AD.

Silifke Mavikent: This coastline is just opposite Dana Island. Some broken amphorae and other ceramic sherds have been found at 5–7 meters depth and they probably belong to a shipwreck. Type of the amphorae is Cilicia Type 6b (LR1b) and dated to the 5<sup>th</sup>–6<sup>th</sup> century AD.

Silifke Taşucu – Liman Kalesi Bay: One shipwreck with undatable amphora sherds at 2–3 meters depth has been found here. The ship probably sunk because of heavy storms along the shallow-rocky coast of this bay. Two Roman iron anchors and at least 10 amphorae also have been found from 10 to 25 meters off the south coast of the bay. Some of these remains also belong to a shipwreck dated to the 5<sup>th</sup>–6<sup>th</sup> century BC.

Gülнар Beşparmak Island and Akkuyu Cape: These sites are of notable archaeological importance because of at least 11 detected shipwrecks from the 5<sup>th</sup> century BC to the 7<sup>th</sup> century AD found between 3 to 20 meters (fig. 5). 7 stone anchors (fig. 6) from these sites can be dated to the Bronze Age and 3 stone stocks of wooden anchors can be dated to the 8<sup>th</sup>–5<sup>th</sup> centuries BC because of their typological characteristics.

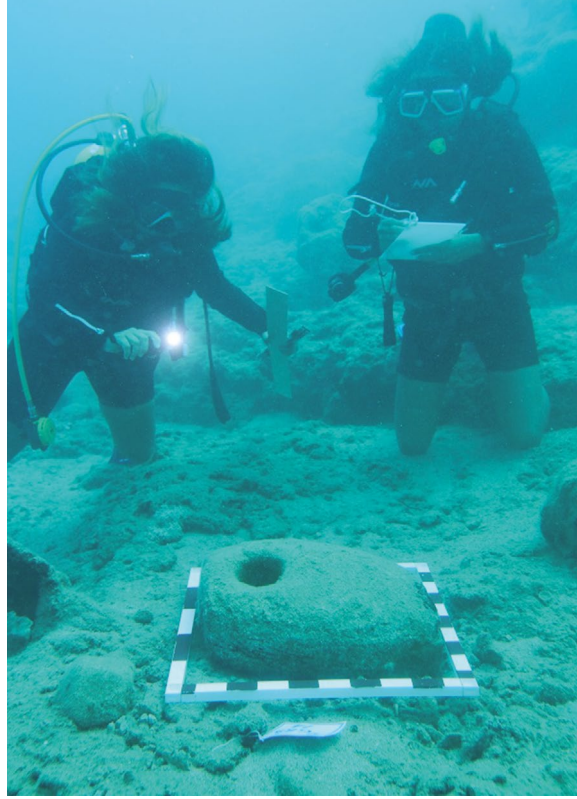


Fig. 6: A stone anchor.

Aydıncık Sancak Cape: Strong currents off this cape create serious risk to ships even during modern times. This dangerous situation sent 3 ships into the deep. 2 amphorae and one plate wrecks are between 22 to 45 meters. Many of the amphorae of the wrecks can be seen with their unbroken forms.

Gazipaşa Kaladran: Kaladran is a wide bay between Anamur and Gazipaşa and a sheltered site during the dominating western wind/waves. One amphora wreck with Ganos amphorae is dated to the 11<sup>th</sup>–12<sup>th</sup> centuries AD.

In total 20 shipwrecks have been found along this coastline in 2017. Underwater surveys will be continued in the next years.

### Notes

<sup>1</sup> The term of Neosoikos means slipways whose tops were covered, a generic term used in the 5th century BC and mentioned by Thukidites and Heredotus. Blackman 2013a, 16.

<sup>2</sup> It is thought that the term of Neoria is the name given to the whole area where the triremes are beached and re-launched and was used by Lycurgus and Andocides. Blackman 2013a, 16.

<sup>3</sup> *Neoroion* or *Naustathomos* are military shipyards with all necessary infrastructure.

<sup>4</sup> The shipbuilding areas distinct from the ship havens. Baika 2013a, 210.

<sup>5</sup> Ship equipment stored areas. Baika 2013a, 210.

<sup>6</sup> Durukan 2005, 7; Kurt 2015, 305.

<sup>7</sup> Baika 2013a, 210.

<sup>8</sup> Wooden ships must be protected from sunlight and rain during the time they are on land. The wood, which gets swollen and expands when it gets wet and contracts when it dries out, will cause the nails to stretch and the caulking between planks to loosen.

<sup>9</sup> Gerding 2013, 308.

<sup>10</sup> Baika 2013b, 340.

<sup>11</sup> Rankov 2013, 119.

### Image Credits

Fig. 1: by Günay Dönmez. – Fig. 2: Drone photo by Günay Dönmez. – Figs. 3–6: by Hakan Öniz.

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# A New Context of Late Roman Pottery from Kelenderis: A Preliminary Discussion

Kamil Levent Zoroğlu

As Strabo mentioned (Strabo 14.5.2–8) there were quite a lot of harbor towns on the shores of Rough Cilicia both suitable for sheltering and for logistic facilities. One of these was Kelenderis located between Seleuceia on the Calycadnus and Anemurium where there are small and large coves in the vicinity to protect the sails from the danger of the winds and one of these was used as the main harbor of the town (fig. 1).<sup>1</sup>

Greek sources mention that the Samians founded Kelenderis; but new literary and archaeological documents reveal that contacts with both the Eastern Mediterranean and the Aegean World encompassing Cyprus and Central Anatolian Plateau seems to have been started earlier than this time.<sup>2</sup> Transport vases coming from the cemeteries and the settlement area of the town are important archaeological materials to prove which overseas contacts Kelenderis had from the late 8<sup>th</sup> century BC up to the end of the Late Roman Era.

The topography of Kelenderis and its hinterland comprised of rocky hills, which are covered with pine, cedar and oak trees. Therefore, this topography made impossible for field cultivation here, but timbers and other substances like resins and acorn obtained from the forests were important productions in the region even today.<sup>3</sup> Beside these, there must be also production of wine and olive oil, textile made of goat hair in the countryside like today. It is also probable that most of these productions were exported from the harbor of Kelenderis. It may also be proposed that the principal reason to establish a garrison in Meydancık Kale on the hinterland of Kelenderis by the Persians in the 5<sup>th</sup> and 4<sup>th</sup>, then by the Ptolemaic Egypt in the 3<sup>rd</sup> century BC based mainly on the requirement to control both sea routes and the to obtain of the natural resources produced in the region.<sup>4</sup> It is also certain that the role of Kelenderis on the organization of local productions activities and exportation of goods gathered from the local resources was very effective not only in town but also in the countryside, and, certainly based on this situation, Pliny (*NH* V.22) quoted Kelenderis with its region as: '*Regio Celenderitis*'.

Another interesting archaeological remain revealing the importance of Kelenderis as a harbor is a mosaic pavement discovered in 1990, on which the town's itself is depicted.<sup>5</sup> There we see main buildings, such as a shipyard placed on the promontory of the peninsula, and a stoa, which was certainly used to be a storage building for exports and imports, a bath behind of this on the side.

Conclusively, all these evidences support that Kelenderis was a small town in the center part of Rough Cilicia with its suitable harbor on the routes between East and West and due to this location, it was active commercially where import and export goods from various coastal settlements and from inland were gathered and distributed in antiquity.



Fig. 1: General view of Kelenderis with its main harbor.

It is a pity there are very scanty documents on the sorts and capacity of the productions of the town itself. As mentioned, being a harbor town, there must be workshops of artisans, such as carpenters, who constructed and repaired boats, and ironsmiths produced implements for shipbuilding.<sup>6</sup> On the other hand, as a settlement on the coast, another important production seems to be salt obtained through the evaporation of the sea-water.<sup>7</sup> Another occupation of the inhabitants was certainly fishery like today. This proposal was being proved by the excavations in various parts of the town where various artifacts which were used as fishing equipment, such as fish hooks, stone and clay sinkers and bone shuttles for knitting and repairing fish-net came into light. It is also probable that, except the daily needs, especially in the time of exploitations of the marine resources, fish processing, that means salting fish and other by-products based on the fishery seems to be another possible business line.

Due to the lack of the literary sources and archeological evidences, this last proposal on the production of salted fish was only a hypothesis up to 2014. Then, when we started to excavate in a new part of the West Necropolis, where several built-tombs dated to the late 2<sup>nd</sup> and 3<sup>rd</sup> century AD were unearthed (fig. 2), some new evidences on the fish-industry in town have come into light. The first thing we have noticed is that the tombs here have lost more or less their original plan and some of the walls of them were either renewed or new walls in different character than the original one were added inside and outside of the burial chambers. It must also be noted that there were no burials or their remains except a broken sarcophagus and some deformed burial gifts were found without their original situation. Instead of these, different materials, such as clay basins, small and big jugs, storage vats and transport amphorae, mainly LR1 type (fig. 3), including to a few bronze fish-hooks, bone shuttles and clay sinkers were found in the fill of the rooms of these buildings.



Fig. 2: Excavation area in the West Necropolis. 1 Sacred way; 2 Plan of the tomb with atrium; 3 Plan of barrel vaulted tomb with mosaic; 4 Court of the barrel vaulted tomb; 5 Vat for salting fish.

These materials cited here are dated generally to the 6<sup>th</sup> and 7<sup>th</sup> century AD, that means they are from the late antiquity.<sup>8</sup> This date is also supported by the coins found in the same contexts.

Depending on these evidences and historical events in the region, it may be concluded that the monumental tombs of the Roman Period in this part of the necropolis were plundered sometime in the second half of the 3<sup>rd</sup> century AD<sup>9</sup> and this area was left unoccupied for a while, then, probably in the 6<sup>th</sup> century AD, these older tomb buildings were almost cleaned, partly repaired and added new rooms if required in order to use them for different purposes, especially to be workshops. So, most of the materials,



Fig. 3: Pottery found in the fill of the workshops.

especially pottery and coins and other small finds discovered here are mostly belong to this second phase of these buildings, in other words, when they were converted into workshops.

Excavations in this area have also shown that another catastrophe took place in this second phase and the buildings were destroyed again especially by fire. According to the situation we have encountered, the materials used by the owners of these workshops were left behind in their original situation and the area was not settled for a long time. The event, which brought the end of this second phase, must have occurred in the late 7<sup>th</sup> century AD, which may be connected with the Arab invasion.<sup>10</sup> So, the materials we



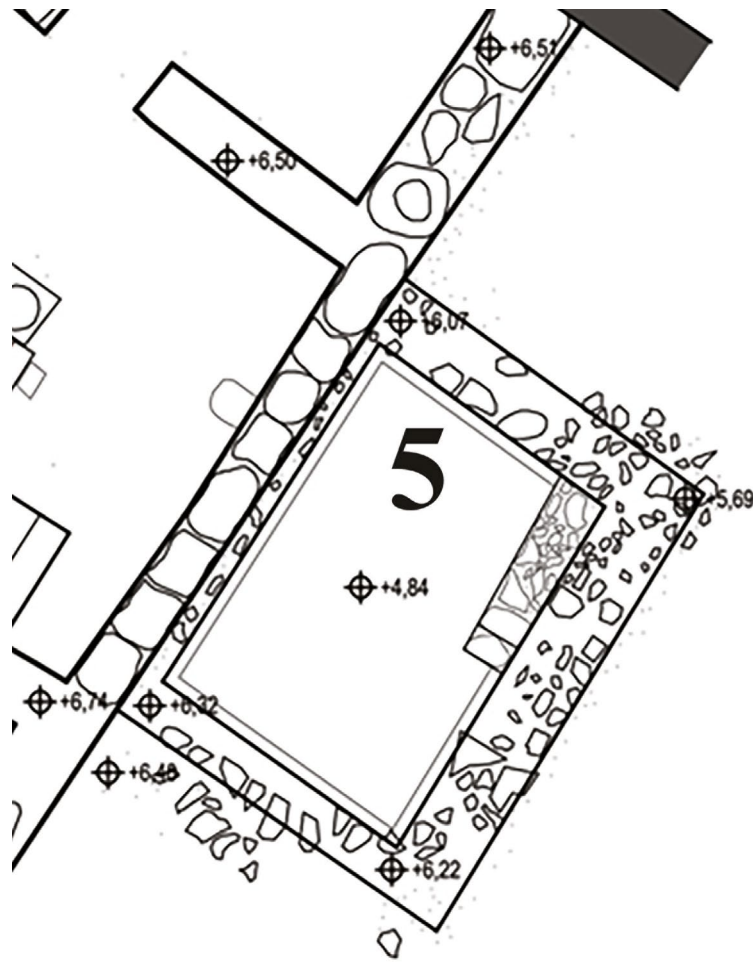


Fig. 4: Plan of the vat.

have uncovered here are completely prior from the fire, almost from the first half of the 7<sup>th</sup> century AD.

Now the question arises what was produced in these workshops, which contained various type of vases, especially transport vases, big jars and storage vats.

In the excavation season in 2014, after cleaning of a tomb with atrium (fig. 2, No. 2), the trench was extended southeastward and a rectangular pond measuring 3.70 m long, 2.40 m wide and 1.50 m deep was unearthed (fig. 2, No. 5).<sup>11</sup> Its walls which are made of irregular stones with mortar, are quite thick (0.55 m) and their inner surface and the ground were plastered with a waterproof mortar, certainly to prevent leakage (figs. 4–6). It is also important to note that internal angles are rounded with the same material. There is also a low and short wall (1 m long 0.40 m high and 0.50 m wide) placed at the southeast corner running with the southwest wall of the pond, which certainly made possible to use as a base for a wooden ladder to go down. This short wall



Fig. 5: View of the vat from south.



Fig. 6: View of the vat from north.





Fig. 7: LR1 Amphora (small shape) from the workshop.

was also plastered. Taking into consideration the shape and architecture of this pond as well as its location near the workshops, it may be proposed that it was used as a vat for salting fish.

It is a pity there is no close parallel of this kind of fish-salting ponds in Cilicia.<sup>12</sup> Its architecture may be compared better with the fish salting vats from Roman Spain, North Africa and even from Crimea in the northern Black Sea, especially the plastered walls and ground, and the rounded internal angles are comparable.<sup>13</sup> If this comparison is accepted, then it may be suggested that this pond in the West Necropolis of Kelenderis had served probably as a vat for the production of salted fish.

