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Dokuz Eylül University

ARCHAEOLOGY OF WESTERN ANATOLIA

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ARCHAEOLOGY OF WESTERN ANATOLIA

Archaeology of western Anatolia is aimed at archaeologists and scientists engaged with the application of scientific techniques and methodologies to all areas of archaeology in western Türkiye. The journal focuses on the results of the application of scientific methods to archaeological problems and debates of wide interest. It provides a forum for reviews and scientific debate of issues in scientific archaeology and their impact in the wider subject. Archaeology of western Anatolia publishes papers of excellent archaeological science. Case studies, reviews, and short papers are welcomed where an established or new scientific technique sheds light on archaeological questions and debates. The research must be demonstrably contextualised within national and/or international contexts. The application of analytical techniques must be underpinned by clear archaeological or methodological research questions and set within established and/or developing research frameworks. Submission of papers focused around the analysis of single or small numbers/groups of objects is strongly discouraged, unless of exceptional quality and international significance. Datasets must be statistically robust. Submitted papers will be reviewed by at least two reviewers and we aim to reach a first decision within six weeks. We welcome suggestions for thematic sets of papers arising from meetings focused on any aspect of Scientific Archaeology and Archaeological Science and we will publish special volumes of high-quality papers deriving from conferences and symposia.

PREFACE

Martin Henig
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This journal fulfills a real need. Western Anatolia together with contiguous regions, Greece of course as well as the northern Balkans and the Levant lay at the heart of the Ancient World, as well as of the Byzantine Empire and of its successor states down to the Seljuk and Ottoman Empires. The region is well known for its breathtaking monuments, both civic and religious, and numerous texts and epigraphic sources confirm the vibrancy of the myriad communities, from cities to villages. Small finds such as engraved gems, lead seals, jewellery, figurines and painted pottery have not exactly been neglected but, in contrast to finds from Western Europe, are generally treated simply as art objects, divorced from stratigraphical, archaeological context. Coins are too often hived off to specialist numismatic journals but they too are very much part of the archaeological record.
Of course some of this material deserves to be reassessed in its local context as Gabriella Tassinari has done in the case of gems from, or at least purchased in, Izmir (Smyrna). And there is a place for items which have even less of a context which may throw some light on our region.
Throughout history the Mediterranean sea connected Asia and the Levant with Western Europe, whether we are concerned with the Phoenicians, the people of Tartessos (Tarshish), Greeks, Romans, Byzantines or Arabs, so although as the title of the Journal proclaims we are centred on Western Türkiye, the people who lived andruled in this region always looked outwards.
I am certain that AwA will establish itself as a major publication of cutting-edge archaeological and cultural material in the years ahead.

Oxford,
31st of December, 2024

Cette revue répond à un réel besoin. L'Anatolie occidentale ainsi que les régions contiguës, la Grèce bien sûr ainsi que le nord des Balkans et le Levant se trouvaient au cœur du monde antique, ainsi que de l'empire byzantin et de ses États successeurs jusqu'aux empires seldjoukide et ottoman. La région est bien connue pour ses monuments époustouflants, tant civiques que religieux, et de nombreux textes et sources épigraphiques confirment le dynamisme de la myriade de communautés, des villes aux villages. Les petites découvertes telles que les pierres précieuses gravées, les sceaux en plomb, les bijoux, les figurines et les poteries peintes n'ont pas vraiment été négligées mais, contrairement aux découvertes d'Europe occidentale, sont généralement traitées simplement comme des objets d'art, séparés du contexte stratigraphique et archéologique. Les pièces de monnaie sont trop souvent confiées à des revues numismatiques spécialisées, mais elles font elles aussi partie intégrante des archives archéologiques.
Bien entendu, certains de ces matériaux méritent d'être réévalués dans leur contexte local, comme l'a fait Gabriella Tassinari dans le cas des pierres précieuses provenant, ou du moins achetées à, d'Izmir (Smyrne). Et il y a de la place pour des éléments qui ont encore moins de contexte et qui pourraient éclairer notre région.
Tout au long de l'histoire, la mer Méditerranée a relié l'Asie et le Levant à l'Europe occidentale, qu'il s'agisse des Phéniciens, des habitants de Tartessos (Tarsis), des Grecs, des Romains, des Byzantins ou des Arabes, même si, comme le titre du Journal le proclame, nous sommes centrés sur Dans l'ouest de la Turquie, les gens qui vivaient et gouvernaient cette région ont toujours regardé vers l'extérieur.
Je suis certain qu'AwA s'imposera comme une publication majeure de matériel archéologique et culturel de pointe dans les années à venir.

Oxford,
31 décembre 2024

FROM THE EDITOR

Archaeology of western Anatolia (AwA) is aimed at archaeologists and scientists engaged with the archaeological research and application of scientific techniques and methodologies to all areas of archaeology in western Türkiye as well as rest of Türkiye and other countries in the Near East, eastern Mediterranean, Balkanic area and their peripheries. The journal focuses on the results of the researches to archaeological problems and debates concerning particularly western Anatolia during the ancient Greek, Roman and Byzantine periods. It provides a forum for reviews and scientific debate of issues in all archaeologies and their impact in the wider subject. Archaeology of western Anatolia publishes papers of excellent archaeological research. Case studies, reviews of books on Anatolian archaeology, and short papers are welcomed where an established research sheds light on archaeological questions and debates. The research must be demonstrably contextualised within international contexts. Submission of papers focused around the analysis of single or small numbers/groups of objects is strongly couraged. Submitted papers will be reviewed by at least two reviewers and we aim to reach a first decision within six weeks. We welcome suggestions for thematic sets of papers arising from meetings focused on any aspect of Anatolian aarchaeology and we will publish special volumes of high-quality papers deriving from conferences and symposia. We publish scholarly papers only in English language, but we provide them an abstract and keywords in French.

In the first issue of AwA we publish 12 papers in three sections: first six papers are about the archaeology of western and central Anatolia during the ancient Greek, Roman and Byzantine periods, four papers are about the fibula researches in Italy and Bulgaria, and the last two papers about the pithoid vessels during the Middle Ages.

We wish AwA a good continuation in the scholarly world of ancient Anatolian archaeology with new discoveries, scholarly orientations and innovations.

Istanbul,
31st of December, 2024

L'archéologie de l'Anatolie occidentale (AwA) s'adresse aux archéologues et aux scientifiques engagés dans la recherche archéologique et l'application de techniques et de méthodologies scientifiques à tous les domaines de l'archéologie de l'ouest de la Turquie ainsi que du reste de la Turquie et d'autres pays du Proche-Orient, de la Méditerranée orientale, Zone balkanique et leurs périphéries. La revue se concentre sur les résultats des recherches sur les problèmes et débats archéologiques concernant en particulier l'Anatolie occidentale pendant les périodes grecque, romaine et byzantine antiques. Il fournit un forum pour les analyses et les débats scientifiques sur les questions liées à toutes les archéologies et leur impact sur un sujet plus large. Archéologie de l'Anatolie occidentale publie des articles sur d'excellentes recherches archéologiques. Les études de cas, les critiques de livres sur l'archéologie anatolienne et les courts articles sont les bienvenus lorsqu'une recherche établie met en lumière les questions et les débats archéologiques. La recherche doit être manifestement contextualisée dans des contextes internationaux. La soumission d'articles axés sur l'analyse d'un seul ou d'un petit nombre/groupe d'objets est fortement encouragée. Les articles soumis seront examinés par au moins deux évaluateurs et notre objectif est de parvenir à une première décision dans un délai de six semaines. Nous acceptons les suggestions d'ensembles thématiques d'articles découlant de réunions axées sur n'importe quel aspect de l'archéologie anatolienne et nous publierons des volumes spéciaux d'articles de haute qualité issus de conférences et de colloques. Nous publions des articles scientifiques uniquement en anglais, mais nous leur fournissons un résumé et des mots-clés en français.

Dans le premier numéro d'AwA, nous publions 12 articles répartis en trois sections : les six premiers articles portent sur l'archéologie de l'Anatolie occidentale et centrale pendant les périodes grecque, romaine et byzantine antiques, quatre articles portent sur les recherches sur le péroné en Italie et en Bulgarie, et les deux derniers articles sur les vaisseaux pithoïdes au Moyen Âge.

Nous souhaitons à AwA une bonne continuation dans le monde scientifique de l’archéologie anatolienne ancienne avec de nouvelles découvertes, orientations scientifiques et innovations.

Istanbul,
31 décembre 2024

ERGÜN LAFLI
EDITOR-IN-CHIEF

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Gem Market of Izmir During the 19th Century

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To my mother Francesca,
in love with Türkiye

Abstract
In the second half of the 18th and 19th centuries, Izmir was the major center for the trade in Classical antiquities; in particular, it was a capital of numismatics. But Izmir's leading role in the market of gems, which were among the favorite souvenirs, has so far received little scholarly attention. In this study, we have gathered the illuminating information to fill this gap, to delineate a basic panorama of the local glyptic manufacture and engravers of classical and post-classical gemstones, as well as the dealers, collectors, connoisseurs, scholars, antiquarians, travelers, and forgers who were active engaged in the purchasing and selling process in Izmir. The results of this research provide new and unequivocal evidence both for the possibility of acquiring gems in Izmir from the city and neighboring sites, and that Izmir supplied gemstones to private and public collections, throughout Europe and America. The range is remarkable and varied, embracing all materials, themes, styles, qualities, sometimes superlatives, and periods, from ancient to the post-classical age: scaraboids, intaglios, cameos, pastes, rings in gold, silver, bronze, iron, glass, even with decorated bezels. Several types are popular, other representations are less familiar or unica. It is a fascinating overview of the documentation of the engraved stones from Izmir: a worldwide circulation and distribution.
Keywords: *Izmir, Izmir, Sardis, Ephesus, intaglios, cameos, collections, collectors*

Résumé – **Marché aux pierres précieuses d'Izmir au 19ème siècle**
Dans la seconde moitié des XVIIIe et XIXe siècles, Smyrne était le centre majeur du commerce des antiquités classiques ; c'était notamment une capitale de la numismatique. Mais le rôle majeur de Smyrne dans le marché des pierres précieuses, qui figuraient parmi les souvenirs préférés, a jusqu'à présent reçu peu d'attention des chercheurs. Dans cette étude, nous avons rassemblé des informations éclairantes pour combler cette lacune, pour tracer un panorama de base de la fabrication glyptique locale et des graveurs de pierres précieuses classiques et post-classiques, ainsi que des marchands, collectionneurs, connaisseurs, érudits, antiquaires, voyageurs., et des faussaires qui étaient activement engagés dans le processus d'achat et de vente à Smyrne. Les résultats de cette recherche fournissent des preuves nouvelles et sans équivoque à la fois de la possibilité d'acquérir des pierres précieuses à Smyrne auprès de la ville et des sites voisins, et du fait que Smyrne a fourni des pierres précieuses à des collections privées et publiques, dans toute l'Europe et en Amérique. La gamme est remarquable et variée, embrassant tous les matériaux, thèmes, styles, qualités, parfois superlatifs, et époques, de l'Antiquité à l'époque post-classique: scaraboïdes, intailles, camées, pâtes, bagues en or, argent, bronze, fer, verre, même avec des lunettes décorées. Plusieurs types sont populaires, d'autres représentations sont moins familières ou uniques. Il s'agit d'un aperçu fascinant de la documentation des pierres gravées de Smyrne : une circulation et une distribution mondiales.
Mots-clés : *Izmir, Smyrne, Sardes, Éphèse, intailles, camées, collections, collectionneurs.*

1. The status quaestionis

During the second half of the 18th and 19th centuries A.D. Izmir was the queen among the cities of Anatolia, and one of the principal commercial ports in Asia Minor, directly connected to all the leading seaports in the Levant: there was clearly a continuous movement of people and goods. Consequently Izmir was the major center of the trade in Classical antiquities found in the city, its surroundings and the interior of Anatolia. In particular it is described as a numismatic capital. This means that in the town are gathered coins from Asia Minor and the islands; some celebrated numismatists and numismatic collectors settled in Izmir, where they were actively engaged in the usual process of exchanging and selling coins[1].

But which role did Izmir play in the history of the production and trade of the engraved gems, small objects that were naturally the most convenient to transport? The subject has not received considerable scholarly attention; so there is no exhaustive study on the *topic*. In this article we will try to fill this gap, trace original documents, extrapolate elements for our research purposes, follow the most different threads and link them together in order to delineate a basic panorama.

Unfortunately, it is hard to answer several questions, because it leads to an entanglement of many problems.

[1] Spencer 1851, pp. 294-304; Curtius 1872, pp. 59-60, 63; Handbook 1878, pp. 247, 251-252; Allen 1999, pp. 85-87, 90, 287-288, note 156; Merrillees 2017, pp. 128-144; Callataÿ 2021.

The primary impediment consists in the state of the documentation. Private and public collections of engraved stones from Asia Minor are largely unpublished; finds of gems from the rescue or systematic excavations and surveys undertaken in Türkiye are published often only sparsely or not sufficiently reported or published in the Turkish books and periodicals that are not always easy to consult. Further complicates the recognition the Turkish language, difficult to understand for the scholars.

The catalogues of glyptic collections known to be exclusively from Türkiye[2] are unhelpful in regard to specify the original findspot or offer no more specific information about the circumstances or the context in which the object was found.

Of course, the publications of gems collection of the Museum of Izmir does not escape this lamentable situation: the dactyliotheca is established by acquisitions by local salesmen; a few examples come from the excavations in the surroundings of Izmir[3].

And «most of the gems known in scholarly literature as originating from "Izmir" are not from ancient Izmir, but from the antique market in the city which flourished in the 19th century. In the excavations at Old Izmir between 1948 and 1951 as well as 1966 and today very few gems of the the Archaic and Classical periods have been found. Almost no finds have so far been published from the excavations at the Agora of Izmir between 1933 and 1941 and 1997 and today»[4].

Even when the engraved gems are recovered from a secure archaeological context, we can doubt about the real provenance. In fact gems have always travelled throughout space and time, passing from owner to owner by inheritance, trade, loss… Consequentially, the circulation of gems flows beyond their manufacturing place; the scholars can identify with uncertainty an atelier and assign an item to it. Therefore a further problem is – such as generally all over the Classical world – to recognize individual or several engravers and workshops in Izmir, that produced ancient and modern intaglios and cameos, to demonstrate the local production in the city and in the region and to state the distribution patterns[5].

A final obstacle to the research. Some travel journals describe the Grand Tour in the Ottoman Empire's lands in the 18th and 19th centuries. The collectors looked for gems and jewels, that were among the favorite souvenirs, but unfortunately they give us very few information about where and how they acquired the precious pieces.

This is a brief overview, a short selection of examples with only minimal references to material, iconography, style and date; we neither will judge the quality of engraving nor we will offer proper considerations about style or age to which a piece belongs (often the dating of intaglios remains problematic). We will take sufficient information from the studies in which the gems are published. A detailed commentary on each piece would require much more space than is possible here and this is not the focus of the article. Sometimes we will also briefly show finger-rings that are not set with gems / pastes, but with ornamented bezel or with engraved design, when they are particularly considerable, deserve some attention and enrich the panorama.

Waiting for full accounts in another study, this present is intended to give an idea of the glyptic situation in Izmir, an idea of these precious objects that could be found, bought, collected, donated.

2. A centre of glyptic production: Sardis

The local glyptic manufacture nearest to Izmir is Sardis.

Lydia was rich of unusual mineral resources: gold, silver, iron, copper, arsenic, antimony, cinnabar… and the stone, the semi-precious sard[6]. Lydia was one of the leading producer of gold, which played a crucial role in transforming the region into a commercial, industrial, and trading country[7]. Moulds for making jewelry provides a proof for local production[8]. And gem cutting is closely allied to metalwork, because of the use of stones in jewelry. From the sixth century B.C., the production of seals, gems, and ringstones, under the patronage from the Lydian royal entourage, assumed the dimensions of a considerable activity; and several finds suggest that this local industry continued.

Archaeological discoveries make it likely that rock crystal cutting has been a specialty in Sardis: large quantities of rock crystal, rough lumps, chips, flakes and occasionally a finished piece[9]. It was still being worked in the Middle Byzantine times, as testifies the grave of a little girl in Sardis buried in a wooden casket, with a golden earring and a fine, faceted rock crystal bead[10].

The existence of a school of gem cutters in Sardis, beginning in the sixth century[11], is demonstrated also by epigraphic evidence: the inscription (second century A.D.) mentions the young Doros dead "δακτυλοκοιλογλύφος", which came from Sardis[12].

Other precious, fundamental achievements for the knowledge of the Sardis' glyptic ateliers / gem cutters.

In the area of the city of Sardis, just to west of the late Roman fortifications, – the chronology of the pottery ranges from the Lydian to the Byzantine period, but the bulk is Roman – has been discovered a high concentration of semi-precious stones of different colors, flakes of amethyst, jasper and sard, several unfinished or defective gems blanks, microflakes and nodules of semiprecious stones, documenting various stages in the process of engraving gems, from the raw material to the finished product[13]. The variety and nature of the pieces, the absence of architectural remains and the concentration of gemstone material in the upper levels of the excavation suggest that this is a dump site. The archaeologists rightly observe that the fragments of a dump provide uncertain evidence about the specific placement of Roman gem-workshop in Sardis. However, the concentration of material indicates that it should have been in the immediate vicinity. The discovery of pieces of worked ivory and millefiore glass also allows us to affirm that a center of luxury craftsmanship existed in this area in Roman times.

Jane De Rose Evans argues that the glass intaglios found at Sardis, on a hilltop known as Field 49, were made at a still to-be discovered workshop nearby, during the Augustan / earliest years of Tiberius'reign; they were scattered in the destruction caused by the earthquake that devastated Sardis, in 17 A.D.[14].

[2] See the panorama in Laflı, Buora 2023, pp. 25-32; Laflı, Henig 2024, pp. 148-155; Tassinari in press.

[3] Laflı 2012; Hatipoğlu, Güney 2013; Laflı 2015; Laflı, Buora 2021, pp. 235-237, nn. 1-4, pp. 240-241, nn. 9-10; Henig, Laflı 2023.

[4] Laflı, Henig 2024, p. 153, note 82.

[5] Tassinari 2008, where an analysis of the problems associated with the glyptic workshops during the Roman imperial period and a discussion of the local production of gems.

[6] Hanfmann *et alii* 1983, pp. 7-10.

[7] On the golden Sardis, the scientific examination of the excavated gold material, a historical survey of gold refining, see King Croesus' 2000.

[8] Hanfmann *et alii* 1983, p. 10, p. 222, note 17.

[9] King Croesus' 2000, pp. 88, 92, fig. 4.43, p. 98, note 39.

[10] Hanfmann 1974, pp. 41-42, fig. 10; Hanfmann *et alii* 1983, p. 10.

[11] See, e.g., Spier 2000; Tassinari 2008, p. 283; Weiss 2013, pp. 671-672; Laflı, Henig 2024, p. 149, note 6.

[12] Zwierlein-Diehl 2007, pp. 317-318, 500-501, tav. 221, fig. 959, where a complete analysis is given. It is worth recalling that this stele was located in the house of the doctor M. Kosson in Izmir.

[13] Sardis 1983, pp. 28-29, fig. 36.

[14] De Rose Evans 2019, p. 2. On the local manufacture of glass intaglios in Sardis, strongly suggested by good evidence, see Önder 1994; De Rose Evans 2019.

The presence of the uncut edges of the intaglios implies that they were not yet set into rings / jewelry; perhaps they did not travel far from their manufacturing spot. Furthermore, some pastes appear to be from the same mould used or a second generation mould.

The iconography of these glasses show the variety of the representations and several of the most common motifs in Roman glyptic art: Zeus seated on throne, the standing figures of Athena, Apollo, Hermes, Ares, Asklepios, Demeter, Herakles, Tyche, Nike; the two-figure compositions of Nike and Fortuna, Asklepios and Hygeia; the busts of Athena, Apollo, Artemis, Helios; animals.

«While a number of the motifs on the intaglios are found across the Hellenistic world and the Roman Empire, there are ten to twelve motifs that have very local models. The most striking are the rider with the labrys, not attested outside of Lydia and Phrygia, and the doubled Nemesis, which is only found in Izmir. Several of the motifs may have been derived from Hellenistic to Early Roman coins of Sardis itself. Thus, if the evidence of the unfinished state of the gems was not persuasive, the iconographical parallels provide another indication that points directly to the manufacture of the intaglios within Sardis. Although excavations have not yet uncovered the actual spot of manufacture, it is extremely likely that the workshop was on top of the hill, where all of these intaglios were found»[15] **(fig. 1a-1d)**.

Figure 1a. Fortuna/Tyche standing and holding a cornucopia and a rudder. Glass intaglio found at Sardis. From J. De Rose Evans, Glass Intaglios of the Roman Imperial Period from Sardis, 2019, fig. 32.

Figure 1b. Bust of Artemis, with a quiver and a bow over her shoulders. Glass intaglio found at Sardis. From J. De Rose Evans, Glass Intaglios of the Roman Imperial Period from Sardis, 2019, fig. 40.

Figure 1c. Rider with the chlamys flying out behind, moving on his horse. Glass intaglio found at Sardis. From J. De Rose Evans, Glass Intaglios of the Roman Imperial Period from Sardis, 2019, fig. 54.

Figure 1d. Eagle with wings spread catches a hare under its claws. Glass intaglio found at Sardis. From J. De Rose Evans, Glass Intaglios of the Roman Imperial Period from Sardis, 2019, fig. 56.

3. Some sources that report on the local glyptic production

Indication available appear to provide support for the theory that in Izmir and environs existed manufactures of gemstones in Roman period, as well as post-classical.

One of the most important French numismatic of his generation, Louis Allier de Hauteroche (Lyon, 1766 – Paris, 1827), Chevalier des Ordres de Saint-Jean de Jérusalem e du Saint-Sépulcre, during his travels and diplomatic career in Levant (he was *attaché* at the Consulate General in Izmir) built up a big and wonderful collection of Greek coins[16]. The sale (1828) of his cabinet of ancient and modern engraved gems provides an exceptional opportunity to learn about the craft of gem cutting in these places. It is a sardonix cameo with three layers, set in chiseled gold, with the image of Zeus standing and facing, holding patera and scepter; at his feet the eagle. This cameo is remarkable for its extraordinary size (7.9 x 5.6 cm) and the beauty of the colors and the strata. Bought in Izmir, it is said to be found among ancient ruins in Ephesus. A detail of a considerable significance: it seems that the cameo is unfinished[17]. This would be a good evidence of local gem-working[18].

Although the specific placement of manufacture in Ephesus is still unknown and the depiction of Artemis Ephesia can be found in many media throughout the ancient world[19], it is not problematic to think that the production of gems with this image thrived in Ephe-

[15] De Rose Evans 2019, p. 9.
[16] See, Notice 1828, pp. 3-6.
[17] Notice 1828, pp. 8-9, n. 9.
[18] See the comments on the parallels between this artifact and a unique and exceptional great cameo / small bas-relief, of several layers of chalcedony, incomplete, with an idealized Emperor Claudius, seated on a throne like Jupiter. The expensive and rare cameo is a specimen of the courtly, 'state' glyptic, and an evidence for a specialized workshop in Rome: Tassinari 2020, pp. 213-224.
[19] On the internationally famous cult of Artemis Ephesia in her homeland – Ephesus – and elsewhere, the ritual context, the iconographic media, a comprehensive study of the glyptic types of the sacred image, a select corpus of gems depicting the goddess or themes related to her, see Laflı, Henig,

sus.

According to Krug's hypothesis[20], the majority of the stones engraved with Artemis Ephesia were made in the centers near the sanctuary of Ephesus. Also Attilio Mastrocinque believes that existed in Ephesus specialized ateliers that produced gems with the effigy of the goddess[21].

Laura Sageaux, analysing the glyptic corpus with Artemis Ephesia's image, from the last quarter of the 2nd century B.C. to the 3rd-4th century A.D., agrees with Krug and Mastrocinque. She notes that several gems have been found in Asia Minor, but we have no precise information about the actual place. Mastrocinque and Sageaux quote a passage from the Acts of the Apostles regarding the existence of goldsmiths' ateliers and other craftsmen set up not far from Artemision who benefited from the arrival of the pilgrims[22].

Finally, Martin Henig and Ergün Lafli suspect that many of the gems figuring Artemis Ephesia attest pilgrimage to Ephesus from elsewhere; there may have been a specific glyptic manufacture, or a number of such ateliers, in Ephesus devoted to the production of gems with the depiction of the goddess, in the Roman period. However, it is possible that, because of her popularity, some gems were engraved in other workshops, for example in Aquileia[23].

Among the finds in Türkiye of gems showing Artemis Ephesia, we remember an onyx mounted in a gold ring, found in a third-century A.D. burial chamber in the West Necropolis of Ephesus[24], and two acquired intaglios (carnelian, chalcedony; 3rd century A.D.) of the collection in the Museum of Ephesus in Selçuk[25].

Two glass intaglios with uncut edges were excavated, one from the suggested manufacturing spot in Field 49, at Sardis, the other from a trench far many meters[26].

A garnet intaglio (perhaps 2nd century A.D.) with the same depiction was recovered in a rich findspot for gemstones: the extensive necropolis of Juliopolis in south-eastern Bithynia[27].

In the Archaeological Museum of Izmir are housed two intaglios: a chrome chalcedony (probably first century A.D.) and a nicolo glass (late 2nd or 3rd century A.D.)[28].

From Izmir come a truncated cone-shaped onyx intaglio dated to second century A.D., engraved with the Ephesian Artemis, in the British Museum[29]; a garnet (collection of Burton Y. Berry, Indiana University Art Museum, Bloomington)[30]; and two intaglios in Lewis collection (Fitzwilliam Museum, Cambridge): a sard, with also Hermes standing, and a white jasper, on which Aphrodite can also be seen binding on her sandal[31].

Let's take a look at a noteworthy passage by the Reverend Henry John Van Lennep (1815-1889); He was born into a wealthy family in Izmir, went to the United States to continue his education, became a missionary in Türkiye, a painter and a historian.

Starting from Izmir for Constantinople, embarked (April 28, 1864) for a long journey in Asia Minor, Van Lennep describes some of his fellow passengers[32]:

«The Greek gentleman from Isbarta is a druggist there, and visits Constantinople on business. He seems to have paid some attention to antiques, and showed me a fine cornelian, beautifully cut on one side in the form of a beetle, and bearing on the other the figure of a man, who appeared to be jumping the rope. He also mentioned having had in his possession a small stone, with an inscription in Greek characters, but in a language apparently now lost. It ran as follows [...] And on the other side thus [...]». In the footnote Van Lennep adds: «* Since the above was in manuscript, the writer has met with many signet stones having the same characters , and all coming from regions south of Izmir. The most remarkable of these bore a fine representation of a seven - branch candlestick, very similar to the one found on the arch of Titus, at Rome».

These are jewish magical gems. According to Spier, the gem mentioned by Van Lennep is probably the red jasper with Menorah (on the side A) and four lines of Hebrew (side B), said to be from Ephesus, formerly in the Wood collection (until 1872), now in the British Museum, whose authenticity is doubtful[33].

In response to the great interest in and demand for gem collecting, engravers skillfully copied classical gems, worked in a style very close to the authentic stones and made works that in many cases passed as ancient and were probably sold as such. Post-classical items, modern copies, uncertain works, forgeries intended to deceive flooded the European markets.

We acquire an invaluable occasion to better understand the local glyptic milieu, thanks to the following passage by Samuel Duffield Osborne (1858 – 1917) an American author, engaged in literary work, including a text on engraved gems: «Though the signets of the Turks are usually cut in metal, the wealthy still use a ring-stone, and the skill necessary to cut the graceful lines of their script is available for disreputable purpose [...]. I know of but one forger in Costantinople, a Greek, who is reputed to make occasional trips to Asia Minor where, in exchange for genuine finds, he distributes his work among the peasants who bury it to be dug up for the delectation of missionaries and tourists. Also there is a small factory at Panderma on the other side of the Bosphorus, and, at Tyre, a Syrian, Najib Saadi, has during the last three years made copies of a few intaglios that must be scrutinized rather closely to fix their provenance, but the only establishment of any size in Northern Asia Minor is that of a Turk at Caesarea. He has in his employ several Greeks and Armenians who turn out gems, cameos and coins which go, for the most part, to Izmir for marketing»[34].

And Izmir supplied with gemstones cabinets and public institutions, widespread throughout Europe and America.

4. Gems from Izmir widely circulating and shared: some examples of collectors and collections

The multiple aspects of the background of local gem finds and purchases are reflected in the presence in private or public collections with the brief note: «bought at Izmir», «said to be from Izmir», «said to be from Ephesos», «purchased in Izmir and said to be from Ephesos». They may belong to ancient glyptic art, as well as to post-classical period; their antiquity may be in doubt or they may be a forgery.

It is an interesting glimpse into these engraved stones scattered among worldwide collections.

Mastrocinque 2024, pp. 137-148, with an extensive bibliography.

[20] Krug 1981, p. 228, n. 309.

[21] Mastrocinque 2014, p. 136.

[22] Mastrocinque 2014, p. 136; Sageaux 2022, pp. 18-19, and note 18.

[23] Laflı, Henig, Mastrocinque 2024, p. 139.

[24] Koder, Ladstätter 2010, p. 327.

[25] Laflı, Henig, Mastrocinque 2024, pp. 125-126, nn. 21-22, fig. 22.

[26] De Rose Evans 2019, p. 14, fig. 22.