On the other hand, this comparison will also help to explain why so much pottery, especially amphorae, storage vases and jugs were uncovered in the rooms of these workshops. It is clear that these vases were related to the production activity here and, in my opinion, for instance, LR1 type trade amphorae (fig. 3, 7), which is the well-known transport vessel in whole Cilicia during the late antiquity, must have been used for salted fish and sausage.<sup>14</sup> Storage vats<sup>15</sup> (fig. 8) uncovered together with those pottery were certainly used to keep the salted fish, probably for fermentation purposes,



Fig. 8: Storage vat from the workshop.

to produce sausage and perhaps even garum. Small jugs (fig. 3) were used to get the sausage from the storage vats to put into the export vases.<sup>16</sup>

### Conclusion

In this short discussion we have aimed to present mainly local one of the local productions, e.g. salting fish, of a small town on the coast of the Mediterranean Sea and its relation with the pottery uncovered in the workshops placed in the West Necropolis. Although only a small area has been excavated here, but it became clear that the monumental tombs of the Roman Imperial Period were converted into workshops after their plundering probably in the second half of the 3<sup>rd</sup> century AD.



Each room of these workshops contained mainly amphorae of LR1 type, storage vats and various small and big jugs. It is generally accepted that these vases, especially amphorae and storage vats were used to store liquids like wine or olive oil. But when a vat was discovered nearby of the workshops, then another possibility came into consideration: A sector in this area was established for fish processing. It is clear that the only one fishpond is not enough to support this proposal, so the trench around of this pond needs to be expanded to search for further vats to reach a final conclusion.

### Notes

<sup>1</sup> On Kelenderis see: Zoroğlu 1994; see also annual reports published in Kazı Sonuçları Toplantısı

<sup>2</sup> On the localization of Kelenderis inside of the boundaries of the Tarhundašša Kingdom in the Late Bronze Age see: Dinçol et. al. 2000, 1–30.

<sup>3</sup> During the excavations in 2018 in Kelenderis we have unearthed a transport amphora of LR1A type inside and outside of which were charcoal-like remains, possibly resins. If it will be proved that this material was resin which was used both to cover especially inner wall of the export vases in antiquity. see: Mills-White 1989, 37–44.

<sup>4</sup> On this subject see: Zoroğlu 1999

<sup>5</sup> Zoroğlu 2015, 199–224.

<sup>6</sup> A shipyard depicted on the Kelenderis mosaic on the promontory supports this proposal; see: op.cit. 220, fig. 19.

<sup>7</sup> We know, for instance, salt was monopolized by the government in the last century of our time and it was prohibited to obtain salt from the sea-water without legal permission.

<sup>8</sup> On the recent excavations in the West Necropolis of Kelenderis and on the preliminary reports see: Zoroğlu 2018, 3–7 fig. 11a.

<sup>9</sup> Towns on the coast like Kelenderis were under various threats such as pirates from sea and banditry coming from the inland of the region.

<sup>10</sup> It seems that this catastrophe was expected by the people living here, and no skeletal remains were found in these rooms. It was generally accepted that this was the Arab invasion around 680 AD and the coins found here support this date; on the beginning of the Arab invasion of Cilicia see: Hild – Hellenkemper 1990, 43–46.

<sup>11</sup> Zoroğlu 2016, 255 f. figs. 2 and 7. One of the historical event in the second half of the third century AD was the invasions of the Parthians under King Shapur I (241–272) in 260–261 AD and it is also likely that the tombs in the West Necropolis of Kelenderis were plundered in this time. On the Shapur's invasion and plundering of Kelenderis and its environs in his third expedition mentioned on the rock reliefs at Naksh-e Rostam see, Maricq 1958, 312.

<sup>12</sup> There is a probable remain of a fish salting vat in Pompeipolis near Mersin which was discovered in one of the shops on the colonnaded street. I have not seen this unpublished remain and the information was given kindly by Professor R. Yağcı, director of the Soli-Pompeipolis Excavation Project.

<sup>13</sup> On the fish processing and trade: Marzano 2013, 89–111 figs. 14–16; Trakadas 2005, 47–82; Højte 2005, 133–160 figs. 8. 11. 14–16; Curtis 1984, 431–436. It is known that salted fish and sausage were popular in the Roman world. According to the process salted small fish was kept in this type of vats for a certain time, then, when they were salted enough, they were filled in the storage vats. After the fermentation of the product, especially garum, it was filled in the small bottles, and amphorae were used to transport salted fish.

<sup>14</sup> We have hundreds of fragments and substantial whole vases in Kelenderis up today and only two sub-types are in question: One is bigger and almost oval (H.0.60-065 m), the other smaller and almost cylindrical (0.45 m); on the discussion of the the types see: Alkaç 2012.

<sup>15</sup> For a similar storage vat from Anemurium see, Williams 1998, 82 fig. 49 (No: 489).

<sup>16</sup> Although no kilns have been attested yet, countless fragments of misfired pottery have come to light every excavation season in Kelenderis. One group of these finds are the jugs and small jugs with a knob underside of the foot.

## Image Credits

All images by the author.

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# Under the Auspices of Aphrodite Euploia: Port Infrastructure and Urban Transformation at Elaiussa Sebaste from the Hellenistic to Byzantine Age

Claudia Tempesta – Maria Francesca Pipere – Valentina Cassiani

From the Hellenistic period onwards, the coastal city of Elaiussa Sebaste was one of the most important centres of Eastern Rough Cilicia. It was favoured by the presence of two ample and sheltered port basins and by their close integration with the road network which connected it to the other coastal cities and to the inland agricultural villages (fig. 1). The settlement, dating from the end of the 2<sup>nd</sup> or the beginning of the 1<sup>st</sup> century BC, played over time two main roles, as a place of clearing of the agricultural resources of the inland and as a commercial and military harbour.<sup>1</sup>

As attested also in the contemporary sites of Cilicia, the first settlers' choice was aimed at exploiting the peculiar geomorphology and the strategic advantages granted by the presence of a rocky promontory, which was raised over the surrounding coast and thus easily defensible (fig. 2). Thanks to such a position, the city was able to control not only the narrow coastal plains and the road network, but also the two ample and deep bays located between the promontory itself and the mainland, which were connected to one another by a narrow isthmus.<sup>2</sup>

The geological and archaeological investigations have provided data for outlining the processes of development of the port basins, which at present are quite completely silted in, as well as their transformations over time.<sup>3</sup> The northern harbour, which was naturally sheltered and hidden by the steep slopes of the promontory, was exposed to winter winds and to prevailing sea currents; it was larger than the southern one, which was, on its own hand, exposed mainly to the south-western winds. The two harbours must have extended as far westwards as the mainland's lowest spurs, where the coastal road led across.

The maritime vocation of the city is well documented, starting from the late-Hellenistic times, by the coins struck in this period both in the Seleucid and the municipal mint; they represent a goddess standing on a ship's wheel, probably to be identified with Aphrodite Euploia, along with the symbol of *aphlaston*.<sup>4</sup>

At that time, the settlement was confined to the promontory, whereas a cliff necropolis extended along the rocky slopes of the mainland. The polygonal walls scattered on the promontory – some of which pertaining to the city fortifications – might date from this time, as well as some of the structures suited for productive activities (pits, wine- and oil-presses etc.).<sup>5</sup> For this period, there is no evidence available about the configuration of port basins; in comparison with other Hellenistic sites of the region, it could be assumed that the city exploited the natural landing places, without actual port infrastructures.

The literary sources provide few information about the history of Elaiussa during the 1<sup>st</sup> century BC, to such an extent that we are not able to assess if in this period Elaiussa

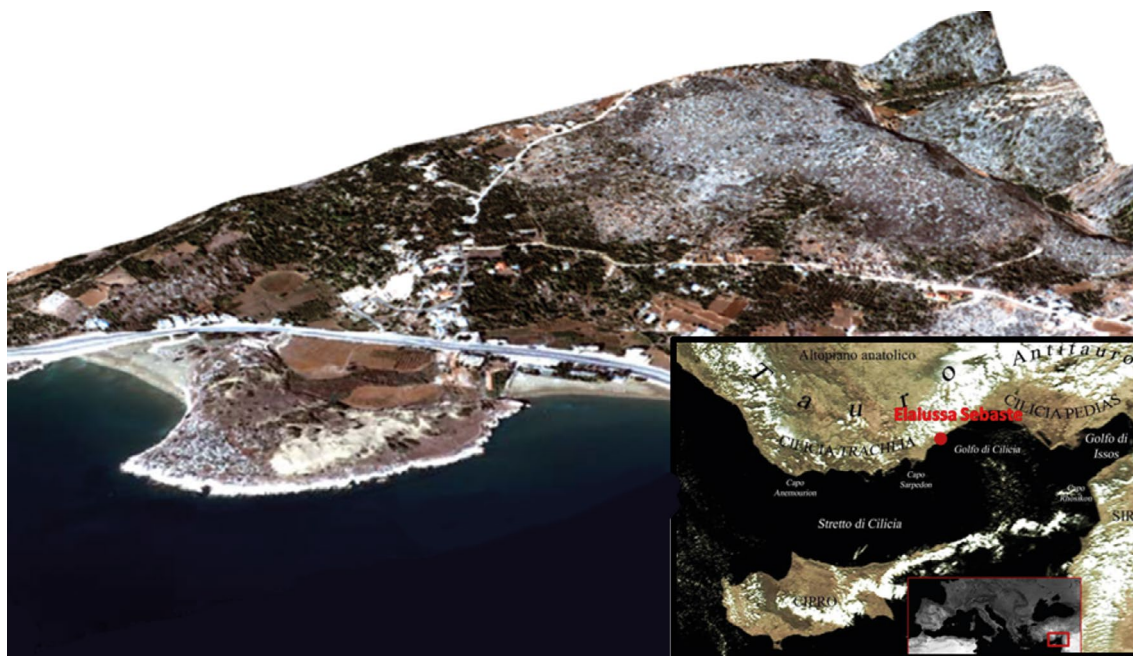


Fig. 1: Geographical location and 3D view of Elaiussa Sebaste.

had been part of the Olbian state, nor if it had been involved in the phenomenon of Cilician piracy, as suggested by Plutarch (Pomp. 28.4) and Strabo (12.1.4). However, according to Strabo himself (14.5.6) and Josephus (AJ 16.4.6), around 20 B.C. Elaiussa passed under the control of Archelaos of Cappadocia, who renamed it “Sebaste” in honour of the Emperor and built there his residence.<sup>6</sup>

From the Augustan age onwards – and mainly after the reorganization of the province of Cilicia in 72 AD – the maritime and commercial role of Elaiussa increased progressively in importance.<sup>7</sup> This statement is clearly attested not only by the quotes in the anonymous *Stadiasmus Maris Magni* (172–173) and Oppianus’ *Halieutica* (3.205–210), but also by the coins struck both in the Antonine period and during the 3<sup>rd</sup> century AD, which documented the achievement of honorific titles, respectively, of *Metropolis paraliou* and *nauarchis*.<sup>8</sup> As for the latter, it has been suggested that it could be linked to a possible role of Elaiussa as seaport of the Imperial navy based at Seleucia Pieria.<sup>9</sup>

The first building phase of the Harbour Baths dates from the Augustan period; they are located on the eastern bank of the northern harbour, so that they were probably used by the people engaged in the port activities.<sup>10</sup> The temple set on the wide rocky terrace which overlooked the southern harbour was erected during the 1<sup>st</sup> century AD as well. The topographical choice reveals the intention to project the temple towards both the inland and the sea, as an emblem of the new political and institutional order. The hypotheses put forward about the deities worshipped in the sanctuary, ranging from Poseidon to Aphrodite Euploia, strengthen the idea that it might have had a maritime

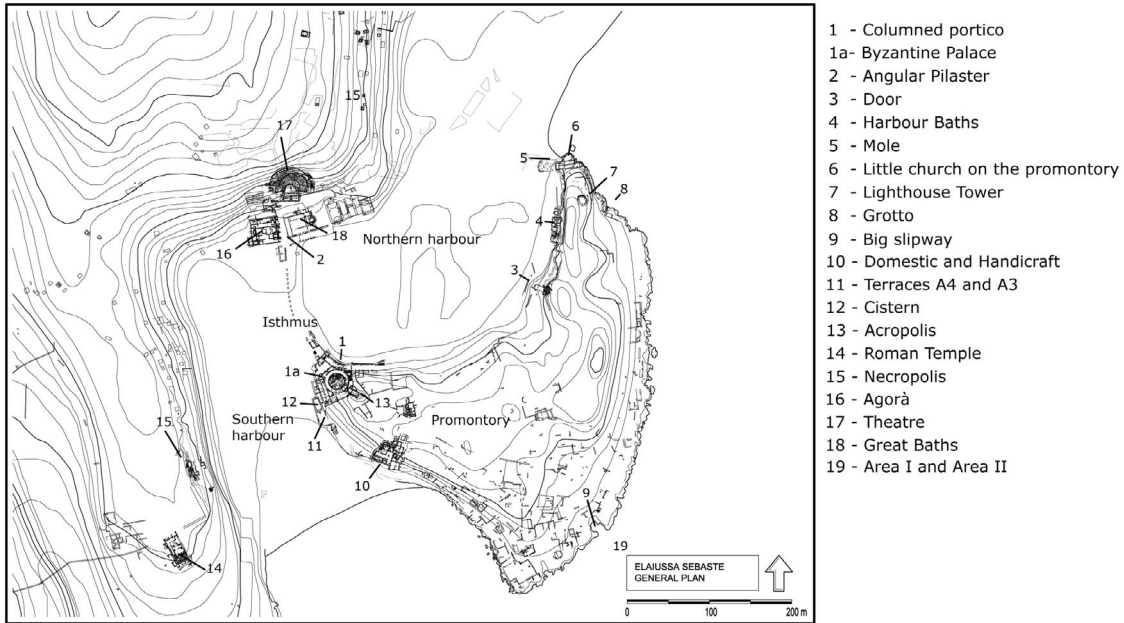


Fig. 2: General plan of the city.

significance, even if, according to a more recent hypothesis, the temple could have been dedicated to the Imperial cult as well.<sup>11</sup>

After its integration into the province of Cilicia, the city was provided with port infrastructures and gained a monumental layout, which would be lasting, albeit with some transformations, until the end of the Roman age.