[27] Laflı, Buora 2023, p. 28, plate 11, 6; Laflı, Henig, Mastrocinque 2024, pp. 141-142, n. 10, fig. 77.

[28] Laflı, Buora 2023, p. 29, note 61, plate 12, 7-8; Laflı, Henig, Mastrocinque 2024, pp. 141-144, nn. 4, 11, figg. 71, 78.

[29] Walters 1926, p. 152, n. 1341, plate XIX; Sageaux 2022, p. 52, n. 25; Laflı, Henig, Mastrocinque 2024, p. 147, n. 45 o n. 47.

[30] Berry 1968, pp. 38-39, n. 54; Laflı, Henig, Mastrocinque 2024, p. 147, n. 39.

[31] Middleton 1892, p. 58, n. 17; Henig 1975, p. 37, n. 132; Middleton 1892, p. 66, n. 88; Henig 1975, p. 37, n. 133; Laflı, Henig, Mastrocinque 2024, p. 146, n. 34.

[32] Van Lennep 1870, pp. 19-20, and footnote.

[33] Spier 2007, p. 163, n. 953, plate 122.

[34] Osborne 1912, p. 194.

In this deliberate and necessary selection we will mention only a few examples, that have a special significance[35].

4.1 Sir Richard Worsley

The first British traveller and collector to bring home mainly Greek antiquities: Sir Richard Worsley (Appuldurcombe, February 13, 1751 - August 8, 1805), the 7th Baronet of Appuldercombe, Isle of Wight, wealthy, learned, man of taste, notable connoisseur, antiquary, member of the Royal Society, the Society of Antiquaries and the Society of Dilettanti, politician, Governor of the Isle of Wight, British resident at Venice[36]. During his extensive tour through Greece, Egypt and Asia Minor (1785-1786), sparing no expense, Sir Worsley assembled the most outstanding and splendid collection – at that period – of Greek statues, reliefs and gems, collection now Yarborough, housed at Brocklesby Hall (Lincolnshire).

Sir Worsley's large collection of gems was worth seeing: a Gem Cottage was created at Appuldercombe, his family home on the Isle of Wight. It was formed from manifold sources: the beginning is just the travel in Egypt, Asia Minor and Greece, and later by acquiring gems from famous private collections.

Figure 2. Cupid standing before a herma under a tree, beside it a cock. Amethyst intaglio. Dactyliotheca previously Worsley, now Yarborough, Brocklesby Hall. From Museum Worsleyanum or a Collection of antique Basso–relievos, Bustos, Statues, and Gems […], vol. 1, London 1824.

Figure 3. Greek inscription. Onyx cameo. Dactyliotheca previously Worsley, now Yarborough, Brocklesby Hall. From Museum Worsleyanum or a Collection of antique Basso–relievos, Bustos, Statues, and Gems […], vol. 1, London 1824.

The nobleman also employed celebrated contemporaries gem-engravers.

With the friendship and collaboration of the eminent antiquarian Ennio Quirino Visconti, Sir Worsley prepared a sumptuous, lavish catalogue of his collections, an illustrated description, in English and in Italian, *Museum Worsleyanum or a Collection of antique Basso-relievos, Bustos, Statues, and Gems* […]. The first volume appeared in 1798, the second in 1802; a new edition came out in 1824. Only a select part of the relevant dactyliotheca was published in the *Museum Worsleyanum*, generally the masterpieces or the most important stones: two of them were recovered in the area of Izmir.

A number of these gems, all believed to be ancient, are dubious, fictitious, probably sold as ancient and made to deceive: not even Worsley escapes mistakes in dating and forgeries.

The dactyliotheca previously Worsley now Yarborough, at Brocklesby Hall, is published, but without picture[37].

Near Izmir (in the year 1785) an irregular amethyst (or oriental garnet) intaglio, once bored longitudinally, was found in the antique gold setting worn as an ear-ring, with winged Cupid standing before an herma of Mercury under a tree; beside it a cockerel[38]. The intaglio is praised in the *Museum Worsleyanum* as well engraved and explained as follows: «(…) represents the Genius of the Palaestra before an Herma of Mercury, the inventor of the Gymnastic Games. The cock is sacred to Mercury and, from being fond of fighting, is a proper symbol of the Athletes. A plane-tree appears in the back ground; they were commonly planted in the places resorted to in the Gymnastic exercises. The Palaestra of Sparta took the name of *Platanistas* from the plane trees that surrounded it; and in the Academy where the Athenian youths exercised, there were very large

[35] Of course some of the gemstones from Izmir are not included in the summary account.
See, e.g., a scaraboid with a youth with a lyre, and a scarab, where a lion attacks a bull (6th-early 5th centuries B.C.; Boardman 1968, p. 99, n. 278, plate XIX, p. 127, n. 398).
A cornelian intaglio, in a modern metal setting, with the standing winged Hygiea holding a serpent above a dish, dated to 1st century B.C. Charles Drury Edward Fortnum purchased it in Izmir and donated it to the Ashmolean Museum (1897). Fortnum, collector of considerable private means and a scholar, presented the Ashmolean with a total of 828 rings, ranging from ancient Greek to modern times (Henig, MacGregor 2004, pp. 10-11, p. 46, 2.46).
Among the magical gems used by Christians, a piece from Izmir, but acquired in Ainos (Trace), formerly in the Briot collection, now in Paris (Bibliothèque Nationale), that preserves a lengthy formula with Gnostic elements, about the god who rules everything from the middle of the heavens, along with busts of Helios and Selene and stars (Spier 2007, p. 83; Mastrocinque 2014, p. 149, n. 396). The other is a cornelian: on the side A, a Greek inscription in ten lines, on the side B, five lines of Hebrew written in concentric circles; once in Josef Keil collection, at Vienna, was purchased in Izmir and said to be from Ephesos (Spier 2007, p. 164, n. 961, plate 123).

[36] An extensive analysis of Worsley's tours, antiquarian studies, and collections, in Tassinari 2015, pp. 114-122; Tassinari 2022, pp. 133-145, figg. 33-49; Tassinari in press.

[37] Smith 1897.

[38] Museum Worsleyanum 1824, vol. I, p. 117, plate without n.; Smith 1897, p. 48, n. 86; Tassinari in press, fig. 10.

plane-trees, which were cut down in the war with Sylla»[39] **(fig. 2)**.

It was found near Izmir and was previously kept in the Worsley's dactyliotheca, now Yarborough, also the onyx cameo with a Greek inscription: ΛΕΓΟΥCIN /ΑΘΕΛΟΥCIN /ΛΕΓΕΤΩCAN / ΟΥΜΕΛΙΜΟΙ (They say what they wish. Let them say. I care not)[40] **(fig. 3)**.

The manuscript of the diary describing the gems collected by Sir Worsley, during his journey in Egypt, the Near East and Greece (1785-1787), is a meaningful testimony[41]. But without any illustration, the problem arises to identify the extant specimens. While the cameo is missing from the gems listed by Worsley in his manuscript, the intaglio could perhaps be identified with a «small amethist of an oval form perforated» cited by the nobleman.

4.2 Samuel Savage Lewis

An eccentric and learned man, cleric, teacher, antiquary, Fellow and Librarian of Corpus Christi College in Cambridge, the Reverend Samuel Savage Lewis (1836–1891) amassed an antiquarian eclectic, relevant collection of antiquities, which he bequeathed to the College[42]. His interests were those of the traditional, searching for illustrations of classical myths and history.

As a result, his collection of miscellaneous objects ranges from vases to sculpture, to bronzes, from the prehistoric era to the Middle Ages, but above all Greek and Roman coins (nearly 7,000) and engraved gems (nearly 400). The Lewis collection is currently on display at the Fitzwilliam Museum, Cambridge, on long-term loan from Corpus Christi College.

Very often Lewis left the College – his home for many years – and went abroad, travelling to Italy, Greece, Türkiye, Russia, Algeria and Persia, visiting archaeological ruins and places, and regularly acquiring.

Enlighten on the means by which the enthusiastic Reverend formed his collection of gems and rings the following anecdotal pages, written by his famous wife Agnes Smith Lewis, in her husband's honour.

«A very curious habit was the loose way in which he carried his precious signet-gems […]. His pockets were full of them, and so were three caskets and a Wedgwood vase packed into a stout black bag […]. In passing through a Custom-house he would put on an old thick overcoat, which he kept only to lend to other people, and except on these occasions disdained to wear, and place the contents in its pockets. In warm weather a porter carried the overcoat, a casket sometimes appearing quite ready to drop out from an unbuttoned inner pocket»[43].

And «A letter, dated April 14th, 1884, from the Turkish Ministry of Foreign Affairs, shows that he had got into difficulties on landing at Constantinople, owing to the signet-gems which he carried in his pockets, and had to invoke he good offices of our Ambassador»[44].

Lewis bought his gems from a variety of sources: at auctions in London and Paris, from dealers, friends and colleagues, who lived or travelled abroad (such as Greville John Chester), during his frequent journeys, for example to Naples, Kerch, Constantinople and especially Izmir. None of them comes from a controlled archaeological excavation.

Charles William King, author of texts on engraved gems and owner of a collection, now at Metropolitan Museum of Art, had great influence on Lewis's collecting, and helped him constantly.

Lewis acquired gems more for their interesting themes, rather than their beauty as works of art. His collection contains Roman, Christian, Gnostic, Oriental intaglios and cameos; some are attributed from Renaissance to Neo-classical periods; others are of uncertain authenticity; still others are even forgeries; anyway the majority consist of intaglios of first / second century A.D.

J. Henry Middleton, Professor of Fine Art and Director of the Fitzwilliam Museum, catalogued the Lewis collection of gems and rings owned by Corpus Christi College (1892)[45]. But in Middleton's work, containing also an introductory essay on ancient gems, very few pieces are illustrated, none by photography. Therefore, the aim of Martin Henig's catalogue is to describe with images Lewis' extensive dactyliotheca[46].

The engraved gems bought in Izmir are exclusively intaglios; the dates of their acquisition, when are recorded: 1881, 1883, 1884, 1888, 1889, 1890, 1891.

These intaglios display a remarkable range of subjects, styles (frequently coarse workmanship), stones, as well as periods, from Roman to «recent», as Henig defines them; in some cases the antiquity may to be doubted, often the "mistakes", the "misunderstandings" are just perceptible.

The many gems are listed below, in a very synthetic way, to give an interesting and heterogenous overview.

Several types are popular, widespread in the Roman Imperial glyptics art, such as Apollo standing, leaning on a cippus, and holding a branch (fine green plasma; 1st century A.D.)[47]; Fortuna standing (yellow cornelian; 1st or 2nd century A.D.)[48]; a lion walking (citrine; 1st or 2nd century A.D.)[49]; Zeus Arotraios standing, holding a sceptre and a bunch of corn-ears and poppies, which he extends over an altar (chalcedony; 1st century A.D.?)[50]; the bust of Serapis with pantheistic attribute (cornelian; 2nd century A.D.)[51]; a shepherd seated on a rock, milking a goat, in front of him another goat and three kids (cornelian; 2nd century A.D.)[52]; Asklepius and Hygieia (red jasper; 2nd century A.D.)[53]; the two Ephesian Artemis already mentioned (sard, white jasper; 2nd century A.D.); the profile bust of a Roman lady (fine cornelian; 2nd century A.D.)[54]; Helios driving the solar quadriga (very large jellow mottled agate, mounted in a silver seal; 3rd century A.D.)[55]; "Hippalectryon", made of bearded head, the head and neck of a horse, a ram's head and two bird-legs (cornelian; 2nd century A.D.)[56]; Chnoubis as a snake, in reverse ABPACAΞ (chalcedony; 3rd century A.D.)[57].

[39] Museum Worsleyanum 1824, p. 117.
[40] Museum Worsleyanum 1824, vol. I, p. 142, plate without n.; Smith 1897, pp. 43-44, n. 54; Tassinari in press, fig. 9.
[41] A detailed analysis of this manuscript of Worsley's travel in Tassinari in press.
[42] On the figure of Lewis, and his collections, in particular of gems, see Smith Lewis 1892; Middleton 1892; Henig 1975; Scarisbrick 1994; Spier, Vassilika 1995, p. XX.
[43] Smith Lewis 1892, pp. 25-26. Furthermore, see Henig 1975, p. 2, note 5; Spier, Vassilika 1995, p. 86.
[44] Smith Lewis 1892, p. 96.
[45] Middleton 1892.
[46] Henig 1975.
[47] Middleton 1892, p. 67, n. 92; Henig 1975, p. 16, n. 16, plate 1.
[48] Middleton 1892, p. 60, n. 32; Henig 1975, p. 32, n. 103, plate 7.
[49] Middleton 1892, p. 73, n. 144; Henig 1975, p. 54, n. 217, plate 13.
[50] Middleton 1892, p. 49, n. 21; Henig 1975, pp. 13-14, n. 5, plate 1.
[51] Middleton 1892, p. 75, n. 173; Henig 1975, p. 35, n. 121, plate 8; Veymiers 2009, p. 364, VI.EAE 5, plate 69.
[52] Middleton 1892, p. 69, n. 104; Henig 1975, p. 51, n. 200, plate 12.
[53] Middleton 1892, p. 64, n. 64; Henig 1975, p. 28, n. 80, plate 5.
[54] Middleton 1892, p. 65, n. 78; Henig 1975, p. 42, n. 157, plate 10.
[55] Middleton 1892, p. 61, n. 37; Henig 1975, p. 16, n. 19, plate 2.
[56] Middleton 1892, p. 82, n. 29; Henig 1975, p. 40, n. 145, plate 9.
[57] Middleton 1892, p. 77, n. 8; Henig 1975, p. 61, n. 257, plate 15.

Figure 4.
a. Isis Pelagia standing and holding (?) a sail in one hand and a sistrum in the other, turning to face the Pharos of Alexandria. Cornelian intaglio. Cambridge, the Fitzwilliam Museum. Photograph © The Fitzwilliam Museum, University of Cambridge.
b. Isis Pelagia standing and holding (?) a sail in one hand and a sistrum in the other, turning to face the Pharos of Alexandria. Cornelian intaglio. Cast. Cambridge, the Fitzwilliam Museum. Photograph © The Fitzwilliam Museum, University of Cambridge.

Figure 5.
***a**. Lion with a bull's head at his feet and on his back a Nike holding palm and wreath, in the exergue the letters C-FI. Yellow jasper intaglio. Cambridge, the Fitzwilliam Museum. Photograph © The Fitzwilliam Museum, University of Cambridge.*
***b**. Lion with a bull's head at his feet and on his back a Nike holding palm and wreath, in the exergue the letters C-FI. Yellow jasper intaglio. Cast. Cambridge, the Fitzwilliam Museum. Photograph © The Fitzwilliam Museum, University of Cambridge.*

Conversely, other representations are less common or less familiar: a Dionysian worshipper who supports an amphora on a rock (green plasma; 1st century B.C.)[58]; Nike holding a palm branch and a wreath, standing on the prow of a ship, behind which a dolphin (sard; 1st century B.C.)[59]; a nude male figure seated facing a trophy set up by Nike, in the field ΚΑΛΙCΤΟΥ, probably the owner's name (cornelian; 1st century B.C.)[60]; a seated Sphinx with a caduceus (chalcedony; 1st century B.C. or 1st century A.D.)[61]; draped bust of Emperor Hadrian in profile, a tiny Nike flies towards him to crown him with a wreath (very fine cornelian; 2nd century A.D.)[62]; Isis Pelagia standing and holding (?) a sail in one hand and a sistrum in the other, turning to face the Pharos of Alexandria (cornelian; 2nd century A.D.?)[63] **(fig. 4)**; a group composed by Antioch, the river Orontes, Fortuna, a warrior holding a wreath (Ares / Roman Emperor) (red jasper; 2nd century A.D.)[64]; a lion with a bull's head at his feet and on his back a Nike holding palm and wreath, in the exergue the letters C-FI (yellow jasper; 2nd or 3rd century A.D.)[65] **(fig. 5)**; laureated bust of Emperor Caracalla, crowned by a Victory, in the field the letters H X (very fine cornelian; early 3rd century)[66]; the bust of Emperor Septimius Severus in profile, laureate, opposite the bust of his son Caracalla (red jasper; early 3rd century A.D.)[67]; Athena standing, armed with spear and shield, holding a patera on a lighted altar (plasma; obverse, 1st-2nd century A.D.) and a lion walking (reverse, perhaps 3rd century A.D.)[68]; a putto plucking fruit from a tree, below a Capricorn, on the other side of the tree a crater from which a goat and a ear of grain spring (cornelian; 2nd or 3rd century A.D.)[69]; Constantinople enthroned over a prow, a shield at her side, wearing a helmet, holding a spear and a Nike on a globe (cornelian; 4th century)[70].

The features of other motifs, although well attested in the antiquity, express an engraver who seems not classical; so that a post-ancient dating is suggested. They are: a bust of Athena/Roma and one of Herakles (both cornelian; recent?)[71]; Mars standing in front of a woodpecker upon an altar (red jasper; recent?)[72]; a beautiful bust of Apollo in profile with long curly hair and a laurel wreath, a laurel branch in the field (brown sard; recent)[73] **(fig. 6)**; Aeneas carrying his father Anchises on his shoulder and leading Ascanius by the hand (red jasper; recent)[74] **(fig. 7)**.

Figure 6.
***a**. Bust of Apollo in profile with a laurel wreath and long curly hair, a laurel branch in the field. Brown sard intaglio. Cambridge, the Fitzwilliam Museum. Photograph © The Fitzwilliam Museum, University of Cambridge.*
***b**. Bust of Apollo in profile with long curly hair and a laurel wreath, a laurel branch in the field. Brown sard intaglio. Cast. Cambridge, the Fitzwilliam Museum. Photograph © The Fitzwilliam Museum, University of Cambridge.*

[58] Middleton 1892, p. 68, n. 98; Henig 1975, pp. 24-25, n. 62, plate 4.
[59] Middleton 1892, pp. 61-62, n. 46; Henig 1975, p. 29, n. 87, plate 6.
[60] Middleton 1892, pp. 68-69, n. 101; Henig 1975, p. 50, n. 196, plate 12.
[61] Middleton 1892, p. 52, n. 46; Henig 1975, p. 45, n. 171, plate 11.
[62] Middleton 1892, p. 66, n. 80; Henig 1975, p. 42, n. 156, plate 10.
[63] Middleton 1892, p. 75, n. 176; Henig 1975, p. 34, n. 113, plate 7.
[64] Middleton 1892, p. 70, n. 110; Henig 1975, p. 36, n. 128, plate 8.
[65] Middleton 1892, p. 73, n. 145; Henig 1975, p. 30, n. 93, plate 6.
[66] Middleton 1892, p. 66, n. 81; Henig 1975, p. 42, n. 158, plate 10.
[67] Middleton 1892, p. 66, n. 82; Henig 1975, pp. 42-43, n. 159, plate 10.
[68] Middleton 1892, p. 63, n. 54; Henig 1975, p. 18, n. 28, plate 2.
[69] Middleton 1892, p. 70, n. 117; Henig 1975, p. 56, n. 231, plate 14.
[70] Middleton 1892, p. 63, n. 55; Henig 1975, p. 29, n. 85, Spier 2007, p. 21, n. 32, plate 6, where full bibliography.
[71] Middleton 1892, p. 62, n. 49, p. 65, n. 74; Henig 1975, p. 75, n. 343, p. 76, n. 346, plate 20.
[72] Middleton 1892, p. 91, n. 32; Henig 1975, p. 75, n. 342, plate 20.
[73] Middleton 1892, p. 64, n. 68; Henig 1975, p. 74, n. 336, plate 20.
[74] Middleton 1892, p. 90, n. 19; Henig 1975, p. 77, n. 353, plate 21.

Figure 7.
***a**. Aeneas carrying his father Anchises on his shoulder and leading Ascanius by the hand. Red jasper intaglio. Cambridge, the Fitzwilliam Museum. Photograph © The Fitzwilliam Museum, University of Cambridge.*
***b**. Aeneas carrying his father Anchises on his shoulder and leading Ascanius by the hand. Red jasper intaglio. Cast. Cambridge, the Fitzwilliam Museum. Photograph © The Fitzwilliam Museum, University of Cambridge.*

4.3 Greville John Chester

One of the most prominent, assiduous and original of the donors scholarly alumni of the Oxford University, was the Reverend Greville John Chester (1830 -1892), tireless clergyman, vigorous advocate of reforms against injustice and abuse, teacher, author of a book, scholarly articles, verses, pamphlets and sermons, notable collector and student of natural science, local history and archaeology[75].

Indefatigable explorer of unknown regions, and sunny climates, he spent two years on a journey to the West Indies and the Americas; he very frequently visited Italy, North Africa, Egypt and the Levant, particularly Syria and Palestine. Thanks to these travels and a network of trusted dealers, Chester acquired thousands of artefacts on behalf of the British Museum, the Ashmolean Museum, the Fitzwilliam Museum and the Victoria & Albert Museum.

He also sold objects to collectors (for instance to the ninth Earl of Southesk; see next paragraph), in order to finance further journeys and acquisitions.

But his attachment to his old university led him to become a prodigious donor to Oxford University. A stream of gifts flowed to the Bodleian Library, the Oxford Colleges, and the Ashmolean Museum: precious manuscripts, large packets of coins, included rarities, thousands of Egyptian, Near Eastern, Greek and Roman antiquities.

Engraved gems were among Chester's favourites small objects; although he too was taken in by fakes, he had practised eye and wonderful discernment. He bequeathed a largest number of Greek, Hellenistic, Roman scaraboids, gems and pastes to the Ashmolean Museum[76].

All were acquired by Chester in Izmir, and presented by him to the Ashmolean Museum (1888; 1892): a green serpentine scaraboid, with a sow (early 5th century B.C.)[77]; a rock crystal scaraboid, with a heron preening (last quarter of the 5th century B.C.)[78]; a silver ring with a seated figure raising an arm over his head (4th century B.C.)[79]; a bronze ring with Herakles standing, resting on his club, holding out his bow (mid-4th century B.C.)[80]; a bronze ring with a dancing figure, apparently playing a lyre (4th century B.C.)[81]; a bronze ring with a woman standing, leaning her elbow on a pillar, a bird on her hand, a sceptre in the other (second half of 4th century B.C.)[82]; a bronze ring with the bust of a young woman, perhaps a queen (probably last quarter of 3rd century B.C.)[83]; a glass cameo with the bust of Eros in profile (1st century B.C.)[84]; a chalcedony intaglio, set in a gold ring, engraved with the busts of a man and a woman, facing each other, a star and the inscription ΘΕΟ / ΔΟΤΟ in the field (3rd-early 4th century A.D.)[85].

Chester bought in Ephesus and then donated to the Ashmolean (1892) a copper alloy finger ring with a rectangular bezel engraved with a warrior looking to the right, holding a spear in his hand and a shield in the other, above a star (3rd century AD)[86].

Gems and rings in the collection housed in the British Museum are associated with Chester name, who purchased them in Izmir (1874, 1888, 1889), and sometimes are bequeathed by Sir Augustus

[75] Seidmann 2006. Furthermore, see Boardman, Vollenweider 1978; Henig, Macgregor 2004.
[76] Boardman, Vollenweider 1978, pp. 116-117, *ad vocem*; Henig, MacGregor 2004, p. 13, *ad vocem*.
[77] Boardman, Vollenweider 1978, p. 17, n. 82, plate XV.
[78] Boardman, Vollenweider 1978, pp. 24-25, n. 106, plate XIX.
[79] Boardman, Vollenweider 1978, p. 35, n. 151, plate XXVIII.
[80] Boardman, Vollenweider 1978, p. 36, n. 157, plate XXIX.
[81] Boardman, Vollenweider 1978, p. 37, n. 161, plate XXX.
[82] Boardman, Vollenweider 1978, p. 37, n. 164, plate XXX.
[83] Boardman, Vollenweider 1978, pp. 81-82, n. 289, plate XLVII.
[84] Henig, MacGregor 2004, p. 50, 3.26.
[85] Henig, MacGregor 2004, p. 72, 5.59.
[86] Henig, MacGregor 2004, p. 80, 7.32.

Wollaston Franks. These are: a strongly convex dark red paste set in a bronze ring with a draped female figure leaning her arm on a column and holding palm branches in hand (Hellenistic)[87] **(fig. 8a-b)**; the aforementioned onyx intaglio with Ephesian Artemis; a rock crystal intaglio with a cornucopia and the letter E (Graeco-Roman)[88] **(fig. 9)**; a chalcedony ring with plain hoop and flattened bezel (Roman)[89] **(fig. 10a-b)**; an Ottoman copper alloy ring with a lenticular bezel engraved with Arabic inscription (14th century A.D.)[90] **(fig. 11)**.

A tangible proof of cosmopolitan Izmir's market, the widespread circulation and trade: a late Byzantine (13th century A.D.) cameo in opaque red glass, with the figure of St. Christopher and the Latin inscription S. CRISTOFOR(i), made in Venice, but acquired by Chester in Izmir[91] **(fig. 12)**.

Figure 8. a, b Female figure leaning her arm on a column and holding palm branches in hand. Dark red glass intaglio set in a bronze ring. London, British Museum. © The Trustees of the British Museum. Photograph by A. Masson-Berghoff.

Figure 9. A cornucopia and the letter E. Rock crystal intaglio. London, British Museum. © The Trustees of the British Museum. Photograph by A. Masson-Berghoff.

Figure 10. a, b Chalcedony ring with plain hoop and flattened bezel. London, British Museum. © The Trustees of the British Museum. Photograph by A. Masson-Berghoff.

[87] Marshall 1907, p. 202, n. 1287; Walters 1926, p. 140, n. 1235.
[88] Walters 1926, p. 257, n. 2618, plate XXIX.
[89] Marshall 1907, p. 234, n. 1603.
[90] Dalton 1912, p. 327, n. 2351.
[91] Wentzel 1959.

Figure 11. Arabic inscription. Copper alloy ring. London, British Museum. © The Trustees of the British Museum.

Figure 12. St. Christopher and the Latin inscription S. CRISTOFOR(i). Red glass cameo. London, British Museum. © The Trustees of the British Museum.

4.4 James Carnegie, ninth Earl of Southesk

Scottish writer, poet and explorer, member of the Royal Geographical Society and the Society of Antiquaries of Scotland, James Carnegie, ninth Earl of Southesk (Edinburgh, November 16, 1827 - Kinnaird Castle, Brechin in Angus, February 21, 1905)[92], practically rebuilt Kinnaird Castle, the family residence, where he collected old pictures, books and gems, with cultivated taste and thoroughness. He began his conspicuous dactyliotheca in 1878, apart from a few pieces acquired earlier[93]. A considerable proportion of it come from collections sold at public auction, in London and in Paris; others gems are obtained by private purchase from well-know collectors or derive directly from the East, Costantinople, Bagdad and Athens.

The catalogue of this collection, edited by his daughter, Lady Helena Carnegie, displays a wide range of themes and stones: scarabs, scaraboids, intaglios and cameos, Mesopotamian, Egyptian, Phoenician, Persian, Greek, Etruscan, Roman, Gnostic, post-classical. Four of them pertain to Izmir.

Only one is now in a large private dactyliotheca, created from 1921 through the 1960s from various sources, including many examples of previous collections that had come on to the market, such as the Southesk[94]. It is a cornelian intaglio in a gold ring with a Niobid supporting the body of her brother dying, who holds a downturned torch, symbol of death. This piece, dated to second/first century B.C., belonged to professor Rhousopoulos in Athens, who informed the Earl of Southesk that it came from Izmir[95].

A intricate image is depicted on a haematite intaglio, engraved in both fields, heavily corroded, mounted in a gold swivel: a Genius winged, with legs in the shape of lion-headed serpents, a draped male figure with wings and a scepter in each hand, a seated ibis, a naked man riding on lion, a recumbent corpse, Isis standing, an Abraxas deity, Greek letters scattered. This intaglio was bought from Stilianopoulos, at Izmir, in 1882[96].

The other two pieces belonged to the small collection of Van Loo, in Izmir, which was forwarded to Carnegie, for his inspection and acquired by the nobleman in 1900.

The first is a octagonal conoid seal in a pretty sapphirine chalcedony, set in a silver mount (Persian?), with a winged gryphon walking towards a fir branch planted[97]. The second is a black jasper scaraboid, with a kneeling bull (6th-early 5th century B.C.)[98].

4.5 Augustus Wollaston Franks

A crucial figure in determining the whole shape of the British Museum, playing a central role in the establishment of today impressive British Museum's collections, is Sir Augustus Wollaston Franks (Geneva, March 20, 1826-London, May 21, 1897)[99]. Born into a wealthy, privileged family, heir to a long line of collectors, attending Eton and Cambridge, where he graduated, Franks was a scholar, curator, advisor, an insatiable collector, donor and lender.

Franks's long career at the British Museum began in 1851 with his appointment as an assistant in the Department of Antiquities. He went on to serve as the first Keeper of the Department of British and Medieval Antiquities and Ethnography in the British Museum (1866-1896). His whole time, energies, and ample means were entirely devoted to the development, enrichment, and rise in status of the collections under his care. His scientific, taxonomic and systematic approach to the the strategy of acquiring and arranging the ob-

[92] Fryer 1912.
[93] Carnegie 1908, p. VII.
[94] Wagner, Boardman 2003, p. 1.
[95] Carnegie 1908, pp. 72-73, E 29, plate V; Wagner, Boardman 2003, p. 29, n. 187, plate 33.
[96] Carnegie 1908, pp. 175-176, N 55.
[97] Carnegie 1908, p. 213, O 33, plate XVII.
[98] Carnegie 1908, p. 214, O 34, plate XVII; Boardman 1968, p. 144, n. 482, plate XXXIII.
[99] On Franks' biography, his role within the broader institutional history of the British Museum and his contribution to the British Museum collections, Read 1901; Wilson 1984; Caygill, Cherry 1997; Coolidge Rousmaniere 2008; Wilson 2014; Donnelly 2018.

jects, his understanding of the social and intellectual function of the Museum, marked a new era of specialized curatorship.