The functional division of the area into two different sectors, respectively focused on the northern and southern harbours, could be referred to the same phase. While the southern harbour played mainly a commercial role, the northern one had primarily a representative function, as outlined by the monumental layout of the surrounding buildings. Among them, the impressive colonnaded façade is particularly noteworthy: it was aimed at providing a scenic background for the northern harbour, as well as at monumentalizing the street which connected the mainland to the promontory<sup>12</sup> (fig. 3). The colonnaded façade was built during the 2<sup>nd</sup> century AD and perhaps dedicated under Septimius Severus;<sup>13</sup> from the monumental and functional point of view, it was closely connected to the *opus quadratum* wall which bordered the coast of the mainland on the south side and opened towards the public quarter through an arch.

The researches carried out in Elaiussa have brought to light remains of moles and quays, built in *opus caementicium*, along the southern and eastern banks of the north basin. Although they have been so far partially investigated, we can identify a L-structure as pertaining to the system mole-quay which closed the entrance of the northern harbour and was connected by steps to the top of the northern edge of the promontory. The construction of the quays and the moles, which bordered the





Fig. 3: The columned portico facing the northern harbour.

southern bank of the harbour, is contemporary or slightly earlier than the erection of the colonnaded façade and the defensive city walls. The quay is lined by a course of limestone blocks, probably used as a kind of shuttering; in some instances, on their surface the holes of dovetail joints are still visible. The concrete surface of the quay must originally have been covered by limestone slabs, which probably were removed and re-employed in the Late Roman wall which closed the colonnaded façade.

The evidence brought to light along the banks of the southern harbour, though very scanty, points out to the existence of quays and moles as well; on the western edge of the promontory, they were related to warehouses complexes, thus testifying the prominent commercial role of this basin. An infrastructure likely pertaining to this system of quays has been unearthed along the isthmus, in the northern sector of the harbour: trapezoidal in shape, it has four steps made of limestone blocks, jointed one to another with mortar, covering an *opus caementicium* nucleus. The *tabulae lusoriae* carved on the steps, along with the traces of wear still visible on the surface, give evidence of the long and intense frequentation of the area.

Near the *opus quadratum* wall, close to the Byzantine cistern, another concrete structure has been discovered: it leans against the regularised bedrock and it is probably pertaining to the same mole unearthed a little farther in the trenches dug for the geological investigations. As resulting from the same investigations, a second mole might probably have closed the large entrance of the bay.<sup>14</sup>





Fig. 4: The so-called Grotto.

Several installations likely related to the city's seafaring activities are further present along the eastern side of the promontory; though different in type, most of them are rock-hewn and attest to the present sea-level's fall in respect to antiquity. Among them, there are various stairways and a great four-sided slipway leading directly to the sea, in addition to various excavations of different forms and dimensions, which in some cases are of unknown function and chronology. The great slipway, well visible also from aerial photos, has the floor and part of the walls cut into the rock and most probably was a boat-ramp.<sup>15</sup>

Particularly noteworthy is the Grotto, which could be entered both from land and seaside and nowadays is partially submerged (fig. 4); rectangular in plan, it is dug into the natural bedrock and shows at least two distinct building phases, the latter of which likely datable to the Roman era. According to the most plausible hypothesis, it served as a cistern well for the collecting and storage of fresh ground water for the city itself as well as for the ships sailing along the coast.<sup>16</sup> The presence of fresh ground water springs, certainly necessary for ancient shipping,<sup>17</sup> is well known not only in other coastal sites of Cilicia,<sup>18</sup> but also in Elaiussa itself, where another underwater spring is still active in the rocky coastal stretch which closes northwards the northern bay.<sup>19</sup>

What is most interesting is, however, the building situated on the north-western end of the promontory; due to its topographic position and type of structure, it might be probably identified as a Lighthouse Tower (fig. 5). Although it has been only

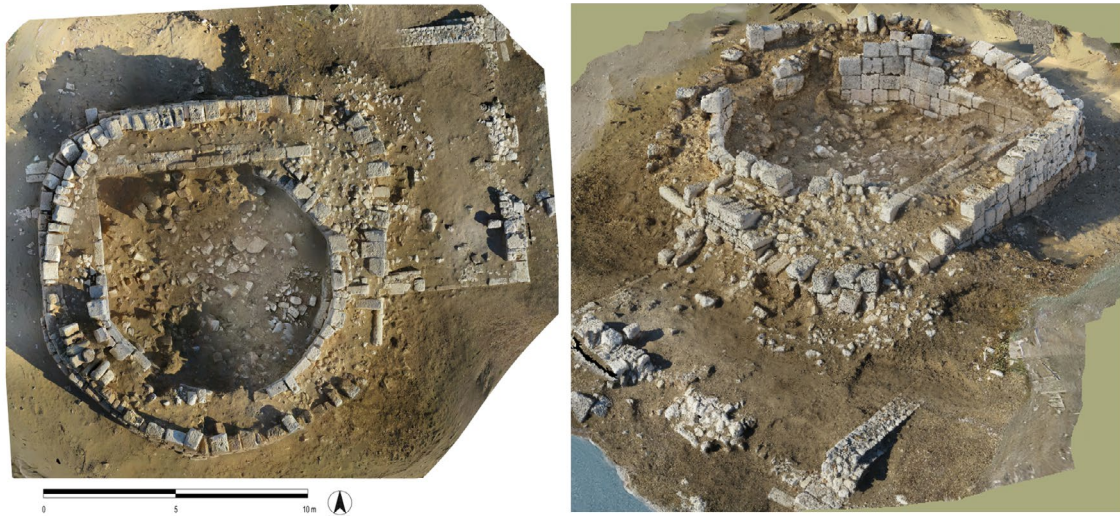


Fig. 5: The so-called Lighthouse Tower.

partially investigated, several building phases can be distinguished. During the last phase, the building shows a double perimeter wall, approximately circular in shape: the inner one is formed by two separate stretches of walls, which display different building techniques, as well as a pentagonal shape in the lower levels. It is very likely that this building served as a signal, as suggested by its strategic position and visibility from the sea. Other buildings of the city (such as the mentioned temple) could have fulfilled the same practical and symbolic function, that is guiding the ancient sailors.<sup>20</sup>

The nautical needs, as well as the coastal and harbour configuration, let us assume the presence of one or two additional lighthouses, at least at the entrance of the northern harbour; we could assume that such an installation could set on the edge of eastern outer breakwater.

Both the geological and underwater researches confirm the development of Elaiussa in Roman times. The sediments of the northern harbour are important indicators of the intense anthropic activity which affected in this period the sea area facing the site.<sup>21</sup>

The preliminary underwater researches have allowed to identify an anchorage area, used as temporary mooring in roadstead from the Roman times until recent years, at the entrance of the southern bay, as well as a vast zone (Area I and Area II), where archaeological and modern materials have been dispersed out in the water in front of the promontory's slipway-ramp. The distribution of the findings (terracotta, stone, wood, metal) leads to believe that there are two distinct deposits, respectively dating to the Roman Imperial period (Area II, south) and to the Byzantine age (Area I, north): it is likely that they could have belonged to at least two shipwrecked cargoes, engaged in the cabotage trade. In the Area II, many terracotta artefacts (mainly amphorae), several stone elements and various construction materials and some metallic objects have been

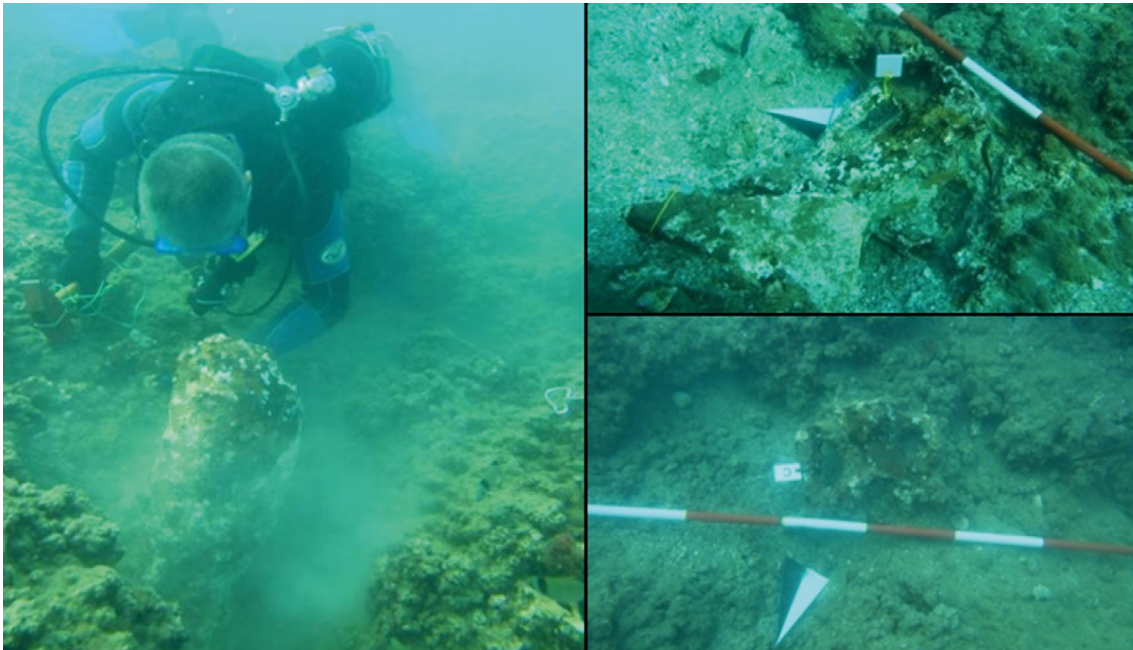


Fig. 6: Underwater activities: Area II.

detected (fig. 6). After a preliminary analysis, the ceramic sherds seem to come from a wide area ranging from the West to the Syro-palestinian region and might date from 2<sup>nd</sup>–3<sup>rd</sup> century AD, with some later materials (such LRA1).<sup>22</sup>

The significance of Elaiussa in Byzantine times, attested both by the literary sources and by the monumental development of the city, is a consequence of its full involvement in the productive system and commercial trade network of the Empire. In this period, the transmarine export of the Cilician products, documented by the spread of LRA1, played a leading role on the Mediterranean markets, perhaps because of a policy of Imperial promotion.<sup>23</sup>

Between 4<sup>th</sup> and 5<sup>th</sup> century, the siltation process of the northern harbour started; it was probably caused both by a tectonic uplift (related to an earthquake) and an absence of dredging, as pointed out by the archaeological evidence and by the results of the sedimentological analyses carried out in the southern sector of the basin.<sup>24</sup> As for the archaeological data, about the 4<sup>th</sup> century AD, the colonnaded façade was closed to the outside by a wall made of limestone slabs, thus losing its monumental layout;<sup>25</sup> on the other hand, the Byzantine palace built in the 5<sup>th</sup> century got a predominant view on the southern harbour, as showed by the monumental prospectus with pavonazetto columns set on this side (fig. 7).<sup>26</sup> The building of the palace led to the abandonment of the street running under the portico and furthered its probable relocation on a lower level, corresponding to the earlier quays, which had been then deprived of their original function because of the siltation of the harbour.





Fig. 7: Aerial view of the Byzantine Palace.

The concentration of the port activities in the southern harbour is attested by the development of the commercial area on the southwestern side of the promontory, as well as by the installation of several kilns where LRA1 were manufactured.<sup>27</sup> Such kilns have been discovered on the southern terrace of the domestic and handicrafts quarter (4<sup>th</sup> century AD) and in the stretch between this quarter and the Byzantine palace, as well as in the palace itself, where they were set after its destruction in the 6<sup>th</sup> century AD, but also on the other side of the basin, respectively nearby the south-western necropolis and close to the mouth of Kuru Paşa Deresi. The presence itself of such installations attests the continuity of use of the southern harbour, which then had to be not only equipped with landing and anchorage places for ships, but also connected to the roads coming from the inland.

The underwater researches confirm the vitality of the southern harbour during the Byzantine age. As already mentioned above, a deposit of Byzantine materials has been discovered in the Area I out in the water in front of the promontory's slipway-ramp and near the anchorage area out of the entrance of the southern bay. Limestone elements and ceramic sherds have been identified on the western side and beyond the southern edge of the promontory as well; they appear to be aligned with the eastern entrance of the southern harbour and could be related to a roadstead zone (fig. 8).

Summarizing, Elaiussa has always been a crossroad between land and sea-routes and a trade hub for the interchange between the agricultural products of the inland and the goods coming from the Mediterranean countries. Despite the considerable transformations which have affected the coastal landscape over time, the two natural

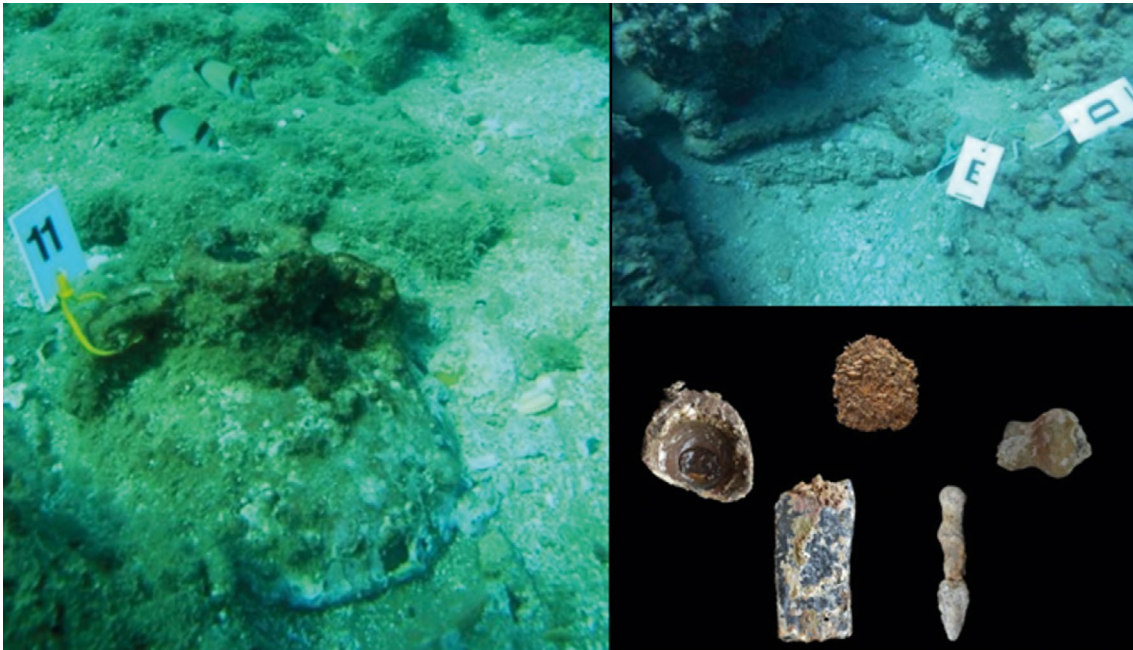


Fig. 8: Underwater activities: Area I.

harbours remained the hearth of the city-life and the junction of the urban and extra-urban road-network, throughout the history of the settlement. Since its foundation, Elaiussa lived in a symbiotic relationship with the sea, through the interface formed by its two port basins, not only from a logistic and functional point of view, but also in a symbolic perspective.