The personal and professional networks Franks developed with art dealers, private collectors and museum colleagues in Britain and on the Continent, his unrivalled insight into the circulation of art objects on the market, his wide ranging knowledge, his determination to obtain targeted and specific specimens, his ability, enabled him to locate the most valuable acquisitions early, to examine carefully before, commissioning the dealer to bid on lots at the auction on the Museum's behalf, using both Museum funds and his own money to acquire the objects.

Figure 13. a, b Dionysos leaning against a column, a crescent of gold and another of silver on each side. London, British Museum. © The Trustees of the British Museum. Photograph by A. Masson-Berghoff.

Figure 14. a, b Portrait head of a Ptolemaic queen. Cameo in a gold-plated bronze ring. London, British Museum. © The Trustees of the British Museum. Photograph by A. Masson-Berghoff.

He was well established within the archaeological and antiquarian community, member of the Cambridge Architectural Society, the Cambridge Antiquarian Society, the Cambridge Camden Society, the Society of Antiquaries (he also occupied the responsible post of director), the Archaeological Institute, where he arranged the collections and organised events, Fellow of The Royal Academy, honorary member of the principal foreign learned societies. His services to the British Museum were recognized by the award of a Knight Commander of the Bath.

Franks's chief publications are the catalogues of the Museum's collections, particularly on porcelain, and contributions to *Archaeologia* and *Proceedings*.

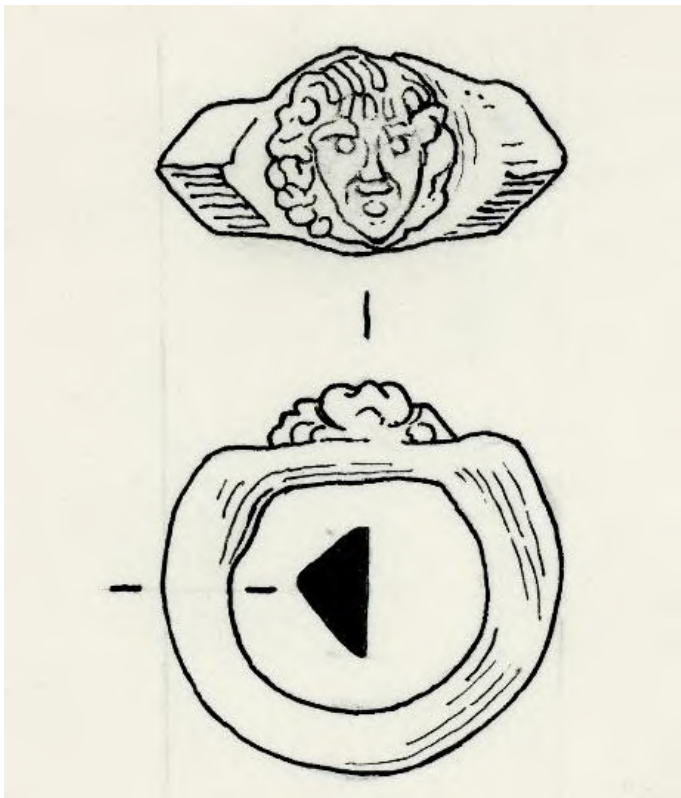

Fig 15. a Mask of Medusa. Glass cameo in dark green glass ring. London, British Museum. © The Trustees of the British Museum. Drawing by Marion Cox or Susan Bird.

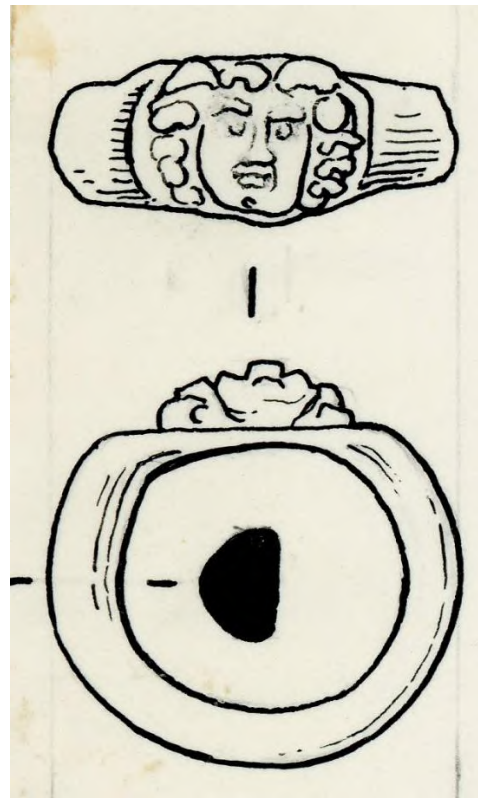

Figure 16. a Mask of Medusa. Glass cameo in dark green glass ring. London, British Museum. © The Trustees of the British Museum. Drawing by Marion Cox or Susan Bird.

Figure 15. b–c Mask of Medusa. Glass cameo in dark green glass ring. London, British Museum. © The Trustees of the British Museum. Photograph by A. Masson-Berghoff.

Figure 16. b–c Mask of Medusa. Glass cameo in dark green glass ring. London, British Museum. © The Trustees of the British Museum. Photograph by A. Masson-Berghoff.

Figure 17. a. b Female head. Sard intaglio in a gold ring. London, British Museum. © The Trustees of the British Museum. Photograph by A. Masson-Berghoff.

He became a leading authority, as well known abroad as at home, with a sphere of influence and a significant impact that facilitated the propagation of modern curatorial practice.

It is due to Franks's powers of persuasion, the charm of his personality, his success in attracting private donations and gifts, that many antiquarians, private collectors, connoisseurs and friends bequeathed their collections to the British Museum. And to the the same Museum passed, with Franks's will, the whole of his immense and miscellaneous collections (1897).

His extraordinary legacy also includes jewellery, finger rings, engraved stones.

The purpose of this article, the main subject – the gems / pastes – and the space limited do not allow to be exhaustive and to provide a complete illustration of the admirable body of precious material of Frank bequest that have a Izmir provenance. However on a very simplistic level the list that can be drawn up from largely published jewelry offers an illuminating indication of the great and varied range, embracing all the periods, materials, qualities.

Thereafter, it suffices to note: are purchased from Izmir, Archaic, Roman, early Christian, Byzantine, Mediaeval and Modern rings, in silver, bronze, and iron, ending with snakes'heads, or with a bezel engraved with an inscription, a name, some characters, a cruciform monogram, or with the bust of a saint, standing figures in the attitude of praying, with male and female heads confronted, or other devices such as a palm tree between two birds, a lion with letters, a bird and three branches, a double-headed eagle, a small heart-shaped figure surrounded by scrolls[100]. A fine gold ring shows a pierced hoop of three horizontal bands ornamented, enclosing four open-work medallions each containing a cross[101], while a complicated gold ring (5th century (?) A.D.), made of seven oval medallions, is engraved with standing similar figures, and the applied oval bezel with Our Lord (?) seated, with his hand raised in the attitude of benediction[102]. In another very beautiful gold ring the hoop is granulated and set with eleven rubies; the rectangular bezel is ornamented on the sides and contains a dark green stone (16th century)[103].

Figure 18. a, b Fortuna with cornucopia and steering oar. Sardonyx intaglio in a gold ring. London, British Museum. © The Trustees of the British Museum. Photograph by A. Masson-Berghoff.

Acquired in Izmir, bequeathed by Frank is the considerable amount of gold, bronze, iron, and glass rings in which is inserted an intaglio, a cameo, a paste; or with the bezel ornamented with engraved design.

An iron ring bezel with engraved Dionysos leaning against a column, a crescent of gold and another of silver on each side (4th cen-

[100] Marshall 1907, pp. 164-165, nn. 1023-1024, plate XXVI, p. 226, n. 1479, plate XXXIII; Dalton 1912, pp. 13-14, 20, 23, nn. 70, 74, 78, 81, 123, 126, 141-142, 145, p. 102, n. 669, pp. 325, 327, nn. 2341, 2354.

[101] Dalton 1912, p. 22, n. 132.
[102] Dalton 1912, p. 19, n. 112.
[103] Dalton 1912, p. 269, n. 1905.

tury B.C. circa)[104] **(fig. 13a-b)**; a gold-plated bronze ring with a cameo depicting a portrait head of a Ptolemaic queen (2rd century B.C. circa)[105] **(fig. 14a-b)**; two dark green glass rings with mask of Medusa in relief in opaque glass (late Greek)[106] **(figg. 15a-c, 16a-c)**; a sard intaglio, cut into the exact shape of the design, with a female head wearing wreath, inserted in a gold ring (Graeco-Roman)[107] (**fig. 17a-b**); a sardonyx intaglio in the shape of a truncated cone, set in a gold ring, shows Fortuna with cornucopia and steering oar (3rd century A.D.)[108] **(fig. 18a-b)**; a bronze gilded ring, where is inset a round shell cameo, with the letter K within a circular border (3rd century A.D.)[109] **(fig. 19a-b)**; an antique carbuncle intaglio with a Medusa head, mounted in a silver gilt ring dated 18th century A.D.[110].

Stand out for their superlative quality two gold rings. The first is a massive ring that bears a chased frontal head of Medusa, with protruding tongue, and below a dolphin (350-330 B.C.)[111] (**fig. 20**). On the bezel of the other ring is engraved a woman, in chiton and himation, standing before an altar upon which is an eagle; she is about to place an offering, taken from a casket. Ascribed 350 B.C. circa, excavated at Phocaea, it was purchased by Franks from Alfred John Lawson (1893) at Izmir (**fig. 21a-c**)[112].

4.6 Edward Perry Warren

Born into a wealthy family, Edward Perry Warren (Waltham, Massachusetts, January 8, 1860-London, December 28, 1928)[113], graduated from Harvard, moved to Oxford, where he met John Marshall (1862-1928), archaeologist, finest authority on Greek and Roman antiquities, with whom he formed a close and lifelong relationship and lived together at Lewes House, a large residence in Sussex.

Several studies demonstrate that Warren influenced the rise of art history and archaeology in academic institutions in the United States and the development of public collections of Greek and Roman art. Moreover in partnership with Marshall they purchased and secured for American collections classical antiquities that have been pivotal in developing the American scholarship. Warren himself was an indefatigable collector, acquiring thousands of antiquities, many of which he donated or sold especially to the Museum of Fine Arts in Boston.

His homosexuality impacted his tastes: he was a "pioneer" in collecting items, with explicit depiction of erotic scenes. Thus, he published works proposing an idealized view of same-sex relationships, similar to those in classical Greece.

So far as concerns intaglios and cameos, Warren was a connoisseur; for instance, he proposed to the Boston Museum to buy the celebrated Malborough gems. High is the standard Warren set himself broughting together his museum, chiefly during the years 1895 to 1904. He purchased engraved gems from every source: distinguished antiquarian dealers, at italian classical sites, in Paris, in Italy, in Greece, and also in Izmir. He bought many gems of the cabinet auctioned and dispersed of one of the outstanding experts on intaglios and cameos: the Polish Count Michael Tyszkiewicz (1828-1897)[114].

Figure 19. a. b Letter K within a circular border. Shell cameo in a bronze gilded ring. London, British Museum. © The Trustees of the British Museum. Photograph by A. Masson-Berghoff.

[104] Marshall 1907, p. 223, n. 1457.
[105] Marshall 1907, p. 201, n. 1275, plate XXXI.
[106] Marshall 1907, p. 231, nn. 1573-1574, plate XXXIV; Walters 1926, p. 365, nn. 3907-3908.
[107] Marshall 1907, p. 75, n. 422, plate XIII; Walters 1926, p. 234, n. 2291, fig. 62.
[108] Marshall 1907, p. 87, n. 507, plate XIV; Walters 1926, p. 187, n. 1741.
[109] Marshall 1907, p. 215, n. 1399, plate XXXII; Walters 1926, p. 350, n. 3717.
[110] Dalton 1912, p. 100, n. 658.
[111] Marshall 1907, p. 19, n. 94, plate IV; Williams and Ogden 1994, p. 105, n. 59, where other bibliographic references.
[112] Marshall 1907, p. 13, n. 59, plate II; Williams, Ogden 1994, p. 105, n. 58, where other bibliographic references.
[113] For a portrayal of Warren (context, biography, family, his circle, many works, collections), see Sox 1991; Boardman 1999; Vermeule 2002; Sox 2005; Murley 2012; Warren 2013. In particular on the collection of engraved gems: Caskey 1928; Beazley 1920; Boardman 1999; Beazley 2002; Murley 2012, pp. 261-271, pp. 506-513, 518, fig. 108-115, 120.
[114] See Kazimierczak 2004; Kazimierczak 2007; Kazimierczak 2018 (essential bibliography).

Figure 20. Head of Medusa, with below a dolphin. Gold ring. London, British Museum. © The Trustees of the British Museum.

Amateur Egyptologist, he largely promoted the development of archaeology and ancient art history; he collected antiquities, many of great scientific interest, ranked among the most valuable European ones, now kept in European and American museums. Tyszkiewicz developed his impressive network of contacts with dealers, antiquarians and collectors during his travels and having settling in Naples and Rome, where he conducted archaeological excavations. His admired dactyliotheca included examples of Hittite seals, Etruscan, Greek and Roman scarabs, intaglios and cameos.
Warren stored his engraved gems in his property (Lewes House); afterwards he offered them to the Museum of Fine Arts in Boston, to keep them together and in familiar area; the Museum acquired them from the income of the Francis Bartlett Donation of 1912: the total number is one hundred and ninety-seven pieces, including thirty added by Warren as gifts.

Before going to Boston the gems were catalogued by John Davidson Beazley[115] – a frequent visitor to Lewes House and one of the influential scholars who were part of Warren's circle of men interested in art and antiquities – who described and illustrated one hundred and thirty-five pieces. But after that year the collection has been enriched by a number of fine intaglios.

Warren's dactyliotheca includes Cretan, Mycenaean, Mesopotamian, Persian seals, Etruscan scarabs, Greek, Hellenistic and Roman intaglios, very few cameos, and post-classical intaglios. Many of these gems have long been known to specialists – some are illustrated in Furtwängler's great work, *Die Antiken Gemmen* –, some are famous masterpieces, such as a garnet with a very deep representation of the dog Sirius frontal head, by the artist Gaios, passed to the cabinet of Lord Chesterfield, to Bessborough, and thence to the Duke of Marlborough[116].

Figs 21. a–b. Woman standing and holding a small seed or piece of incense on an altar, upon which is an eagle. Gold ring. London, British Museum. © The Trustees of the British Museum

[115] Beazley 1920; Beazley 2002. See also Boardman 1999.

[116] Beazley 1920, pp. 95-96, n. 114, plate 5; Beazley 2002, p. 71, n. 114, plate 23.

Figure 21. c Woman standing and holding a small seed or piece of incense on an altar, upon which is an eagle. Gold ring. Cast. London, British Museum. © The Trustees of the British Museum.

According to Warren's records, all bought in Izmir (December 1901, only one March 1903) and now in the Museum of Fine Arts in Boston, are intaglios dated to Achaemenid, Greek, Hellenistic, Roman Imperial, and probably modern periods.

Two pyramidal seals in chalcedony date from the Achaemenid period: one with a female figure holding a flower in her hand and facing a male figure, whose arms are outstretched towards her; the other with a hunting scene[117]. Notable is an intaglio in red jasper (early to mid 1st century B.C.) with the head of Tigranes II of Armenia, the Great, who wears the Armenian tiara[118]. An intaglio in banded agate with a naked warrior standing with his leg on a rock has been dated to the 3rd century B.C. (although this is doubtful in my opinion)[119]. A red jasper intaglio (1st century A.D.), set in a beautiful massive gold ring, shows Asklepius standing frontally and looking to the right; his chest is bare and his lower body is wrapped in a *himation*; he holds a staff around which a snake is coiled[120] **(fig. 22)**. A magical intaglio in rock crystal, inscribed in Greek on the reverse, depicts a male solar deity with a human body and a lion's head, holding a globe and a whip (mid 2nd-3rd century A.D.)[121]. I think that the beautiful intaglio in black jasper, dated late Republican or early Imperial or Modern (?) period, belongs to 19th century; it depicts the bust of Artemis, with a mass of curls also at the back of her head, a thin fillet, and a small crescent moon atop head; behind her shoulder a quiver with three arrows; in front a bow[122] **(fig. 23)**.

[117] Accession Number 01.7602; Accession Number 03.1012.
[118] Accession Number 01.7595.
[119] Accession Number 01.7541.
[120] Accession Number 01.7599.
[121] Accession Number 01.7556.
[122] Accession Number 01.7575.

4.7 Alfred John Lawson

A British employee of the Imperial Ottoman Bank, a numismatist active in Izmir, and a member of the Royal Numismatic Society, was Alfred John Lawson (1838-1921)[123]. He sold Greek and Roman coins to the British Museum, a number of Izmir terracottas to the Louvre, and contributed a few Classical terracottas from Myrina to the exhibition of Greek ceramic art held in London. The French archaeologist and numismatist Arthur Engel, who published a catalogue of some Greek coins owned by Lawson, noted that the Lawson *médaillier* was the finest and most interesting of the private collections in Izmir.

Deserve to be noted the two pieces purchased by the British Museum from Lawson. One is the already mentioned wonderful golden ring, unearthed in Phocaea, with a woman standing before an altar (**fig. 21a-c**). The other, in green jasper, is very interesting, although the workmanship is crude: a Byzantine cameo (12th century A.D.), pierced with two holes at top, with the Virgin standing, holding the child in her arm and a few Greek letters in the field[124] **(fig. 24)**.

Purchased by Richard Norton from Lawson (February 9, 1909) are two carnelian intaglios, dated to 1st century B.C., in the Museum of Fine Arts. In the first, set in a modern ring, the bust of a youth (Herakles?), facing left, with short curly hair; it shows a high degree of both modeling and the details[125] **(fig. 25)**. In the other there is the top of a bearded herm, in profile[126].

Figure 22. Asklepius standing, wrapped in a himation, holding a staff around which a snake is coiled. Red jasper intaglio in a gold ring. Boston, Museum of Fine Arts. Photograph © Museum of Fine Arts, Boston.

[123] See Engel 1884, pp. 22-35; Spier, Vassilika 1995, p. 89; Rous, Laugier, Martinez 2009, p. 231, *ad vocem*; Merrillees 2017, pp. 139-140.
[124] Dalton 1915, p. 3, n. 13.
[125] Accession Number 09.67.
[126] Accession Number 09.68.

Figure 23. Bust of Artemis with a small crescent moon atop head, a quiver behind her shoulder and a bow in front. Black jasper intaglio. Boston, Museum of Fine Arts. Photograph © Museum of Fine Arts, Boston.

4.8 Other gems from Izmir in the Museum of Fine Arts at Boston

The collections of the Museum of Fine Arts contain further objects which, according to archival card, are said to be from the Izmir art market.

A meaningful testimony of the circulation of gems, beyond the original findspot and a appreciated gift is a gold bracelet with an engraved gem in rock crystal depicting a female head wearing a necklace and earrings, dated to the late 4th-3rd century B.C.[127]. This jewel was found near Izmir (his hometown) by Telemachus Thomas Timayenis (1853-1918), a Greek-American professor, novelist, and playwright. He was a professor of classical Greek at the New York Hellenic Institute and the Chautauqua School of Languages; he was also the director of the New York School of Languages. Timayenis published and edited a monthly Greek-American newspaper, *The Eastern and Western Review*[128]. So Timayenis sold the jewel to «a class of young ladies», who gave it to the MFA through Miss Bessie Andrew Talbot, on June 24, 1887.

Burton Yost Berry (1901 - 1985)[129] was an American diplomat and collector of art, coins, gems, and jewelry. In his political career, Berry served as Consul to Istanbul, Athens, Bucharest, as Ambassador to Iraq, as Director of the State Department's Office of African, South Asian and Near East Affairs. Many of the coins were donated to the American Numismatic Society, while gems and jewelry to the Indiana University Art Museum, at Bloomington. Berry published also a catalogue of his collection of gems[130]. His gift to the Museum (October 15, 1969): a scaraboid, pierced vertically, in golden brown agate with white bands, where a nude man walks with a stick, gesturing towards a seated dog in front; a crescent in the field (2nd-1st century B.C.)[131].

Two intaglios have been purchased (October 17, 1963) by the Museum from Euripides Sepheriades, a coin collector active in Athens in the 1950s and 60s[132]. The first is a scarab intaglio – East Greek, about 500 B.C. – in orange carnelian with stripes (red, brown, and gray), pierced horizontally: a goat is milked by a seated figure, a shepherd or a satyr[133]. The other is an intaglio in green jasper where Mars stands in battle dress, with helmet, cuirass, shield and spear (1st-2nd century A.D.)[134].

5. A fruitful gift

A very well-known episode offers a clear indication of both the potential of the Izmir glyptic market and the opportunity to acquire gems from the neighbouring sites. The influential Venetian politician and collector Girolamo Zulian (1730-1795), from a noble family, patron of artists, great friend and protector of Antonio Canova, ambassador in Rome, keen on antiquities and artworks, put together a valuable museum[135].

Figure 24. Virgin standing and holding the child in arm, some letters in the field. Cameo in green jasper. London, British Museum. © The Trustees of the British Museum.

[127] Accession Number 87.60.
[128] http://www.geniimagazine.com> T.T. Timayenis.
[129] Berry, Burton Y. - ARCHER American Numismatic Society, http://numismatics.org *› authority.*
[130] Berry 1968.
[131] Accession Number 69.1208.
[132] Sepheriades, Euripides S. - ARCHER American Numismatic Society, http://numismatics.org *› authority.*
[133] Accession Number 63.1520; Vermeule 1966, p. 19, n. 1.
[134] Accession Number 63.1522; Vermeule 1966, p. 27, n. 13.
[135] On Zulian and his collections, De Paoli 1998; Materassi 2006; De Paoli 2008.

Figure 25. Bust of a youth (Herakles?) with short curly hair. Carnelian intaglio. Boston, Museum of Fine Arts. Photograph © Museum of Fine Arts, Boston.

Figure 26. Raphael Morghen. Plate engraved for Osservazioni di Ennio Quirino Visconti sopra un antico cammeo rappresentante Giove Egioco. London, British Museum. © The Trustees of the British Museum.

During the years of his mandate in Constantinople (1783-1788), he received one of his most loved pieces: the cameo depicting the bust of Jupiter Egioco, nowadays preserved in the National Archaeological Museum of Venice[136]. It was Luca Drigon Cortazzi, Venetian consul in Izmir, who gave it to Zulian in the successful attempt to be reconfirmed in the office.

This sardonix cameo with several strata, whose dating ranges from Hellenistic to Hadrianic age, unearthed in Ephesus shortly before 1787, is a masterpiece, albeit fragmentary. Once come back to Venice, it was sent to Rome so that Canova could give his opinion on it.

Due to its special value, the cameo achieved instant fame and enjoyed great appreciation and popularity, as evidenced from the numerous post-classical versions and the dissertations, such as that of the scholar and book collector Emmanuele Antonio Cicogna[137]. Ennio Quirino Visconti wrote a brief essay about it, printed in 1793, with the etching by Raphael Morghen, and widespread **(fig. 26)**[138].

Zulian bequeathed his collection, including intaglios and cameos, to the city of Venice, to the public Museum of St. Mark's Library. The French commissioners, in charge of moving works of art from Venice to revolutionary France as war contributions, transferred the cameo to Paris (Cabinet des Antiques, Bibliothèque Nationale); in 1815 it returned again.

It is fitting to recall here to render the connoisseurial acumen of Zulian in glyptic world, and consequentially at which high level the gift of Cortazzi should be to obtain the achievement. Zulian commissioned a cameo to Giovanni Pichler, the most celebrated gem-engraver in the 18th century: although he really wanted to have it very much, he knew that the artist should not be urged. But then Zulian was very happy to change the Pichler cameo with another, because it seemed bad to him. Furthermore Zulian returned another gem engraved by Pichler, both because of the price too high to him, and because he considered it neither a beautiful antique, nor a beautiful modern piece[139].

Having gathered for the first time the information about gems dealers, collectors and unscrupulous forgers in Izmir, the results of this summarized account provide new and clear evidence of the variety of the picture emerged. Certainly, we may assume that the intended research has given and even more will give further valuable indications, considerable advances in our knowledge and fundamental achievements to state the Izmir's leading role in the gemstone market.

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FIGURE CAPTIONS AND PHOTO CREDITS

Fig. 1a. Fortuna/Tyche standing and holding a cornucopia and a rudder. Glass intaglio found at Sardis. From J. De Rose Evans, Glass Intaglios of the Roman Imperial Period from Sardis, 2019, fig. 32.

Fig. 1b. Bust of Artemis, with a quiver and a bow over her shoulders. Glass intaglio found at Sardis. From J. De Rose Evans, Glass Intaglios of the Roman Imperial Period from Sardis, 2019, fig. 40.

Fig. 1c. Rider with the chlamys flying out behind, moving on his horse. Glass intaglio found at Sardis. From J. De Rose Evans, Glass Intaglios of the Roman Imperial Period from Sardis, 2019, fig. 54.

Fig. 1d. Eagle with wings spread catches a hare under its claws. Glass intaglio found at Sardis. From J. De Rose Evans, Glass Intaglios of the Roman Imperial Period from Sardis, 2019, fig. 56.

Fig. 2. Cupid standing before a herma under a tree, beside it a cock. Amethyst intaglio. Dactyliotheca previously Worsley, now Yarborough, Brocklesby Hall. From Museum Worsleyanum or a Collection of antique Basso–relievos, Bustos, Statues, and Gems […], vol. 1, London 1824.

Fig. 3. Greek inscription. Onyx cameo. Dactyliotheca previously Worsley, now Yarborough, Brocklesby Hall. From Museum Worsleyanum or a Collection of antique Basso–relievos, Bustos, Statues, and Gems […], vol. 1, London 1824.

Fig. 4a. Isis Pelagia standing and holding (?) a sail in one hand and a sistrum in the other, turning to face the Pharos of Alexandria. Cornelian intaglio. Cambridge, the Fitzwilliam Museum. Photograph © The Fitzwilliam Museum, University of Cambridge.

Fig. 4b. Isis Pelagia standing and holding (?) a sail in one hand and a sistrum in the other, turning to face the Pharos of Alexandria. Cornelian intaglio. Cast. Cambridge, the Fitzwilliam Museum. Photograph © The Fitzwilliam Museum, University of Cambridge.

Fig. 5a. Lion with a bull's head at his feet and on his back a Nike holding palm and wreath, in the exergue the letters C-FI. Yellow jasper intaglio.

Cambridge, the Fitzwilliam Museum. Photograph © The Fitzwilliam Museum, University of Cambridge.

Fig. 5b. Lion with a bull's head at his feet and on his back a Nike holding palm and wreath, in the exergue the letters C-FI. Yellow jasper intaglio. Cast. Cambridge, the Fitzwilliam Museum. Photograph © The Fitzwilliam Museum, University of Cambridge.

Fig. 6a. Bust of Apollo in profile with a laurel wreath and long curly hair, a laurel branch in the field. Brown sard intaglio. Cambridge, the Fitzwilliam Museum. Photograph © The Fitzwilliam Museum, University of Cambridge.

Fig. 6b. Bust of Apollo in profile with long curly hair and a laurel wreath, a laurel branch in the field. Brown sard intaglio. Cast. Cambridge, the Fitzwilliam Museum. Photograph © The Fitzwilliam Museum, University of Cambridge.

Fig. 7a. Aeneas carrying his father Anchises on his shoulder and leading Ascanius by the hand. Red jasper intaglio. Cambridge, the Fitzwilliam Museum. Photograph © The Fitzwilliam Museum, University of Cambridge.

Fig. 7b. Aeneas carrying his father Anchises on his shoulder and leading Ascanius by the hand. Red jasper intaglio. Cast. Cambridge, the Fitzwilliam Museum. Photograph © The Fitzwilliam Museum, University of Cambridge.

Figs 8a–b. Female figure leaning her arm on a column and holding palm branches in hand. Dark red glass intaglio set in a bronze ring. London, British Museum. © The Trustees of the British Museum. Photograph by A. Masson-Berghoff.

Fig. 9. A cornucopia and the letter E. Rock crystal intaglio. London, British Museum. © The Trustees of the British Museum. Photograph by A. Masson-Berghoff.

Figs 10a–b. Chalcedony ring with plain hoop and flattened bezel. London, British Museum. © The Trustees of the British Museum. Photograph by A. Masson-Berghoff.

Fig. 11. Arabic inscription. Copper alloy ring. London, British Museum. © The Trustees of the British Museum.

Fig. 12. St. Christopher and the Latin inscription S. CRISTOFOR(i). Red glass cameo. London, British Museum. © The Trustees of the British Museum.

Figs 13a–b. Dionysos leaning against a column, a crescent of gold and another of silver on each side. London, British Museum. © The Trustees of the British Museum. Photograph by A. Masson-Berghoff.

Figs 14a–b. Portrait head of a Ptolemaic queen. Cameo in a gold-plated bronze ring. London, British Museum. © The Trustees of the British Museum. Photograph by A. Masson-Berghoff.