Its maritime vocation has been well documented since Hellenistic period by the symbols and the types adopted on the coins; nevertheless, it has fully developed starting from the Roman era, when the city could enjoy the political stability and the prosperity resulting from its integration in the province of Cilicia. In this period, the two port basins were turned from natural anchorages to actual harbours, as attested not only by the functional infrastructures, but also by the impressive architectural complexes, which created a monumental waterfront along the shores of the northern bay. These complexes were mainly aimed at representing the political and economic *status* achieved by the city through its full integration into the Mediterranean trade network. The setting up and the following improvement of Elaiussa port system is to be read in the context of the strategical goals of the Roman and Byzantine Empires, intended to exploit and strengthen the role of Cilicia as a place of military recruitment and supplies. The huge amount of building materials and trained workforce required by these activities, as well as the consequently considerable costs borne, lead to believe that the Roman and Byzantine Imperial Houses were directly involved in this development process, along with the local leading classes.

### Notes

<sup>1</sup> The site has been excavated since 1995 by the University of Rome “Sapienza”, under the direction of Prof. Equini Schneider and, then, Prof. Polosa. The results of the excavations have been collected in three monographs (Equini Schneider 1999, 2003, 2010) and in a guidebook (Equini Schneider 2008), as well as in the annual reports published in the *Kazı Sonuçları Toplantısı*.

<sup>2</sup> For a historical and topographical framework of the settlement, Equini Schneider 1999, 33–43; Morselli 1999.

<sup>3</sup> Pipere 2019, 371. For a general overview of the characteristics of the Cilician Basin: Arnaud 2005, *passim*; Öner et al. 2013; Özsoy – Sözer 2006. For the geological features of the site and its paleoenvironmental evolution, Toro – Di Filippo 1999; Melis et al. 2015 (with *bibl.*).

<sup>4</sup> On the civic tetradrachms, Houghton – Bendall 1988, 85–89, who date them between 93 and 80 B.C.; the same coin type appears on some royal tetradrachms struck on behalf of Seleucus VI in 95–94 BC, which Houghton – Moore 1988, 67 f. refer to the mint of Elaiussa.

<sup>5</sup> Morselli 1999, 157–172; Tempesta 2013, 572–574.

<sup>6</sup> Equini Schneider 2008, 1–4.

<sup>7</sup> The reorganization of the province led to a rearrangement of the regional road system, aimed at fulfilling commercial, administrative and military needs, thus creating a road network which ran throughout the whole territory of Cilicia and connected the coast to the inland. On the road-system of Cilicia, in general Hild – Hellenkemper 1990, *passim*; French 1980, 698–729.

<sup>8</sup> Tekin 1999, 56 f.; Polosa 2008, 169.

<sup>9</sup> Equini Schneider 1999, 42 (with *bibl.*).

<sup>10</sup> Spanu 2010, 400 (with *bibl.*).

<sup>11</sup> Borgia 2017 (with *bibl.*).

<sup>12</sup> Tempesta 2008, 97–104; Tempesta 2013, 577 f.

<sup>13</sup> Borgia 2010, 29 (with *bibl.*).

<sup>14</sup> Toro – Di Filippo 1999, 18–23.

<sup>15</sup> Pipere 2019, 375.

<sup>16</sup> On the Grotto, Pipere 2019, 375. On the karstic nature of the promontory and on the connections between the presence of fresh ground water and the cisterns of the city, Toro – Di Filippo 1999, 17. On the cisterns discovered in Elaiussa Sebaste, Spanu 1999, 83–94; Borgia – Iacomi 2010, 1041–1043; Falcone – Iacomi 2018, 47, fig. 2, 49–50.

<sup>17</sup> Gianfrotta 2005, 31; Medas 2010, 348.

<sup>18</sup> Taşkiran 1994, 52 (Korasion); Rebuffat 1999 (Narlıkuyu). Some modern toponyms of some coastal sites, such as Soğuksu, could be interpreted as a toponomastic consequence of the presence of fresh water in the sea.

<sup>19</sup> Pipere 2019, 372.

<sup>20</sup> For preliminary reports on the excavation of the Lighthouse Tower, Equini Schneider 2014, 417; Polosa – Oral 2018, 34. On the lighthouses, Christiansen 2014 (with *bibl.*); on the coastal tower between Elaiussa and Korykos, Vann 1997, 264.

<sup>21</sup> Melis et al. 2015, 579.

- <sup>22</sup> On the underwater researches, Pipere 2019, 372–375; preliminary reports in Equini Schneider 2014, 419; 2015, 566 f.
- <sup>23</sup> Iacomi – Cassiani 2014, 9.
- <sup>24</sup> Melis et al. 2015, 580.
- <sup>25</sup> Tempesta 2013, 582 f.
- <sup>26</sup> On the Byzantine Palace, Tempesta 2008, 104–113, Morselli – Ricci 2009, Cassiani et al. 2018.
- <sup>27</sup> Borgia – Iacomi 2010; Iacomi-Cassiani 2014, 6. In general, on the LRA1 kilns discovered in Elaiussa, Ferrazzoli – Ricci 2010.

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# Elaiussa Sebaste: Monetization

Annalisa Polosa

The term “economy” normally means production, circulation and consumption of goods and services.<sup>1</sup> Coins generally play a marginal role in the studies on ancient economies, and this can easily be explained by the fact that coins were not the only medium of exchange in archaic economies, and by the limited range of transactions that were operated through struck coins, whose function has long been intended only for state and military expenses, taxes, and long distance trade, and that is hardly used, at its beginnings, in exchanges of a lesser value.<sup>2</sup>



Figs. 1–2: Mallos stater (ANS 1969.66.2).

However, the more archaeological research becomes refined, the more numismatic data from excavations become an important testimony of economic activities. And intensive studies on coin production in antiquity have shown, long since, that ancient monetary systems had complex structures, often comprising plentiful series of small fractions in precious metals, joined, at the end of the 5<sup>th</sup> century BCE, by bronze coins that widened the range of operations that could be achieved through coins.<sup>3</sup> The examples of developed monetary systems in classical times’ Cilicia are numerous, and one good example can be the output of the mint of Mallos (fig. 1–4), displaying fractions up to the tetartemoron (i.e. 1/4 obol).<sup>4</sup> The importance of small change has been a matter of great importance in the last decades:<sup>5</sup> thus state expenses, military pay, long distance trade above mentioned must be considered together with the presence of civic institutions, spectacle buildings, local and regional festivals and games: all these elements can involve circulation, especially of low value coins, whose role raises when small silver denominations are joined by bronze of lesser value, as stated above, allowing coined money to be useful for a wider range of transactions.

We must certainly be aware that coins were, as well, a political phenomenon:<sup>6</sup> at Elaiussa, the clearest example is testified by the issue, in the name of Seleucus VI (96–94 BCE), of silver tetradrachms bearing on the reverse the type of the autonomous silver coins of the city (fig. 5, 6).<sup>7</sup> This issue cannot be seen as justified by economic needs,



Figs. 3–4: Mallos hemiobol (ANS 1983.51.677).

as in the region the prolific mint of Tarsus was operating at that time, and, what is more significant, the neighboring mint of Seleukeia on the Kalykadnos (less than thirty kilometers far from Elaiussa), had as well a very large output of coins in precious metal.<sup>8</sup> Seleucus' tetradrachms (of which, till now, only one specimen is known), must have been struck with the aim of giving Elaiussa political importance, in a period when Seleucid rule was weakening<sup>9</sup> and a port city could play a strategic role, probably for military rather than commercial activities. A political claim for control can also be seen in the decision, by Antiochus IV of Commagene, who ruled in Cilicia from 38 to 72 AD, to mint coins in his name and in the name of his wife Iotape in different cities of the region, including Elaiussa.

An economic purpose of the civic coinage can be seen when one looks at the autonomous issues of Elaiussa. Besides the occasional silver series above mentioned, the local mint produced bronze coins, cut according to three different denominations. This can only mean that they were intended for commercial functions, and not merely as a mean to claim to autonomy or self pride. Another feature that seems to show that coins were intended for economic reasons is the sharing of types between many Cilician cities, thus allowing a wider circulation area for small change.

The role of coins in the economic life of Elaiussa can then be illustrated by combining numismatic data, namely production and circulation, with archaeological and epigraphic records.<sup>10</sup>

One of the contexts that can be used as an indicator of a moneyed economy is the funerary one. First, the use of "Charon's obol" in Elaiussa's burials, that is widespread from the beginnings of Roman imperial times until the 7th century AD, as is testified by finds in one of the earliest rock-cut tombs in the area of the Roman agora, by several finds in the necropolis, and by a late burial in the central nave of one of Elaiussa's churches. Of course Charon's fee in the form of struck coins is a feature that was much diffused in the Greek world already from the classical times on,<sup>11</sup> and is hardly exclusive of Elaiussa. But, the availability of small change to be destined to funerary habits must mean that coins were, from the end of the Hellenistic period on, easily obtained by private individuals.

The mentions of coins in funerary fines, a feature that is widespread throughout the Roman empire and that is witnessed by many examples in Elaiussa necropolises, is, it too, a testimony of the familiarity with coined money: the amounts are registered both



Figs. 5–6: Seleukos VI tetradrachm, mint of Elaiussa (ANS 1944.100.78106).

in drachms and *denarii*, two terms that could be interchangeable after the unification of Greek and Roman monetary systems under Augustus, who established the equivalence between the Attic drachm and the Roman *denarius*, and that reflects a general circulation pattern, in which Roman imperial issues were as familiar as the traditional Greek units of reckoning and the civic silver coinages struck in different cities of Cilicia in early imperial times.<sup>12</sup>

Talking about coin production, it has already been said that Elaiussa is responsible for issues in precious metals only occasionally, and has, on the other hand, a quite plentiful history for bronze series, starting at least at the beginnings of the 1<sup>st</sup> century BCE and ending, as most provincial mints, in the second half of the 3<sup>rd</sup> century AD, under Gallienus. The mint's output was not substantial, to judge from specimens surviving in main museums' collections and sales catalogues, and issues were not continuous during imperial times. But the periods when Roman emperors struck coins at Elaiussa correspond to the main phases of the city's urban development (fig. 7): the period of Archelaos of Cappadocia's and Antiochos IV of Commagene's rules, between the age of Augustus and 72 AD, and then the 2<sup>nd</sup> and first half of the 3<sup>rd</sup> century AD.

Besides production, the role of coins in Elaiussa's economy can also, of course, be inferred by circulation data. Around 3.000 coins have been recovered during more than 20 years of research, coming from the excavated areas of the city (fig. 8).<sup>13</sup>

Coin finds, as usual, are almost all bronzes, with the exception of one denarius of M. Aurelius and some *antoniniani*; but this is the normal pattern in stray finds, where a quantity of silver rarely exceeding 1% is the feature of excavations even in contexts, like Athenian agora, for instance, that we should expect as fully monetized and attended because of its role as a marketplace, as stated by F. de Callataÿ in his essay of 2006 on coins from archaeological excavations.<sup>14</sup>

civic bronze issues	II–I cent. BCE
Seleukos VI	96–94 BCE
autonomous silver issues	I cent. BCE
Antiochos IV of Commagene	38–72 CE
pseudo-autonomous issues	I cent. CE
Antoninus Pius	138–171 CE
Marcus Aurelius and L. Verus	161–169 CE
Marcus Aurelius	161–180 CE
Crispina	178–191 CE
Iulia Domna	187–211 CE
Septimius Severus	193–211 CE
Severus Alexander	222–235 CE
Iulia Mamaea	222–235 CE
Gordian III	238–244 CE
Tranquillina	241–244 CE
Valerian I	253–260 CE
Gallienus	260–268 CE

Fig. 7: The chronology of coin issues of Elaiussa – Sebaste.

Coin finds of the Hellenistic period, the earliest ones dating to the 3<sup>rd</sup> century BCE, show a circulation pattern that is not confined to local issues: coins from many mints in the region seem so suggest that, besides the fact that a city equipped with an important harbor could be a center for distribution and circulation of goods, thus being attended by people coming from abroad, the homogeneity of coins produced locally by almost every city in Cilicia made them an useful mean of exchange on a regional net. The interchangeability of civic coins is confirmed by the presence of coins of different mints of Cilicia in the funerary contexts above mentioned, where it was normal to bury coins, generally of small value, available at the moment.