Fig. 15a. Mask of Medusa. Glass cameo in dark green glass ring. London, British Museum. © The Trustees of the British Museum. Drawing by Marion Cox or Susan Bird.

Figs 15b–c. Mask of Medusa. Glass cameo in dark green glass ring. London, British Museum. © The Trustees of the British Museum. Photograph by A. Masson-Berghoff.

Fig. 16a. Mask of Medusa. Glass cameo in dark green glass ring. London, British Museum. © The Trustees of the British Museum. Drawing by Marion Cox or Susan Bird.

Figs 16b–c. Mask of Medusa. Glass cameo in dark green glass ring. London, British Museum. © The Trustees of the British Museum. Photograph by A. Masson-Berghoff.

Figs 17a–b. Female head. Sard intaglio in a gold ring. London, British Museum. © The Trustees of the British Museum. Photograph by A. Masson-Berghoff.

Figs 18a–b. Fortuna with cornucopia and steering oar. Sardonyx intaglio in a gold ring. London, British Museum. © The Trustees of the British Museum. Photograph by A. Masson-Berghoff.

Figs 19a–b. Letter K within a circular border. Shell cameo in a bronze gilded ring. London, British Museum. © The Trustees of the British Museum. Photograph by A. Masson-Berghoff.

Fig. 20. Head of Medusa, with below a dolphin. Gold ring. London, British Museum. © The Trustees of the British Museum.

Figs 21a–b. Woman standing and holding a small seed or piece of incense on an altar, upon which is an eagle. Gold ring. London, British Museum. © The Trustees of the British Museum.

Fig. 21c. Woman standing and holding a small seed or piece of incense on an altar, upon which is an eagle. Gold ring. Cast. London, British Museum. © The Trustees of the British Museum.

Fig. 22. Asklepius standing, wrapped in a *himation*, holding a staff around which a snake is coiled. Red jasper intaglio in a gold ring. Boston, Museum of Fine Arts. Photograph © Museum of Fine Arts, Boston.

Fig. 23. Bust of Artemis with a small crescent moon atop head, a quiver behind her shoulder and a bow in front. Black jasper intaglio. Boston, Museum of Fine Arts. Photograph © Museum of Fine Arts, Boston.

Fig. 24. Virgin standing and holding the child in arm, some letters in the field. Cameo in green jasper. London, British Museum. © The Trustees of the British Museum.

Fig. 25. Bust of a youth (Herakles?) with short curly hair. Carnelian intaglio. Boston, Museum of Fine Arts. Photograph © Museum of Fine Arts, Boston.

Fig. 26. Raphael Morghen. Plate engraved for *Osservazioni di Ennio Quirino Visconti sopra un antico cammeo rappresentante Giove Egioco*. London, British Museum. © The Trustees of the British Museum.

Aspects of Worship in Nicomedia of the Fourth Century AD

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Abstract
The Bithynian city, Nicomedia (known today as Izmit or Iznikmid), composes a rich ground for historical research, as it consisted of the main city for several distinguished people, like the emperor Diocletian, who declared the city as the capital of his empire. The residency of Diocletian in Nicomedia brought over the years a variety of changes that affected the profile of the city, both politically and socially.
The view and the prosperity of Nicomedia as far as we know constructed an ideal city model, but as it comes to religious subjects, the situation was different. Nicomedia was chosen as a residence from several Roman and Byzantine emperors and seemed to assimilate the political and social reforms that they settled. However, as it comes to religion and worship practices, the situation was more complicated. Religion becomes a magnet of infighting, changes, and reforms between the people of Nicomedia.
This paper discusses these parameters above, which were at their outbreak during the 4th century AD. Together, we shall see the traditions of the Roman influence that were settled in Nicomedia, as well as the changes and conflicts that Christianity brought over the centuries.
Keywords: *Nicomedia, Diocletian, Roman empire*

1. Introduction

While Nicomedia's aspect and well-being can be compared to an ideal city model in some ways, the religious and worship aspects of the city were quite different. Nicomedia was chosen regularly as a city residence from several Roman emperors and seemed to embrace the political and social changes that each emperor incorporated in the city. In the case of religion, however, the situation was rather convoluted. Religious conflicts and changes made religion a focal point.

The 4th-century worship was affected on a great level by Constantine the Great when he claimed the Roman Empire and made Christianity an official religion in it. Christianity becomes a worship subject, but also a conflict pole simultaneously. But let's try to compose a previous image of the city, regarding its religious life. Originally, the city was built around Greek and Roman idols. Dionysus and Hercules were credited with building the city, and Zeus was tasked with protecting it. As time went on, the idolatry continued. A paganistic Nicomedia can be seen, for example, in the second century AD[1]. In Nicomedia, the pagan element was generally accepted, but it did not bring universal harmony. During the same period (2nd century), the first Christians began to appear in Bithynia. A fear that this new religion would threaten pagan worship led to persecutions and arrests in the province. Christianity was seen as blasphemous towards the Roman Empire and society at the time, as well as a presence associated with witchcraft; such practices threatened the rule of the Roman Empire[2]. Nevertheless, the official reason for the persecution of the Christians was not one from the above, but their refusal to sacrifice to their Roman emperor[3].

As time goes by, we reach the 4th century where we meet fundamental changes regarding the worship subjects of the city. The facts of the 4th century played a key role in the decline of paganism in the East, resulting in the rise of Christianity relatively quickly. One of the most enlightening written sources regarding the religious evolution of Nicomedia are the written works of Eusebius of Caesaria; he describes graphically the gathering of the early church and its organization, as well as the way of the establishment of Christianity in the eastern provinces. Furthermore, he describes the troubles and the obstacles regarding its establishment, as well as the social difficulties and the persecutions that its embracers faced, and the gradual organization of this new religion from its bishops and archbishops. Constantine the Great seems to have been responsible for the final success of Christianity according to Eusebius. According to Eusebius, the imperial contribution was largely practical and materialistic; Constantine built churches and was concerned about the spread of Christianity in the above provinces, as well as its dissemination to the West. It appears that the Emperor gave a great deal of attention to the eastern part of the empire, initiating important reforms based on Christian beliefs. The emperor showed favour to Christian residents of his empire by showing them off socially while ensuring big economic support to local churches[4].

[1] The similar national religious faith predicts that in the eastern regions, there was not a single religious pattern (something similar to present-day Christian doctrines), but there were variations in the religious figures or the way they were worshipped.
[2] Pliny the Younger, Letter 96 (10.96).
[3] Pliny mentions the process of arrest and the subsequent course of action of the Christians regarding the refusal or acceptance of a sacrifice in honour of the emperor in his 96th (Book 10) Letter to Trajan.
[4] Eusebius mentions all the above actions mainly in his Life of Constantine the Great, a work in praise of the emperor's person and inextricably linked to the Christian faith. Eusebius, however, writes his text from a subjective perspective, wishing to impose or justify the emperor's strategy and violent actions. For more,

Nicomedia was probably the most well-known city to enjoy these favours, but it was also where the emperor grew up, lived, and received both school and military education.

Nevertheless, Constantine's plan to develop his political employment in Nicomedia and throughout his empire did not seem to be entirely fulfilled. The presence of the pagans was still bold. Nicomedia had still impressive temples and statues dedicated to the ancient gods and sacrificial altars. Their presence is described accurately by Libanius, in a relatively discriminated way; The orator in his orations seems to hide the Christian presence in Nicomedia, while he points out its pagan one, which was still bold during the fourth century. The same thought, yet in a more improved way, also followed Ammianus Marcellinus, by describing pagan temples in the city. Despite the pagan orators' efforts to conceal Christianity in Nicomedia (and Bithynia), it seems to be spread among the residents of the city[5].

Although Christianity is rising and spreading in Nicomedia, it is not in the way that its supporters desire. There are conflicts between the Christian bishops in Nicomedia regarding church organization and their relationship. In the first half of the fourth century, Gregory of Nyssa wrote a letter to the Christian priests of Nicomedia and convinced them to destroy every element of conflict and organizing issue and to focus on their concord, as well as the proper function of the church[6]. Thus, we can admit that gathering Christianity and defining its role was a difficult task, which caused serious disagreements.

During the same time, dangers of religious distortions appeared, which would deviate from the original apostolic preaches of Christianity. One of these dangers was the preaching of Arius, a Christian priest in Alexandria of Egypt, during the late 3rd and 4th centuries. As a result, he started to preach some controversial views about Christianity and its triadic substance, embracing some new ideas and beliefs around the figure of Christ. In that way, he placed the kindlings that would set on fire Christianity and would raise a new heretical movement in the East, called "Arianism"[7]. This movement soon reached Nicomedia. Before the mid-fourth century, the heresy of Arius seemed to have many embraces, and, between them, the one of the bishop of Nicomedia Eusebius. The embracing of Arianism from Eusebius was very clear. In his preaching, he showed support for Arianism, which caused reactions among Nicomedian Christians and as a result, he was accused of being one of the main causes of Arianism's rise in the city. This issue drew reactions, which led to the Ecumenical Council of Nicaea, which condemned the heresy. The ideas and the orations of Eusebius of Nicomedia mentions also Athanasius of Alexandria, who did not hesitate to openly condemn him and the heresy, by characterizing it and him as opponents of Christianity[8].

2. Conclusion

The spread of Christianity in Nicomedia confused the way of life and the traditional values of the city. It was not only a step toward the coming of a radical religious change in the next centuries; it also suffered from several conflicts, not only between pagans and Christians but also between Christians exclusively. The pagan worship, of course, had not yet disappeared in the fourth century - as we heard earlier. Its presence was still bold and more acceptable than Christianity. Nevertheless, the emergence of the latter religion generated more reactions in the city, approaching the interest and insertion of local authorities. Nicomedia experienced a transitional period in regard to social worship in the fourth century: the beginning of the rise of Christianity and the downfall of paganism.

Résumé - Aspects du culte à Nicomédie du IVe siècle après JC : La ville bithynienne, Nicomédie (connue aujourd'hui sous le nom d'Izmit), constitue un riche terrain pour la recherche historique, car elle était la ville principale de plusieurs personnalités distinguées, comme l'empereur Dioclétien, qui déclara la ville capitale de son empire. La résidence de Dioclétien à Nicomédie a apporté au fil des années une série de changements qui ont affecté le profil de la ville, tant politiquement que socialement.

La vue et la prospérité de Nicomédie, à notre connaissance, ont construit un modèle de ville idéal, mais en ce qui concerne les sujets religieux, la situation était différente. Nicomédie a été choisie comme résidence par plusieurs empereurs romains et byzantins et a semblé assimiler les réformes politiques et sociales qu'ils ont mises en place. Cependant, en ce qui concerne les pratiques religieuses et cultuelles, la situation était plus compliquée. La religion devient un aimant de luttes intestines, de changements et de réformes entre les habitants de Nicomédie.

Cet article discute de ces paramètres ci-dessus, qui étaient à leur apparition au 4ème siècle après JC. Ensemble, nous verrons les traditions de l'influence romaine qui se sont installées à Nicomédie, ainsi que les changements et les conflits apportés par le christianisme au fil des siècles.

Mots-clés : *Nicomédie, Dioclétien, Empire romain*

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[5]The information of the writers Ammianus Marcellinus and Livanius which preceded the chapter on pagan Roman temples refers (if we judge from the dating of the lives of the two writers) to the middle of the fourth century, so we are again led to the conclusion that Christianity was still largely competing with Roman religious ideals.

[6] Gregory of Nyssa, *Τοίς ἐν Νικομηδεῖα Πρεσβυτέροις*.

[7] A valuable source of information on the heresy of Arius, in particular, are the writings of Athanasius the Great, who wrote four extensive speeches purely on the issue and fighting for Arianism [See. Athanasius of Alexandria, *Κατὰ Ἀρειανῶν* (Orations Α΄-Δ΄)].

[8] Athanasius of Alexandria, *Περί τῆς ἐν Νικαίᾳ Συνόδου*, 35.4.14.

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[8] Athanasius of Alexandria, *Περί τῆς ἐν Νικαίᾳ Συνόδου*, 35.4.14.

The Monastery of Agaurwn at Mount Olympus in Bithynia Through the Life of Saint Eustratios (BHG 645)

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Abstract
This presentation deals with the monastery of Agaurwn at Olympus of Bithynia as referenced in "the Life of saint Eustratios (BHG 645)", who was the abbot (hegoumenos) of the Agaurwn monastery according to codex Sabbaiticus number 242. This codex can be found in the Patriarchal Library of Jerusalem. Mysian Olympus is considered one of the most imposing mountains in the region of Bithynia with steep points which during the Byzantine years was a place of settlement for the monks. Organized monastic movement was observed especially during the period of Iconoclasm (726-787 and 815-843), and thus the monastery of Agaurwn became an important monastic center during the Byzantine Empire. The spreading of monks at Olympus of Bithynia was due to its geographical location, the proximity to Constantinople and the formation of a network of roads that helped communication and accessibility. The monastery of Agaurwn was built in the beginning of the 8th century and was dedicated to Saints Cosmas and Damianos. In the Life of Eustratios, the location of the monastery is precisely determined. The monastery was built in a place called Kalymnos, which was fifteen stadia (about 3 kilometers) from the small town of Prousa at the foot of Mount Trichalikos and near a river called Nilufer. The name of the monastery in the ancient references was in the singular, while later, because the monastery was inhabited by eunuchs, its name was changed to "the monastery of the Augarwn", which with an anagram became Agaurwn. The monastery of Agaurwn developed great activity in the religious life of Bithynia during the eighth century. The monastery had many shares (metochia), engaged in the production of goods and their export around Constantinople. A lot of topographical information is provided in the Life of Eustratios which is a valuable source for the mapping of the region.
Keywords: *Bithynia, Mount Olympus, Monastery of Agaurwn, saint Eustratios, hagiography, Byzantine period.*

1. Introduction

This article presents the monastery of Agaurwn at mount Olympus of Bithynia as referenced in "the Life of saint Eustratios (*BHG* 645)", who was the abbot (*hegoumenos*) of the Agaurwn monastery according to codex Sabbaiticus number 242. This codex can be found in the Patriarchal Library of Jerusalem. Saint Eustratios lived as a monk and then as an abbot (*hegoumenos*) in the monastery for about seventy years. Saint Eustratio's Life is very important because it provides valuable topographical information for the mapping of the region.

1.1. Mount Olympus in Bithynia

During ancient times, Asia Minor included three regions to the north: Pontus, Paphlagonia and Bithynia. In the west it included Mysia, Lydia and Caria. In the south it included four: Lycia, Pisidia, Pamphylia and Cilicia. Finally, the center included five regions: Phrygia, Cavalida (in Roman times), Isauria, Lycaonia, Galatia and Cappadocia[1].