Roman coinage soon joins Greek imperial series, already by the 2<sup>nd</sup> century BCE, with significant increases under Probus (thus after the end of local issues) and in the age of Constantine, along the entire 4<sup>th</sup> century. In this regard, it must be stressed that late Roman small denominations had a very long life throughout the first centuries of the Byzantine empire: the equivalence between AE4 struck in the 4<sup>th</sup> and 5<sup>th</sup> centuries BCE and the *nummus* introduced by Anastasius and produced until Justinian I allowed these small coins to live together in later archaeological contexts at Elaiussa and elsewhere.<sup>15</sup>

The exact provenance of coin finds is of course of primary importance in order to reconstitute the degree of monetization at Elaiussa. It is obvious to expect large numbers of coin finds in areas with commercial destination, agoras, for instance. In Elaiussa, however, coin finds are



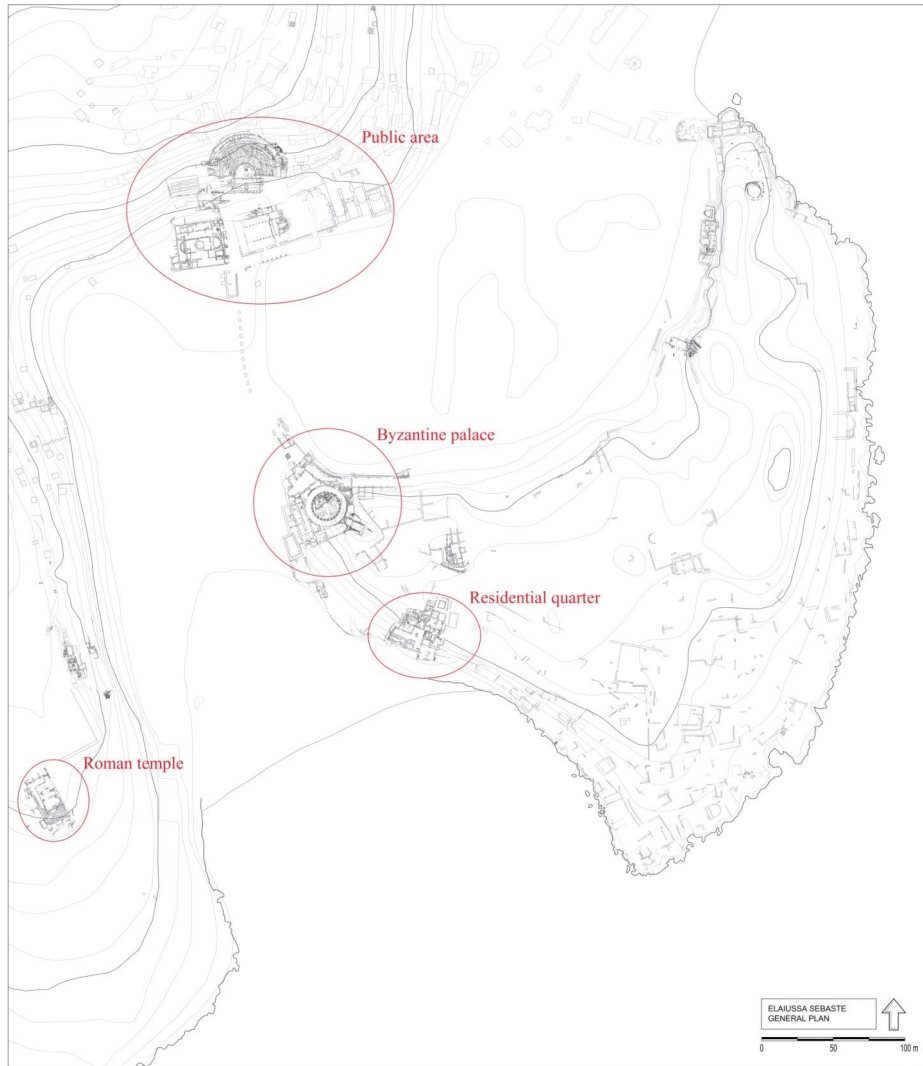


Fig. 8: Main excavated areas.

well represented also in sectors of the city with different functions. What must be taken into account is the fact that, with few exceptions, there was virtually no continuity in the use of space in the ancient town, which underwent substantial transformations during its lifespan. On the mainland, the public area (theater and agora) had previously been occupied by at least one private residence; the agora later became a sacred space when a two-apses basilica was built there. The nearby great three-apses basilica was erected over a huge thermal building of Roman times.

On the promontory, significant changes took place when the Byzantine palace has been put in place, incorporating both sections of the city walls and the colonnaded street that was facing the northern harbor. And in late Roman times many spaces of the residential quarter

and the thermal buildings have been occupied by productive plants (of lesser importance compared to the huge ceramic kiln for the manufacture of LR1 amphorae brought to light face to the southern harbor).

Only the Roman temple, on a promontory south of the city, maintained its features of sacred area when a small church was built in its central sector; productive plants have been found in the surrounding area, probably linked to the church's activities in Byzantine times.

Changes in destination are obviously significant when examining coin finds, reflecting different situations in a diachronic perspective: so after having considered their distribution, their pertaining to the phases of the city's development must be taken into account.

So, while it is obvious that the coins of the public area are numerous and only range from Roman to Byzantine times, thus suggesting that we have no records for the period when this sector of the city was occupied by private buildings, the interest of the results of excavations in the Byzantine palace is the huge quantity of coins distributed along a period starting well before the building of the complex, when the function of the area was probably linked to its position between the two harbors of the city and may have had an economic or commercial vocation. The same feature, that of coin finds distributed along a period ranging from middle Hellenistic to Late Roman and early Byzantine times, can be observed in the residential area and the Baths' buildings on the promontory.

Of the about 200 coins found in the agora, the most part pertain to the later phase of the area. But the small number of Hellenistic specimens, and the relatively low number of Roman coins, does not necessarily testify a low degree of monetization in the earlier periods, but rather the fact that, as the area was undergoing architectural changes, it was cleaned up; on the contrary, the high number of Byzantine coins, up to the reign of Constans II, may testify a quite rapid abandonment of this sector of the town, which could be confirmed by the absence of any other later class of materials and by traces of a violent destruction detected in other areas of the site. Anyway, coin finds, pertaining to the period when the agora and the Roman baths were transformed into a sacred complex, may suggest that, then too, some commercial activities took place there.

On the other end, the distribution by mints of Byzantine bronzes with peaks for Constantinople and Antiochia, seems to reflect circulation flows on relatively long distance routes, linking the capital of the empire with Syria.

Coin finds from the Roman temple, and a hoard recovered in the residential quarter, both comprising folles of Constans II, and the relatively high quantity of coins from the second period of Heraclius' reign, after the retreat of the Byzantine army from Syria, suggest that Elaiussa's region still survived as a place where coins played a role in the economy for some decennia, before being abandoned.

Later occasional attending of the site, in the period of the Crusades, testifies another frame of a totally moneyed economy that makes possible the loss of relatively large quantities of coins even in places, such as some areas of the city, only used for occasional stays, along the land route leading to the Holy Land.

### Notes

- <sup>1</sup> References for ancient economies, starting from Finley's fundamental book of 1973, up to recent times can be found in von Reden 2010.
- <sup>2</sup> On the functions of early coinage, see Howgego 1990 and, among others, Schaps 2004; on the debate concerning coins and ancient economies, see de Callataÿ 2005.
- <sup>3</sup> And for this reason discussion on the role of coins is well represented in the analysis of Hellenistic economies: see, for instance, Archibald et al. 2011; Scheidel et al. 2008; Aperghis 2004; Cartledge et al. 2001; Archibald et al. 2001.
- <sup>4</sup> On the silver coins of Mallos, struck from the middle of the 4<sup>th</sup> century BCE, see Casabonne 2000. The structure of the monetary system, maybe of Cypriot origin, ranges from a stater of ca. 10.80 g to a 1/48 stater, corresponding to the tetartemorion (ca. 0.22 g) of the Greek monetary system; Davesne 2000.
- <sup>5</sup> On the role of small change see Kraay 1964 and more recently Kim 2002.
- <sup>6</sup> The best example of coins minted not only for economic reasons but also for a question of civic pride is the inscription OGIS 339 from Sestos, dating to the end of the 2<sup>nd</sup> century BCE, concerning the beginnings of bronze coinage; Robert 1973.
- <sup>7</sup> On the civic silver issues of Elaiussa see de Callataÿ 2002.
- <sup>8</sup> On Seleukeia on the Kalykadnos see Houghton 1989.
- <sup>9</sup> On the end of the Seleucids see Bellinger 1949.
- <sup>10</sup> The economy of eastern Rough Cilicia had been examined through archaeological indicators by Ferrazzoli 2010.
- <sup>11</sup> On Charon's fee see Doyen 2002; Dubuis et al. 1999; Cantilena 1995; Grindler-Hansen 1991; Stevens 1991.
- <sup>12</sup> On the testimonies of Elaiussa necropolises, Polosa 2018; on the coinages circulating in Asia Minor, Katsari 2005; on the local silver issues, Haymann 2014.
- <sup>13</sup> On coin finds from Elaiussa see Polosa 2003a, 2003b, 2010, 2011, 2014, 2017; Tekin 2003; Tekin 1999.
- <sup>14</sup> de Callataÿ 2006.
- <sup>15</sup> On the Late Roman and Byzantine currencies in Anatolia see Guest 2010 and Lightfoot 2002.

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 Fig. 8: Elaiussa Sebaste Excavations Archive – N.B. the diameter of fig. 1–2 is 20 mm; fig. 3–4, 8 mm; fig. 5–6, 22 mm

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# **Cilician Amphorae in Rome and Ostia during the Middle Imperial Age (2<sup>nd</sup> – Early 3<sup>rd</sup> Centuries AD) and Reflections about the Consumption of Their Contents**

**Edoardo Radaelli**

## **Introduction**

This paper is based on the remains of amphorae discovered during the excavations held in the building commonly known as the ‘Terme di Elagabalo’ in Rome (fig. 1), carried out (from 2007 to 2013) by the ‘Scienze dell’Antichità’ Department of Sapienza – University of Rome.<sup>1</sup> It is based on them because they are an interesting and valuable source of information about economy, dietary needs, taste, culture, and the purchasing capacity of the consumers.<sup>2</sup> It analysed globally 40,882 fragments – corresponding to 777 amphorae – from the Middle Imperial contexts discovered in this building (2<sup>nd</sup> – early 3<sup>rd</sup> centuries AD).<sup>3</sup> Among them, 260 amphorae were recognised as originally coming from the Eastern part of the Mediterranean and nine of them were identified as Cilician ones. Despite the importance of this site and its general large amounts, the low quantities of Cilician amphorae lead to consider also several published ceramic assemblages dating to the Middle Imperial age which had been found both in Rome and even in Ostia because this latter city had always been a comparison site to understand the commerce to the Capital.<sup>4</sup> The number of vessels for all the considered sites had been determined combining the methodologies called NMI (Minimum Number of Individuals), its calibration NTI (Typological Number of Individuals), and EVE (Estimated Vessel Equivalent).<sup>5</sup> The percentages that will be offered are based on the volumes in litres that had been calculated on the basis of the number of vessels for each in-phase form (therefore not considering neither residual nor intrusive vessels which give misleading evidence in all the considered contexts). The volumes used (in litres) had been taken from recent publications offering this information or geometrically calculated from drawings of entire objects offered by them.<sup>6</sup> These amounts (which of course could change with future discoveries and publications) gave the opportunity to analyse the presence of Cilician amphorae in both cities during the chosen chronological period which was divided into four phases, named after the Emperors so as to standardise nomenclatures (Trajanic age, Hadrianic age, Antonine age, and Severan age<sup>7</sup>). At the same time, in spite of the low presence of these amphorae, this study scrutinised many ancient sources mentioning the wines from this province, as these amphorae mainly contained wine, so as to determine their qualities.

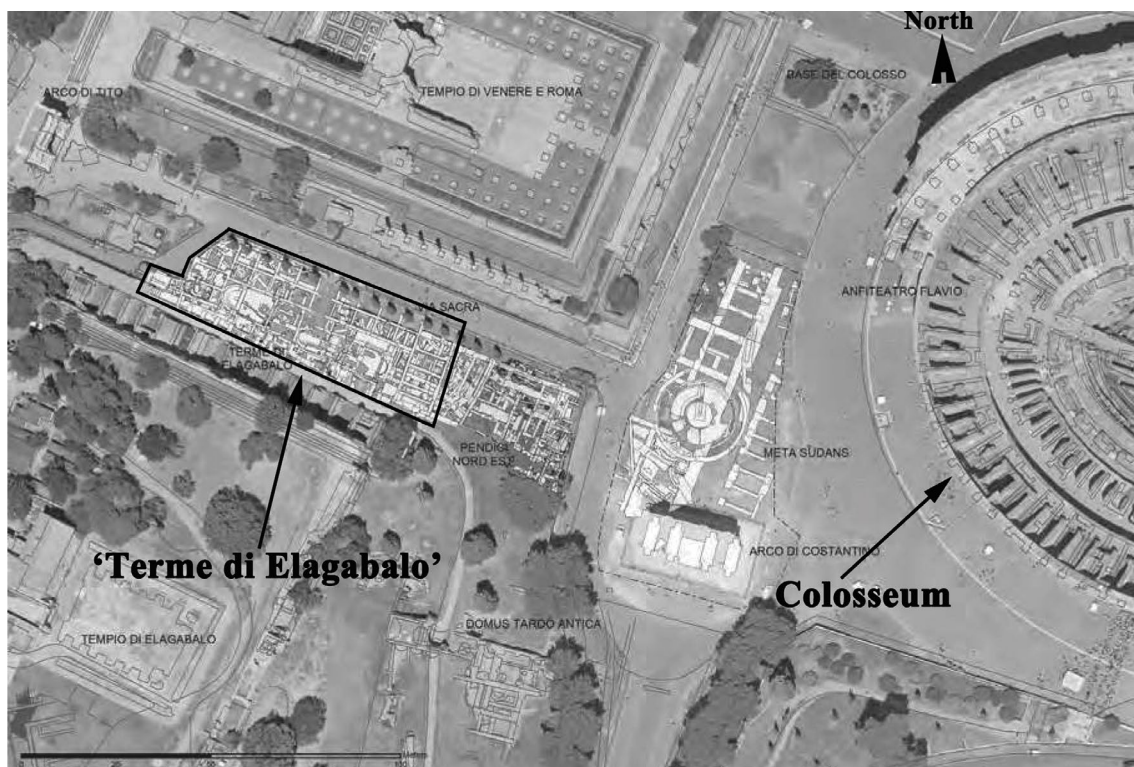


Fig. 1: Vertical picture of the Western portion of the Colosseum's valley.

### Cilician Amphorae in Rome and Ostia

The *redactio in formam provincie* with the capital at *Tarsus* is due to Pompey in 62 BC, after his campaign against the pirates and the battle at *Korakesion* (modern Alanya)<sup>8</sup> and during the Roman times it was divided into two areas following orography and hydrography (the *Cilicia Tracheia* and the *Cilicia Pedias*).<sup>9</sup> However, the existence of a province of Cilicia (with the regions of *Cilicia*, *Isauria* and *Licaonia*) is confirmed for the first time during Antoninus Pius<sup>10</sup> which have been recognised recently as the beginning of its flourishing period which lasted till the Late-Antiquity and the Proto-Byzantine period.<sup>11</sup> At the same time, the commercial flows in this area (which linked Asia, Syria, Palestine, Egypt, and Arabia) already existed before being included in the Roman domains and involved several products. Among them can be cited timber,<sup>12</sup> saffron and the unguent that derived from it, wool and clothes (used to produce cloaks, tarps, sacks, and heavy wickers), processed fish,<sup>13</sup> olive oil, and wine. Without considering sub-varieties or those fragments which had been difficultly given to specific forms for their intrinsic characteristics, only the following four main forms of amphorae produced in Cilicia had been identified among the fragments discovered in the excavations considered in Rome and Ostia: Mau XXVII–XXVIII (also called Zemer 1977, n. 41; Agora G199; ‘pinched

ORIGINS	FORMS	CONTENT	LITRES	ROLE	TRAJANIC AGE - AMPHORAE			HADRIANIC AGE - AMPHORAE			ANTONINE AGE - AMPHORAE			SEVERAN AGE - AMPHORAE		
					ELAGABALO	ROMA	OSTIA	ELAGABALO	ROMA	OSTIA	ELAGABALO	ROMA	OSTIA	ELAGABALO	ROMA	OSTIA
CILICIA	MAU XIII	WINE	32.77	IN-PHASE	0	2	0	0	9	0	0	0	5	0	0	0
CILICIA	MAU XIII/ AGORA M54	WINE	30.38*	IN-PHASE	0	0	0	0	0	0	0	5		0	0	0
CILICIA	AGORA M54	WINE	28	IN-PHASE	0	1	0	0	64	0	0	3	2	2	0	0
CILICIA	MAU XXVII/XXVIII	WINE	28.2	IN-PHASE	0	2	0	1	7	0	0	0	12+2?	5	0	0
CILICIA	SCHÖNE V	WINE	12.76	IN-PHASE	0	4	0	0	5	0	0	0	1	1	0	0
CILICIA	LATE SCHÖNE V	WINE	12.76	IN-PHASE	0	0	0	0	2	0	0	1	0	0	0	0

Fig. 2: Quantifications of Cilician amphorae found in the ‘Terme di Elagabalo’, Rome, and Ostia with volumes (in litres) and deposition role. Asterisks refer to average volumes.

amphora’; Dyczek 2001, type 22; or Anemurium A), Agora M54 (also called Knossos 47 or Psuedo-Cos en cloche), Schöne-Mau V, and Schöne-Mau XIII (also called Agora G198).<sup>14</sup> These Cilician amphorae (that very likely principally contained wine) had been mainly found in Rome, while in Ostia they had only been found during the Antonine age (fig. 2). This is not surprising as the Capital of the Empire always had a significant role in the commerce of foodstuffs which also implied a larger variety of imported commodities. At the same time, the data deriving from the remains in the ‘Terme di Elagabalo’ become extremely significant during the Severan age because this is the only site that offers Cilician amphorae during that chronological phase.<sup>15</sup> The total amounts of litres are generally very low, with the exception of the Hadrianic age in Rome when they reach a rather significant quantity. This is possibly due to the commercial routes for which these amphorae arrived at first elsewhere and lastly in Rome, although even the amounts found elsewhere in Italy are rather scarce.<sup>16</sup>

### Cilician Wine

Generally speaking, the wines coming from the Eastern part of the Mediterranean sea seem to be predominant in Rome during almost all phases (fig. 3), especially during the Hadrianic age (when they reach 57% of presence) and with the exception of the Severan age (25.7%) when their leadership seems to be surpassed by North-African wines (47.1%).<sup>17</sup> On the other hand, in Ostia they never surpass 26% of total litres and always reaching third place. Among these Oriental wines, the Cilician one is always present with low amounts and percentages that never surpass 2% during all chronological phases considered. Unfortunately not much is known about this Cilician wine,<sup>18</sup> although the production in this province seems to have increased during the Roman times (at least from the Hadrianic age as visible from the amphorae) for its favourable climatic condition.<sup>19</sup> Pliny the Elder praises the Cilician *passum*, stating that it was second only to the Cretan one,<sup>20</sup> especially when it was flavoured with *hyssop*<sup>21</sup> (although probably that wine was not excellent<sup>22</sup>).

WINE QUANTIFICATIONS		ITALY		GAUL		IBERIAN PENINSULA (INCLUDING DEFRUTUM)		NORTH AFRICA		EASTERN MEDITERRANEAN				UNIDENTIFIABLE	
										CILICIA		TOTAL			
		LITRES	%	LITRES	%	LITRES	%	LITRES	%	LITRES	%	LITRES	%	LITRES	%
TRAJANIC AGE	ROMA	18,248.2	34.5%	13,071	24.7%	2887	5.5%	363	0.7%	200.98	0.4%	18,282.2	34.6%	0	0%
	OSTIA	1,854.32	30.1%	2,546	41.3%	534	8.7%	253	4.1%	0	0%	857.26	13.9%	120	1.9%
HADRIANIC AGE	ROMA	70,270.78	29.4%	23,342	9.8%	6388	2.7%	2,733.62	1.1%	2401.85	1.0%	136,404.52	57.0%	0	0%
	OSTIA	1,716.8	29.9%	2,112	36.8%	516.25	9.0%	254.5	4.4%	0	0%	748.96	13.1%	390	6.8%
ANTONINE AGE	ROMA	6,081.02	33.2%	3,222	17.6%	383.75	2.1%	1,960.62	10.7%	248.66	1.4%	6,671.31	36.4%	0	0%
	OSTIA	12,297.12	31.6%	13,613.75	35.0%	2571.25	6.6%	1,909.5	4.9%	627.41	1.6%	8,537.72	21.9%	0	0%
SEVERAN AGE	ROMA	2,480.26	12.8%	2,325	12.0%	457.5	2.4%	9,105.72	47.1%	209.76	1.1%	4,974.31	25.7%	0	0%
	OSTIA	1,161.2	26.0%	1,449	32.5%	135.75	3.0%	503.86	11.3%	0	0%	1,142.9	25.6%	66	1.5%

Fig. 3: Quantifications of litres of wine and percentages about all macro origins calculated from all amphorae discovered in the ‘Terme di Elagabalo’, Rome and Ostia.

In the *Expositio totius mundi* Cilicia is mentioned for producing large amounts of wine<sup>23</sup> and medical sources suggest using the Cilician *Abâtes* (elsewhere cited as *albate*, *sybate*, *abate*, *anabate*<sup>24</sup>) for its laxative capacities.<sup>25</sup> This product seems to have been used as a medicament (both for humans and animals) as well as for cooking, in agriculture, and for specific ceremonies.<sup>26</sup> Recent fieldworks discovered large numbers of mills in the Rough Cilicia (or *Cilicia Tracheia*<sup>27</sup>), although simpler techniques might have been used for wine production, such as flat stones on the ground level and cylindrical rolls made of stone<sup>28</sup> or rock-cut presses.<sup>29</sup> Some wine-amphorae originally produced elsewhere had been also imitated in Cilicia<sup>30</sup> and apart from the already mentioned forms, that still partly imitated other forms, during the Late Antiquity the manufacture seemed to radically increase. In fact, much information is now offered by the excavations held in *Elaiussa Sebaste* where several kilns were found producing many Late Roman 1 amphorae,<sup>31</sup> a commercial container whose typology<sup>32</sup> and content are still not totally clear, but it might have contained wine.<sup>33</sup> Despite the scarce amount of information and knowledge about this product, it reached Rome with quantities of litres which cannot be neglected. In fact during the Hadrianic age in Rome the amounts are quite large (although the percentage reaches just 1% of total litres) and during the Antonine age in Ostia (which is also the only chronological phase in that city offering remains of amphorae produced in this province) the resulting percentage of total litres is the largest in all sites and phases (reaching 1.6%). These data show that the production of wine in this province was rather important, possibly linked with its being a significant and strategic hub for the commercial routes coming from the Eastern part of the Mediterranean sea and directed towards the West for the presence of many harbours along the Mediterranean coast.<sup>34</sup> The wine produced in Cilicia

was also possibly meant to meet the needs of some consumers in the Capital of the Empire (and, partly, of its port) whose request for this alcoholic beverage had always been large and constant. All Romans, in fact, usually drank a lot of wine, especially during the Imperial period.<sup>35</sup> Alcohol was indeed (and still is) a very strong social binding agent,<sup>36</sup> something that could bring enjoyment to *convivia* (when it was largely consumed<sup>37</sup>), as well as something that could serve to deeply strengthen group identities, to satisfy cultural needs<sup>38</sup> and to define boundaries among ranks.<sup>39</sup> In fact all commodities might have been chosen also for their ability in expressing roles,<sup>40</sup> aggregating people, and creating connections among them.<sup>41</sup> All wines were imported to Rome because they had to have a market, someone consuming them,<sup>42</sup> otherwise undertaking such risky journeys by sea would not have been profitable enough.<sup>43</sup> All imports to Rome and even to Ostia had possibly always been established by the élite through a codified system which organized the supply of all products in Rome that had to be available for everyone.<sup>44</sup> At the same time the élite always tried to increase its wealth with buying/selling transactions, as it had land possessions throughout the Empire which resulted in crops to be sold in the Capital.<sup>45</sup> It has already been assumed that Romans were aware of differences and qualities of wines related to their origins (especially the élite as shown by ancient sources<sup>46</sup>), however not all people could purchase the same products which arrived in the two cities considered: different ranks could have used different wines to demonstrate their place in the social hierarchy and to express social differences.<sup>47</sup>

### Conclusions

The number of kiln sites (both in the Western portion of the province and in *Elaiussa Sebaste*), the amount of production sites (based on discoveries derived from fieldworks about sites with presses<sup>48</sup>), the variety of amphorae produced, and the quantity of finds (both in the same area and in the entire Mediterranean basin) all reflect a rather significant agricultural *surplus* (which can be referred to wine and/or olive oil) of Cilicia. The data considered in this analysis confirm the flourishing period that this province experienced at least since the Roman times, but (as mentioned above) they also permit to slightly anticipate it to the Hadrianic age (at least looking at the remains of amphorae in both the cities considered). The production of wine was likely an important step into the 'Romanization' of the inhabitants of this region who could therefore feel to be part of this same productive process and included in the commerce with other areas of the Empire.<sup>49</sup> Unfortunately, in spite of this, it is impossible to clearly and surely define who consumed what, because many times the same form of amphora coming from an area could have been used to transport different wines which could have had diverse qualities.<sup>50</sup> At the same time, ancient sources can be misleading and should always be taken very cautiously because they

were always a reflection of the belonging to higher social ranks of their authors or the moral intent of those works.<sup>51</sup> In spite of this, looking at them and at the studies, a very hypothetical assumption can be made.<sup>52</sup> As already mentioned, Cilician wine had been rarely cited for its high quality and the quantities resulting from the discovered amphorae (that very likely contained wine) are rather low both in Rome and in Ostia during all the considered chronological phases. Despite this, the presence of these Cilician amphorae in both the cities considered is very significant, although with low amounts. For this reason it is possible to suppose (although without any certainty) that this wine was probably not too expensive and was directed to or mainly consumed by those people belonging to social ranks which were not totally poor, but not even rich and who tried to emulate higher ones so as to obtain an elusive social standing.<sup>53</sup> In any case, the significant finds analysed here can surely be referred to the importance of Cilician wine both in Rome and Ostia because it had a market there with people who bought and drank it.

### Notes

<sup>1</sup> For the phases and building discovered cf. Sagui – Cante 2015 with references.

<sup>2</sup> Bruno 2004, 358; Ollà 2008, 283. Cf. contra Peña 2007, above all 345 who seems to expressly deny the validity of whatsoever study which aims to reconstruct patterns of supply in foodstuffs based on amphorae.

<sup>3</sup> This paper offers parts of data widely discussed in the PhD thesis in Archaeology at The University of Southampton. Many thanks must go to Prof. S. J. Keay, Prof. C. Panella, and Prof. L. Sagui for their help, the suggestions, the opportunity to study these ceramics, and for the possibility of presenting this paper and to Mrs. Valerie Sinden for having proof-read this text.

<sup>4</sup> The excavations considered in Rome are: Meta Sudans; Palatine's Northern Slopes; Crypta Balbi; Trajan's Markets; Forum Transitorium; Domus Tiberiana; Santo Stefano Rotondo; Via Sacchi; Nuovo Mercato Testaccio; Aqua Marcia; and Via Blaserna. The excavations considered in Ostia are: Terme del Nuotatore; Casa delle Pareti Gialle; Taberna dell'Invidioso; Piazzale delle Corporazioni, Portico Ovest; Domus dei Pesci. For all their references cf. Radaelli 2018a, 246 n. 5. 6. Some published sites in these two cities were not considered for their intrinsic problems about quantifications and chronology.

<sup>5</sup> For these methodologies cf. the references in Radaelli 2017, 1045.

<sup>6</sup> For the methodology used cf. Radaelli 2018a, 246 f. n. 10.

<sup>7</sup> The Trajanic age = early 2<sup>nd</sup> century AD; the Hadrianic age = second–third decades of the 2<sup>nd</sup> century AD; the Antonine age = mid–late 2<sup>nd</sup> century AD; and the Severan age = very late 2<sup>nd</sup>/early 3<sup>rd</sup> centuries AD.

<sup>8</sup> Syme 1939, 300.

<sup>9</sup> Strabo, XIV, 5, 1.

<sup>10</sup> Both Marcus Aurelius (in AD 176) and Septimius Severus (in AD 194) passed through Cilicia during their campaigns to Syria (Pilhofer 2005, 38). During the 3<sup>rd</sup> century AD all this area was invaded by the Persians who created a general discontent and rebellions among the local population (Equini Schneider 1999, 41).



<sup>11</sup> Schenider 1999, 39; Ferrazzoli 2010, 43.

<sup>12</sup> In 36 BC the Tracheia region was given to Cleopatra who exploited it for this product: Syme 1939, 326; Bean – Mitford 1962, 187; Bean – Mitford 1965, 10.

<sup>13</sup> Equini Scheiner 1999, 40 nn. 105. 106. 108 with references to ancient sources.

<sup>14</sup> For the chronology, capacity, production, and distribution of these forms, cf. Rizzo 2014, 337–340 with further references. At Ayaş/Elaiussa Sebaste a variety which seems a transitional form between Mau XXVII-XXVIII and Late Roman 1 was produced: Ferrazzoli – Ricci 2010, 193 f. fig. 187; Ferrazzoli 2010, 46 fig. 40. For the discovery of Agora M54 amphorae in Naples cf. Bragantini et al. 2010, 616 n. 38. For the discovery of Schöne-Mau V amphorae in Cyprus (Nea Paphos) cf. Meyza – Bagińska 2013, 142 fig. 7d. For the discovery of Schöne-Mau XIII amphorae in Pompeii cf. Improta 1991, 99; Conticello de' Spagnolis 2002, 299. 302 nos. 209–211; Bragantini et al. 2010, 613 n. 28.

<sup>15</sup> Cf. also Komar 2016, 177, table 2 mentioning 0% of Cilician/Cypriote wine during the 3rd century AD.

<sup>16</sup> Cf. Auriemma – Quiri 2004; 2006; Auriemma et al. 2015 (all with references).

<sup>17</sup> Cf. Radaelli 2018a, 249.

<sup>18</sup> For sources and finds dated before the Roman times, especially in Rough Cilicia, cf. Rauh et al. 2006, 51–55.

<sup>19</sup> Şenol 2008, 110 f.

<sup>20</sup> Plin., HN, XIV, 81 f.

<sup>21</sup> Plin., HN, XIV, 109.

<sup>22</sup> Tchernia 2011, 345 f.

<sup>23</sup> *Expositio Totius Mundi*, 176.

<sup>24</sup> <[http://remacle.org/bloodwolf/erudits/athenee/livre1.htm#\\_ftn130](http://remacle.org/bloodwolf/erudits/athenee/livre1.htm#_ftn130)> (20<sup>th</sup> August 2019).

<sup>25</sup> Ath., *Deipnosophistae*, I, 33b; Gal., *De Victu Attenuante*, 99; In Hippocratis *de Auctorum Morborum Victu*, III, 8. About the export of Cilician wine cf. also Pedanius Dioscorides, *De Materia Medica*, V, 40, 1; *Expositio Totius Mundi*, 39; Gal., *De Sanitate Tuenda*, V, 5, 15.

<sup>26</sup> Cf., for example, the Jewish Passover in ancient Palestine, as suggested in Rauh et al. 2006, 59.

<sup>27</sup> Rauh et al. 2006, 63–76 although rarely they had been linked to a specific product between wine and olive oil. For other sites cf. also Brun 2004, 95.

<sup>28</sup> Two of them were found in Antiochia with a space for the installation of a press: Rauh et al. 2006, 68.

<sup>29</sup> Aydınoğlu – Alkaç 2008.

<sup>30</sup> Coan-style (Rauh et al. 2006, 54); Gaulish amphorae (Ferrazzoli – Ricci 2007a, 304); North-African containers (Şenol 2008, 114 and note 30).

<sup>31</sup> Ferrazzoli – Ricci 2007a, 306; 2007b, 673; 2009; Borgia – Iacomi 2010. About some petrographic analyses held on these objects cf. Burrigato et al. 2007. Emepereur – Picon 1989 (236–243 figs. 18. 19) already identified several production centres during their fieldworks. Cf. also Abadie-Reynal 1992, 364; Pacetti 1995, 273. For another kiln site in Pompeiopolis cf. Autret et al. 2010. Not only Cilicia produced this amphora, but also Rhodes, Pamphilia, Lycia, and Caria (cf. Reynolds 1995, 71; Vroom 2005, 53; Williams 2005, 160 f.; Winther Jacobsen 2005; Pieri 2007); the island of Cos (Didiomi 2014; Diamanti et al. 2014, 183); and even the island of Lipsi in the Dodecanese (Papavassiliou et al. 2014, 160 f.).

<sup>32</sup> This Form had been studied on different occasions, but a clear typological organization is still not reached. Egloff (1977), basing his study on the ceramics found in the Kellia monastery realized a first

typological division. Keay (1984, 268–278) identified four varieties for this amphora called Type LIII. Bonifay – Pieri (1995, 108 f.) divided the form into three varieties, using finds from Marseille. Remolá Vallverdú (2000, 217) added a third variety, calling it ‘Late LRA 1’. Williams (2005) questioned about this problem and Pieri (2005) offered another division. Opaït 2010 argued about precursors of this form. Demesticha 2013 and 2014 offered typological subdivisions into generations. Cf. also Leidwanger 2014 and Waksman et al. 2014 for a few petrographic analyses.

<sup>33</sup> About the problem of the content of these amphorae cf. Opaït 2004, 297 f. and Elton 2005.

<sup>34</sup> Rinaldi Tufi 2000, 317 f.

<sup>35</sup> Radaelli 2018a, 250 with references.

<sup>36</sup> Barnett 2014,15; Martín i Oliveira 2015, 24.

<sup>37</sup> Varone 2010, 226; Carlan 2012, 89–91.

<sup>38</sup> Brun 2003, 9; Barnett 2014, 15.

<sup>39</sup> Radaelli 2018a, 250 with references.

<sup>40</sup> Cf. Solomon 1983 basing on Mead 1934 and Goffman 1959.

<sup>41</sup> Cf. Cova 1997, 298–302; Cova – Cova 2001, 67–72; Siri 2001, 8 f. This suggestion comes from the so-called ‘post-modern’ studies about consumer behaviour (for the meaning of the word post-modern cf. Lyotard 1981; Slater 1997, 176; Codeluppi 2000; 16; Fabris 2003; Petruzzellis – Chebat 2010, 18–20) which started considering human interactions based on cultural processes created by attractions and repulsions, emotions and passions (Maffesoli 1993).

<sup>42</sup> Not only wines from the Eastern Mediterranean, but even those from other origins can be assimilated to this same hypothesis, as the ones produced in the Tiber Valley in Italy (Radaelli 2016, 85). Carandini 1989, 506 in fact suggested that the majority of wines in Rome were never directed to the élite.

<sup>43</sup> Radaelli 2018a, 251.

<sup>44</sup> Radaelli 2018a, 251. Wine, however, did not derive from taxation on provinces, as recently stated again by Sanz Palomera 2010, 32–35.

<sup>45</sup> Cf. Radaelli 2018a, 251 with references.

<sup>46</sup> Radaelli 2017, 1046.

<sup>47</sup> Cf. Radaelli 2018b, 135 and Radaelli forthcoming (with further references).

<sup>48</sup> Brun 2004, 95; Rauh et al. 2006, 56 f.

<sup>49</sup> Rauh et al. 2006, 76.

<sup>50</sup> Radaelli 2018a, 251.

<sup>51</sup> Radaelli 2017, 1045.

<sup>52</sup> Ancient wine did not contain any preservatives, therefore when it was consumed it was more similar to vinegar, despite its provenance (Prof. C. Panella, personal communication).

<sup>53</sup> Cf. Radaelli 2018a, 252 with references.

### Image Credits

Fig. 1: after Radaelli 2018a, 261, fig. 1. – Fig. 2: Elaboration by E. Radaelli. – Fig. 3: Elaboration by E. Radaelli.

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# **Pottery Production in the Urbanscape and the Over Regional Commerce: LR1 Amphorae at Elaiussa and Beyond**

**Veronica Iacomi**

When asked to partake in this session of the congress, my immediate thought has been, on the one side, one of gratitude, of course, towards the organizer, Professor Equini Schneider, as an acknowledgment of the results yielded so far by my still ongoing research on related topics.<sup>1</sup> But, on the other, concurrently, a sense of awareness arose, that very little more than what has been said so far on the subject could be added here. Nonetheless, as a stimulating challenge, I decided to answer the call proposing a paper which does not pretend to be exhaustive, but rather tries to provide an appraisal of the present state and of the future addresses of the research. Thus, the purposes of this contribution will aim at adhering above all to an important statement of the panel introduction, i.e. the intention to offer an “assessment of the present knowledge on production exchanges, trade and transport in the Mediterranean [...] outlining an exhaustive picture of the changes involving the region [i.e. Cilicia] throughout the centuries in particular as a result of large-scale economic and social processes”.

In fact, the excavations at Elaiussa Sebaste alone, after over 20 years of activity, have provided a wide range of data and information on the topics into account – to which the results deriving from other investigations in the region should be added: a “body of evidence” that urges the creation of a solid theoretical building for a complete evaluation of these socio-economic processes. Therefore, this paper will proceed through two major headlines: firstly a summarising assessment of this evidence will be offered; this is going to be the bulk of the presentation, in order to set up critical points to be discussed in further investigations. When dealing with chronological matters, the second point of the discussion, it is evident how recent scholarship is still missing any attempt to renovate the analysis of economic processes of the early Byzantine state in light of this massive material; finally, third instance, the question of distribution patterns in chronology will be opened as directly descending from the former two issues.

## **Reassessment of the Body of Evidence from Elaiussa (under a Regional Perspective)**

The results of the site’s excavations and related studies are showcasing the early Byzantine period as a flourishing phase of the city, and thence the city itself is necessarily the starting point (fig. 1). Men and goods were travelling by the sea, and these goods were produced and merchandised in the city, while these men were living and operating within this urbanscape. An urbanscape, which was deeply altered and underwent massive changes, following the dynamics and the phenomena that occurred between late Antiquity and the early Byzantine

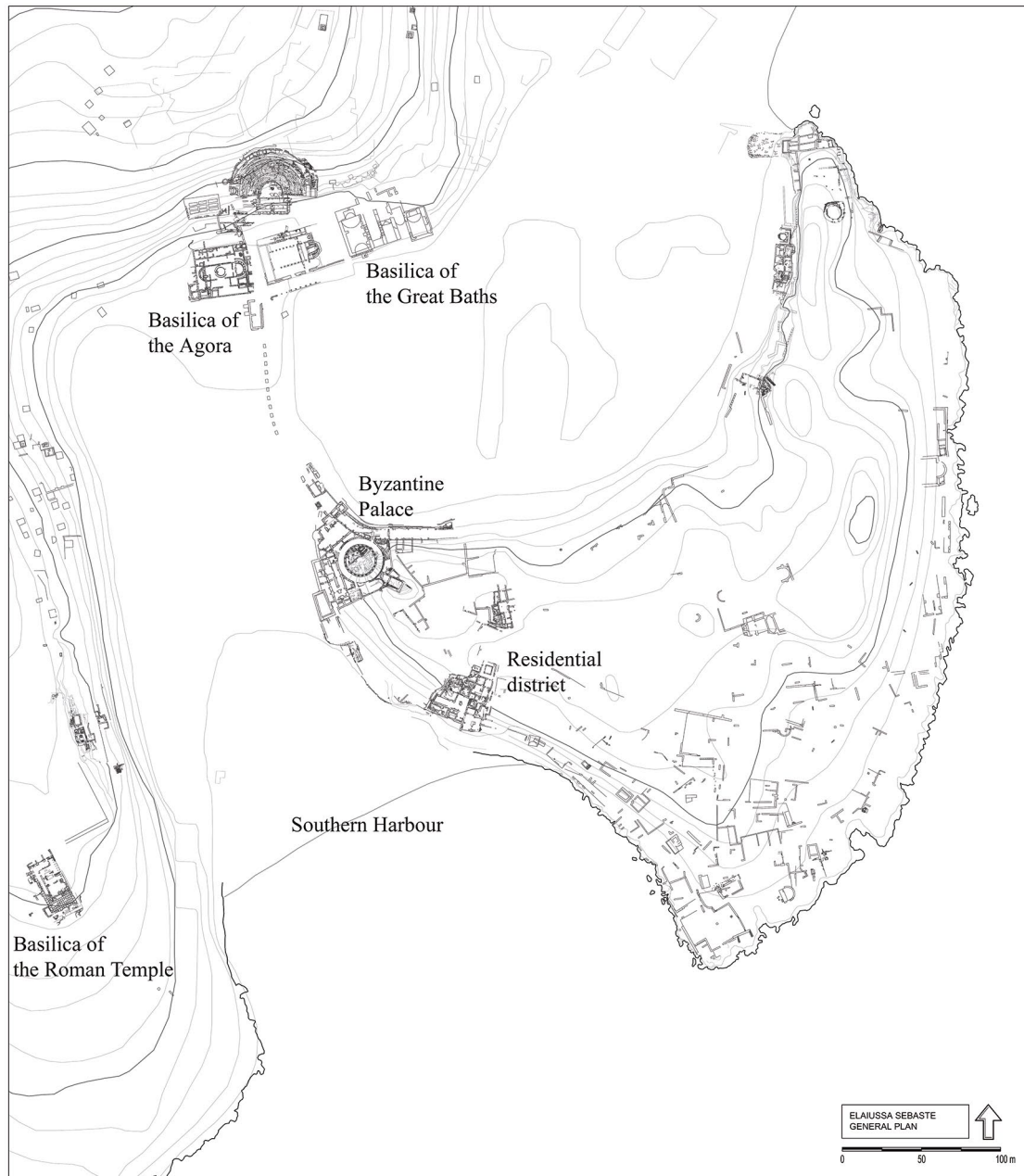


Fig. 1: General map of Elaiussa Sebaste excavations.

period, which are perfectly fitting with the general outlines of the “Byzantine city” (especially when developing from a Graeco-Roman settlement) as presented by E. Zanini:<sup>2</sup> intense Christianisation of the urban spaces; fading boundaries between public and private spaces; movement of people from the countryside resulting in increasing evidence of artisanal activities integrated in the urban fabric.



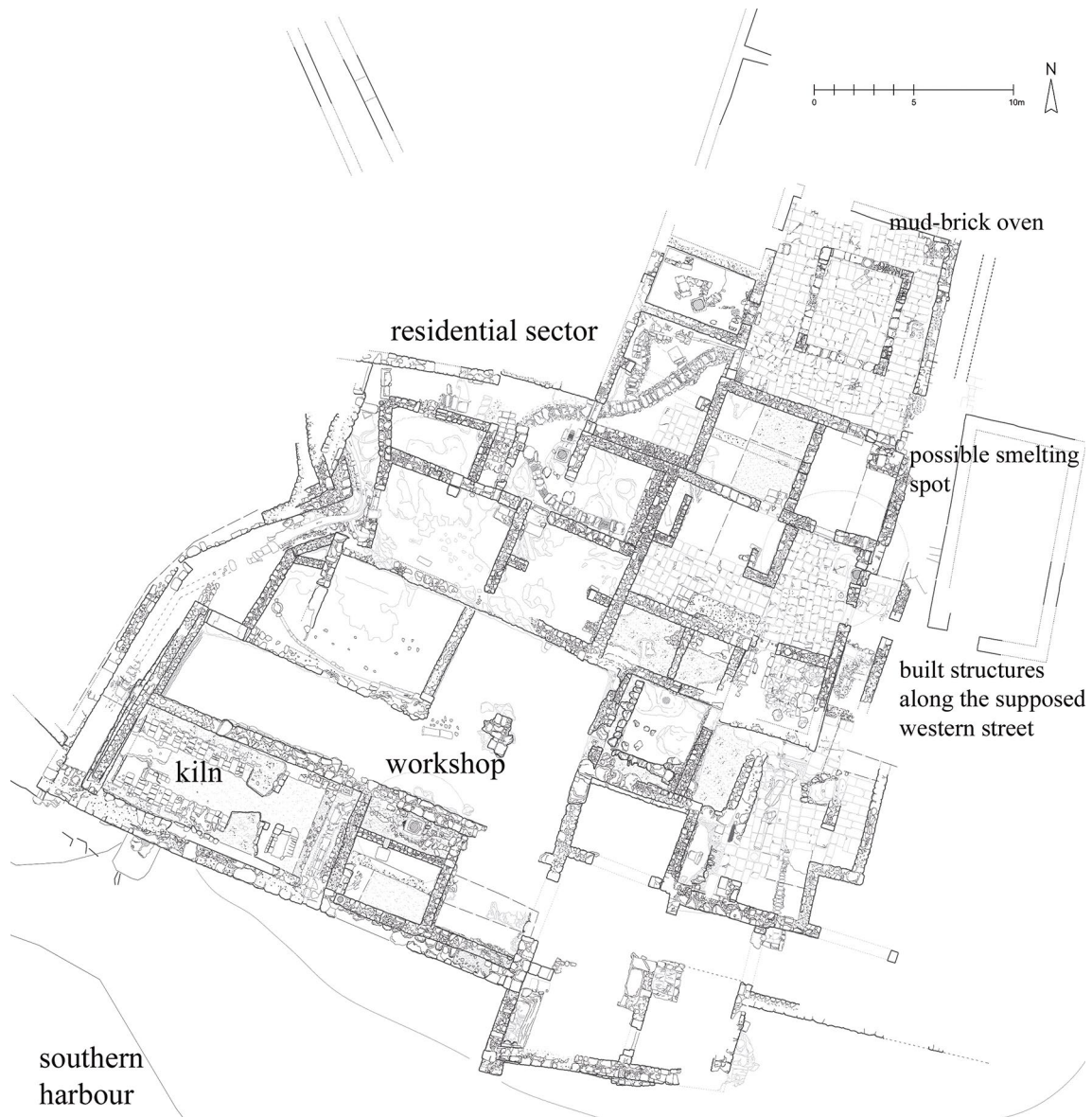


Fig. 2: Plan of the residential district by the southern harbor.

The Christianisation of the urban spaces is the first and most evident change attested at Elaiussa where former public or religious buildings were turned into Christian basilicas – the agora<sup>3</sup> and the Great Baths in the monumental center of the city,<sup>4</sup> the Roman Temple on the southwestern promontory. The changed religious and social needs of the urban (and suburban?) community proved also in the alteration and adjustment of the urban layout in other sectors of the city as well. Seemingly, the phenomenon of the *encroachment* eroded progressively the boundaries between public and private spaces, and a good and exemplary



Fig. 3: One of the room excavated in the residential district.

instance may be observed in the residential district by the southern harbor of the city: here the whole extension of the *insula* cannot be defined in its eastern limits, where seemingly the original north-south oriented street was “invaded” by structures (of private nature?) by the mid-6<sup>th</sup> c. AD at least (fig. 2).<sup>5</sup>

Returning to Zanini’s elements in the definition of the Byzantine city, encroachment may be also considered by the visible result of formerly suburban artisanal activities progressively converging in the city and occupying its fabric. This aspect as well can be reported in Elaiussa, as occurring especially during the 6<sup>th</sup> to the mid-7<sup>th</sup> c. AD. This was the period when workshops occupied both public and private spaces in several sectors of the city, attesting production on both small scale, for the self-sufficiency of the inhabitants, and on a larger scale. In the residential district, small scale productive/stocking activities may be argued by the nature of certain rooms in the heart of the dwelling units (fig. 3), while are quite certain in the uppermost terrace, where the setting of a *tandoori* type oven and a possible metal smelting spot are to be related to the late occupation of the galleries of a pre-existing peristyle.<sup>6</sup>

As mentioned, production is attested also on a larger scale: the settlement and development of LRA1 kilns is the major and most meaningful instance, with workshops meant to supply far beyond self-sufficiency and the needs of the local population. These





Fig. 4: Aerial view of the promontory and the excavated areas by the southern harbour. Both in the area of the Byzantine Palace (on the left) and in the residential district (at the centre) LRA1 kiln have been discovered.

kilns have been found throughout the city. The one in the southwestern necropolis, dating to the beginning of the 5<sup>th</sup> and in use through the mid-7<sup>th</sup> c. AD, was created over Roman period tombs and a late Antique productive instalment. Two other kilns were uncovered in the isthmus area overlooking the southern harbor, both dated to the post-palatial phase:<sup>7</sup> not used concurrently, they were established in the first half of the 6<sup>th</sup> c. AD, and at the end of the 6<sup>th</sup> c. AD respectively.<sup>8</sup> When taking into consideration the results yielded by the excavations in the residential district, a different and deeper insight on these dynamics can be gained: here, in fact, the stratigraphic complexity and completeness documented in the southern section of the investigated area, where the kiln and related workshop were established, allows to outline the whole process from its original arrangement, at least in the late 4<sup>th</sup> c. AD, undergoing major renovation works in the mid-6<sup>th</sup> c. AD, until its final abandonment by the mid-7<sup>th</sup> c. AD;<sup>9</sup> the capacity of the kiln has been calculated in a possible load up to 250 or 500 amphorae per firing process (fig. 4).<sup>10</sup>

As underlined in other contexts, it is clear that such a massive productive potential (as to amphorae) is to be related to likewise massive agricultural background (as to these amphorae contents, i.e. olive oil/wine<sup>11</sup>). An attempt to offer a wider look on this topic from a

regional perspective has been proposed during the works of the 3rd Landscape Archaeology Conference held in Rome in 2014.<sup>12</sup> Elaiussa Sebaste and Cilician productive patterns in the early Byzantine period were then examined, taking into account productive activities in urban and rural landscape and thus offering a collection of testimonies. To recapitulate what has been presented in that occasion, the archaeological traces are widespread but provide few if any hints on specific and accurate chronology: many productive centers for wine and/or oil are in fact attested, but more frequently they cannot be dated since mostly located in otherwise not investigated suburban contexts – while urban centres other than Elaiussa are scarcely known, at least archaeologically. Epigraphic sources are similarly quite precise in documenting productive activities, but not punctual as to their dating: in particular, reference should be made also here to the well-known documents from the necropolis of Korykos, a *corpus* of about 600 inscriptions (belonging, generically, to the 6<sup>th</sup> c. AD), with 15 entries related to wine-making, and the most recurring attested job being *kerameus*.<sup>13</sup> Regrettably, at that time the final remarks were not conclusive, and with the co-author we pointed out how other ‘external’ data (e.g. pottery diffusion) might result indicative for a complete evaluation of the economic pattern of the analysed evidence – an issue, which should be taken again into consideration.

### Chronological Issues

Despite all the limits in the knowledge of so many aspects of these economic processes, one can maintain that when observing such large scale productive activities at Elaiussa Sebaste (and in Cilicia) between the late 4<sup>th</sup> and the mid-7<sup>th</sup> c. AD, the pattern seems to fit into models, which have been outlined for the late Antique or the early Byzantine period<sup>14</sup> also in other economic compartments – for instance, mining in Anatolia,<sup>15</sup> or the cargo routes and loads<sup>16</sup> – along with a high level of monetization, even in the countryside, possibly due to a rise in the commercialization of the agricultural *surplus*. Unquestionably and not unexpectedly, there is no trace of a capitalistic perspective, when just a multiplication of sub-contractors should be presumed in the vertical organization of the whole system. This is beyond any doubt a topic worth of further investigation.

More specifically, the archaeological remains listed above seem to point to a peculiar moment of expansion of amphorae productive potential: as a matter of fact, Elaiussa’s findings provide the most complete seriation of LRA1 amphorae, with the *floruit* of production during the 6<sup>th</sup> c. AD as confirmed by the stratigraphy of the uncovered kilns (in particular of the workshop by the residential district). Such an “industrial” increase deserves, in my opinion, a further insight on the economics of the period, and undeniably should be compared with a mapping of the diffusion of the vessel beyond regional borders (see below). In short, what lies behind this *floruit*? Again, as already suggested in past studies,<sup>17</sup> larger attention should be paid to the implications of the passage in the Abydos Tariff where exemption of the custom toll for Cilician *naukleroi* is offered. Despite controversial opinion,

the chronology of the document to the end of the 5<sup>th</sup> c. AD, during the reign of Anastasius, seem to provide a possible explanation for the Cilician “economic boom” and raises questions about plausible connections to the imperial *annona* – or, at least, to the food supply system of Constantinople. And this second point, as well, is awaiting a thorough reassessment in the wider frame of early Byzantine economic studies.

### **Future Address of the Research: Distribution Patterns in Chronology**

As a matter of fact, many aspects of the whole question seem to be lacking a wider perspective, since reasonably the Abydos Tariff explains the phenomenon only in part. Pottery studies, for instance, are so far missing the point to provide a reliable and detailed mapping of the diffusion of LRA1 throughout the period; a tentative approach in this perspective has been tried by Prof. H. Öviz,<sup>18</sup> and, albeit partial, it may be the beginning of a new course in the research. In this regard, for instance, it occurred to me only by chance, the existence of an interesting and not well known context in northern Cyprus, the underwater site of Cape Andreas, is only partially investigated in 1969–71 and not completely published:<sup>19</sup> it is evident that a total and comprehensive revision of the available data throughout the Mediterranean and in particular in the LRA1 productive/commercial centers is strongly required, along with studies on diachronic/synchronic diffusion patterns. This must be the direction in which to address, both archaeologists’ and ceramologists’, efforts for a better and more complete understanding of LRA1 production in a wider, macro-economic perspective.

### **Final Remarks**

Turning back to the opening statement as presented in the introduction of the panel’s goals, the task of “outlining an exhaustive picture of the changes involving [Cilicia] throughout the centuries” in an economic perspective may be considered as getting more and more fulfilled as to the early Byzantine period. Although necessarily brief, the analysis presented here offers the image of a city, Elaiussa, which preserves not only important but also, I would dare to state, exemplary testimonies of the crucial passage from a Greco-Roman into a Byzantine city with meaningful suggestions as to the economic implications of such changes in the urbanscape – and thence, as a consequence, changes arguable as well for the social fabric of the city’s population, thus covering both micro- and macro-economics all at once.

Regrettably, we are still quite far from a complete “assessment of the present knowledge on production exchanges, trade and transport in the Mediterranean” involving Cilicia in this late 4<sup>th</sup>–mid-7<sup>th</sup> c. AD phase, and from an accurate perception of related “large-scale economic and social processes”. These latter still remain elusive

given the fragmented knowledge, from Elaiussa's viewpoint, of the involvement of its agricultural background, and, on a higher perspective, of the final destination of the produce (in particular, those products which were shipped in LRA1). On a side, the organization of the whole system – agricultural activities, city-country exchanges and socio-political relationship, investors and proprietors and related legal practices, access to resources, subcontractors, shipment and so on<sup>20</sup> – requires further investigations; on the other, the creation of a comprehensive map to show distribution patterns of the vessels in chronology is highly desirable in order to step forward, from the archaeological record to history making.

### Notes

<sup>1</sup> Cp. Iacomi 2010; Borgia – Iacomi 2010; Iacomi 2013a; Cassiani – Iacomi 2014; Iacomi forthcoming.

<sup>2</sup> Zanini 2016.

<sup>3</sup> Equini Schneider 2010.

<sup>4</sup> Conti – Naspi 2014.

<sup>5</sup> This is what emerged from the most recent investigations in the area, thanks also to a sondage trench opened during the 2016 campaign. A publication on the excavation activities in the residential and productive district, by the author of this paper, is undergoing revision and is expected to be issued soon.

<sup>6</sup> On the activities attested in the last phase of use of the peristyle (ca. 630–660 AD), cp. Iacomi forthcoming. Not dissimilar arrangements have been already reported in the agora area, cp. Equini Schneider 2010.

<sup>7</sup> Short notes on the Byzantine Palace by the isthmus in Tempesta – Pipere – Cassiani in this Congress papers.

<sup>8</sup> On these kilns and related literature cp. Cassiani – Iacomi 2016.

<sup>9</sup> The chronology given here is to be considered for the whole complex, which includes also the facilities other than the kiln (pool for clay settling, storage units, etc.); cp. the preliminary indications given in Borgia – Iacomi 2010 and then revised in Iacomi 2013a. The whole question will be entirely re-examined in the forthcoming publication mentioned above.

<sup>10</sup> Borgia – Iacomi 2010.

<sup>11</sup> The debate about what was shipped in LRA1 goes beyond the intentions of this paper; see some considerations on the matter in Iacomi - Cassiani 2016.

<sup>12</sup> Iacomi – Cassiani 2016.

<sup>13</sup> Iacomi 2010, and again but more briefly Iacomi - Cassiani 2016.

<sup>14</sup> McCormick 2001.

<sup>15</sup> See the paper by M. Conti in the proceedings of this same congress.

<sup>16</sup> As discussed at large during this session of the congress.

<sup>17</sup> Iacomi 2010. Cp. also the brief notes in Iacomi - Cassiani 2016.

<sup>18</sup> Öñiz 2016.

<sup>19</sup> Green 1973.

<sup>20</sup> Cp. Iacomi 2013b.



## Image Credits

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Thanks to its specific geographical position, at the crossroads of the most important sea and land trading routes, in a necessary point of transition and interconnection between Syria, Cyprus and Egypt, Cilicia has always played a distinctive role within the context of cultural, social and commercial exchanges in the Mediterranean area. In particular during its Romanisation, the commercial relations with the various areas of the Empire were of fundamental importance, and particularly the relations with the Eastern Mediterranean, which were substantial, and were constantly maintained until the first Byzantine age. The subject of this panel was an assessment of the present knowledge on this region, focusing on integrated studies on production exchanges, trade and transport in the Mediterranean. Underwater research, archaeological and geophysical investigation about harbour basins, the study of production facilities, analysis of material culture and numismatic evidence have led and are still leading to an exhaustive picture of the changes and transformations involving the region and the urban centres throughout centuries as a result of evolving large-scale economic and social processes. The resulting large amount of information about the role played by the region as a production centre and a market-place has created comparative samples for other research under way in Cilicia and south-eastern Turkey.