Bithynia is that part of Asia Minor that lies opposite Constantinople, extending southwards down to Mount Olympus and in the east reaching the river Sangarios. Geographical boundaries have varied over the years. The following are the generally accepted ones: to the North of it lies the Black Sea. To the West the Bosphorus and the Propontida (Sea of Marmara) and the river Ryndakos (today Adranos Tsai). To the South the chain of hills below Olympus closes the valley of Ryndakos. To the east, lies the lowest part of Sangarios[2]. At the two ends of Bithynia there are two mountains that have the same name "Olympus". One mountain is called "Bithynian Olympus" and rises in eastern Bithynia and north of Galatia. Today, it has received the name "Abbas-dag (or: Ala-dag)" from the Turks. The other mountain is "Mysian Olympus", which rises above Bursa and is located on the borders of Bithynia, Mysia and Phrygia and is the highest mountain in western Asia Minor with an altitude of 2,550 meters (excluding Mount Timnos). Mysian Olympus is considered one of the most majestic and imposing mountains with dense forests and a wide variety of trees. The dense vegetation and its steep parts were a refuge for robbers during the Roman and later years, while during the Byzantine years it was a place for monks to settle down. For this reason, it was called by the Turks "Keşiş Dağ", (i.e.) that is "mountain of the monks"[3] before it was simply called "Ulu Dağ", (i.e.) that is "big mountain"[4].

Strabo (first century AD) in his work *Geographika* gives valuable

[1] Κοντογιάννης, Π., *Γεωγραφία της Μικράς Ασίας*, Αθήνα 1921, ανατύπωση 1995, σελ. 3.
[2] Janin, R., *La Bithynie sous I' empire byzantine*, Échos d'Orient 20 (1921), σελ. 168.
[3] Κοντογιάννης, *Γεωγραφία της ...*, σελ. 13 και 19-20.
[4] Janin, R., *Les Églises et les monastères des grands centres byzantines*, Paris 1975, σελ. 129.

and accurate information about the geography of Bithynia[5] and Mount Olympus, which due to the wild landscape, he considers a place where robbers found refuge *(«ἐν δὲ τοῖς ὕψεσι δρυμοὺς ἐξαισίους ἔχων, καὶ λῃστήρια δυναμένους ἑκτρέφειν τόπους εὐερκεῖς»)*. In fact, Strabo also mentions a bandit named "Cleon", who operated in this area[6]. In the archeological museum of Bursa there is a tomb inscription of an archon (*ἔπαρχος*), a victim of robbers of the same era, which certifies the testimony of Strabo[7].

During the Christian era there is not much information about departers at Olympus[8]. Janin gives the information that the martyr Neophytos from Nicaea (284-304 AD) was the first to depart, who found refuge in a cave in which a lion first lived, which he first had to evict[9].

Also, in the years of Emperor Constantine I (306-337) there is evidence of a certain hermit named Eutychianos, who lived on Olympus with a youth (named Auxanon), whom he initiated into the monastic life. Crowds flocked to Eutychianos to find healing[10]. A first reference to the establishment of a monastery on Olympus is in the fifth century[11].

Coordinated monastic movement is observed especially during the period of the Iconoclasm (726-87 and 815-843)[12]. According to Menthon, at that time the number of monks who lived on Olympus reached ten thousand. Later, due to the raids of the Arabs, the monks turn to Athos, to ensure safety and tranquility[13].

In addition to the morphology of the area, as mentioned above, its geographical position also contributed to the spread of the monks in Olympus of Bithynia. The close distance to Constantinople as well as the formation in Bithynia itself of a network of roads helped communication and accessibility[14]. From the ninth to the eleventh century, Olympus was a model monastic center in the Byzantine Empire[15], while it could be characterized as the direct spiritual ancestor of Athos[16].

Menthon categorizes the monasteries of Olympus into monasteries of Triglia, monasteries of Prousa and Atroa, the complex of the high mountain and scattered monasteries[17].

The monastic life in Olympus of Bithynia begins to take a downward course with the schism (1054) between the Eastern and Western Churches, when Michael Kyrularios was patriarch, and intensifies with the Turkish conquest, to be completed in 1326, when Prusa becomes the first capital of the Ottoman Empire[18].

Today several Byzantine churches and monasteries survive on the southern coast of the Sea of Marmara in an area between Mudanya in the east and Panormo (Turkish: Bandirma) in the west[19].

1.2. The Life of Saint Eustratios: the historical frame

Saint Eustratios lived in the Monastery of Agaurwn (at Mount Olympus of Bithynia) for about seventy years. A key source of information about his Life is found in the Sabbaiticus codex (242) in the Patriarchal Library of Jerusalem. Additional evidence is drawn from other sources, such as the two Lives of Saint Ioannikios (*Life by the monk Sava*[20] (*BHG* 935) and *Life by the monk Petros*[21] (*BHG 936*). Eustratios was born in a town called Byztiniana (791), which is in Tarsia and belongs to the theme of the Optimatoi. His parents, George and Megetho raised him according to Christian principles and he stayed with his family until the age of twenty, when he decided to give up worldly things and devote himself to God. The date of birth of Eustratios is not mentioned in the Life. Then he decided to go to Olympus, where his uncles, Gregorios, abbot of the Agaurwn monastery, and Vasilios lived as monks. Eustratios expressed to Gregorios his desire to become a monk, but Gregorios tried to dissuade him, referring to the great difficulties of his decision. But when Gregorios realized the conscious decision of Eustratios, he included him in the monastery first as a cadet and then as a monk. During this time Eustratios gladly endured all the trials and cheerfully and humbly offered his services to the monastery, disdaining material possessions, owning just a garment which he wore and a woolen pallion, on which he rarely rested, wherever he went. This behavior made him especially dear to everyone, with the result that before the abbot Efstathios passed away, he chose Eustratios, without his own wish, as the new abbot (*hegoumenos*) of the Agaurwn monastery. Eustratius took over the leadership of the monastery when Leo V the Armenian came to power in 813. Leo brought up the issue of iconoclasm, during this time initiating exiles, beatings, imprisonments, and violent deaths of iconophiles. This resulted in the monks dispersing and Eustratios himself leaving the monastery and taking refuge with his friend Ioannikios. After the restoration of the icons (843) Eustratios returned to the monastery, having as his main concern to gather the monks who were scattered[22]. Over the course of his life, he performed a multitude of miracles and even his relic was as much miraculous.

1.3. The monastery of Agaurwn

The monastery of Agaurwn was built at the beginning of the eighth century and was dedicated to Saints Cosmas and Damianos[23]. In the Life of Eustratios, the geographical location of the monastery is precisely determined. It is in a place called Kalymnos, which is fifteen stadia (about 3 kilometers) from the small town of Prousa at the foot of Mount Trihalix and near a river called Niloufer[24]. Later this place, according to Eustratio's biographer, changed its name and was called *Ἄγαυρος*, because eunuchs practiced there[25]. Mango suggests placing the monastery of Agaurwn to the west of Bursa, based on the argument, according to Life in paragraph 52, that the relic of Eustratios was transferred from the capital to the monastery of Agaurwn through the baths located in Bursa, implying that the people first passed through Bursa, carrying the saint's relic and that

[5] Κοραής, Α., *Στράβωνος Γεωγραφικών Βιβλία Επτακαίδεκα,* Μέρος Δεύτερον, Παρίσι 1815, βιβλίο ΙΒ, κεφ. Δ § 1.
[6] Ibidem, βιβλίο ΙΒ, κεφ. Η § 8.
[7] Janin, *Les Églises et les monastères …*, σελ. 127, Βλ. σημ. 2 Robert, L., *Études Anatoliennes*, σελ. 97-98.
[8] Ibidem, σελ. 127, Βλ. σημ. 3 Schultze, V., *Altchristliche städte und landschaften*, II Kleinasien 1 (Gütersloh 1922-1926), σελ. 255.
[9] Ibidem, σελ. 127, Βλ. σημ. 3 *Passion de Néophyte* (BHG 1326). Για περισσότερες πληροφορίες Βλ. Menthon, B., *Τα μοναστήρια και οι άγιοι του Ολύμπου της Βιθυνίας,* (μετάφραση από τα γαλλικά Βασιλοπούλου Ναταλία) Θεσσαλονίκη 1980 σελ. 36-41.
[10] *Patrologiae cursus completus, Series Graeca, 161 vols in 166 pts., ed. J.-P. MIGNE (Paris, 1857-1866),* 67, στ. 105.
[11] Janin, *Les Églises et les monastères…*, σελ. 127, Βλ. Bartelink, G., *Vie d'Hypatios 46*, (BHG 760), Sources Chretiennes 177, Paris 1971, σελ. 272.
[12] Ibidem, σελ. 128.
[13] Menthon, *Τα μοναστήρια και …,* σελ. 33.
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[19] Mango, C., and Ševčenko, I., "Some churches and monasteries on the southern shore of the sea of Marmara", *DOP* 27 (1973), σελ. 235.
[20] *Βίος αγίου Ἰωαννικίου (Σάβας)* (*BHG* 935) *AASS*, Nov. t. II.1, σελ. 332-383.
[21] *Βίος αγίου Ἰωαννικίου (Πέτρος)* (*BHG* 936) *AASS*, Nov. t. II.1. σελ. 384-435.
[22] *Βίος αγίου Ευστρατίου* §§3-12.
[23] Menthon, B., *Τα μοναστήρια και …,* σελ. 78.
[24] Menthon, B., *Τα μοναστήρια και …,* σελ. 28.
[25] *Βίος αγίου Ευστρατίου* §4.

the monastery is beyond the baths to the west[26].
The name of the monastery in the ancient references is found in the singular *Ἄγαυρος, τὰ Ἀγαύρου*[27]. The singular number originally used to denote the location probably refers to a notable eunuch, who had the role of founder and gave his name, replacing the name of the location Kalymnos, where the monastery was built[28]. Menthon mentions that, because it was inhabited by eunuchs, it was called the monastery of the Augarwn, which by an anagram became Agaurwn[29]. As evidenced in the Lives of Saint Eustratios and Saint Ioannikios, the hagiographers kept this name[30].
Hergès considers that the monastery of Agaurwn had developed a great activity in the religious life of Bithynia mainly during the eighth century[31].

The monastery of Agaurwn had an important role, as evidenced by the many shares (*metochia*) it possessed. This importance is related to its location that is near Prusa and at the foot of Mount Olympus[32].

A share (*metochi*) was located near the baths of Prousa and was above the monastery near the city with the name suburb of Saint Agapius. It is probably the share (*metochi*) from which Eustratios was leaving and heading for his monastery, when he met a man who was asking for alms and Eustratios, having nothing else to offer him, gave him his pallion. According to Menthon, remains of Saint Agapios exist east of the Turkish village of In Kaya[33].
Another share (*metochi*) was that of Lefkades, which was on the way to the monastery of Agaurwn[34] near the river Nilufer. References to the share (*metochi*) of Lefkadwn which was located near the monastery of Agaurwn are insignificant. Menthon places the share (*metochi*) of Lefkadwn near the river Nilufer on a hill above Dobroudja. In the Life of Ioannikios[35], the information is also given that the specific metochi was 15 stadia from the monastery of Agaurwn.

The monastery also owned the share (*metochi*) of Saint Kosmas, which is in the plain and is visible from the road that goes from the share (*metochi*) of Lefkades to the monastery of Agaurwn[36] and is of course close to the monastery of Saint Eustratios. After all, according to Life, Eustratios, on his way to his monastery, sees the share (*metochi*) burning[37].

There was also a share (*metochi*) where the church of Saint George is located, in which Ioannikios and the abbot of Agaurwn monastery, Gregorios, met[38].

Finally, the monastery of Agaurwn also owned a suburb in the Katavolos area[39] where there was the monastery of Vomon (or: Eleovomon)[40]. Mango lists the names: *Ἡλίου Βωμῶν, τῶν Βωμῶν, τῶν Ἐλαιοβωμῶν, τῶν Ἐλαιοβωμητών ή τῶν Ἐλεγμῶν.* The name of the monastery has two translations: "Altars of the Sun" and "Altars of Elias". The second rendering seems to convey the correct meaning, since an attempt is made to Christianize its pagan name. In fact, the two monasteries had cooperation, because the abbot of the monastery of Vomi was the brother of Eustratios, Nikolaos, and Eustratios made frequent visits[41]. According to Menthon, its ruins can be seen from the village of Kurşunlu[42].

The monastery of Agaurwn seems to have been engaged in the production of goods and their export around Constantinople[43]. In the Agaurwn monastery, as in all monasteries, the system of deacons (*diakonies*) operated. That is, each monk was responsible for some work and offered his services to the rest of his brothers. According to the Life of saint Eustratius, one monk was responsible for the monastery's oxen[44], another for the heifers[45], but also for any emergency that arose, the monks were quick to help[46].
From the 14th century the monastery outside the city did not exist. An act of synod in October 1318 stipulated that the metropolitan of Prousa should have the monastery of Saint Eustratios with the name Agauroi under his supervision, but in no document does it clearly appear that it is the old monastery of Agaurwn or a new one inside the city[47].

Already in the 19th century, nothing was saved from the place where the monastery of Agaurwn was built, because according to Menthon its stones were used for building materials[48].

2. Conclusion

To conclude, the Life of saint Eustratios proves to be a valuable source of information for the mapping of the area of Mount Olympus in Bithynia. Unfortunately, today there is nothing left from the Monastery of Agaurwn but only ruins from the shares (*metochia*) that referred to the Life of Saint Eustratios.

Résumé - Le monastère d'Agaurwn au mont Olympe en Bithynie à travers la vie de saint Eustratios (BHG 645) : Cette présentation traite du monastère d'Agaurwn sur l'Olympe de Bithynie tel que référencé dans « la Vie de saint Eustratios (BHG 645) », qui était l'abbé (hegoumenos) du monastère d'Agaurwn selon le codex Sabbaiticus numéro 242. Ce codex peut être trouvé à la Bibliothèque patriarcale de Jérusalem. L'Olympe de Mysie est considéré comme l'une des montagnes les plus imposantes de la région de Bithynie avec des pointes abruptes qui, pendant les années byzantines, étaient un lieu d'établissement pour les moines. Un mouvement monastique organisé a été observé surtout pendant la période de l'iconoclasme (726-787 et 815-843), et ainsi le monastère d'Agaurwn est devenu un centre monastique important pendant l'Empire byzantin. La propagation des moines à l'Olympe de Bithynie était due à sa situation géographique, à la proximité de Constantinople et à la formation d'un réseau de routes facilitant la communication et l'accessibilité. Le monastère d'Agaurwn a été construit au début du VIIIe siècle et était dédié aux saints Côme et Damianos. Dans la Vie d'Eusstratios, l'emplacement du monastère est déterminé avec précision. Le monastère a été construit dans un endroit appelé Kalymnos, à quinze stades (environ 3 kilomètres) de la petite ville de Prousa, au pied du mont Trichalikos et près d'une rivière appelée Nilüfer. Le nom du monastère dans les références anciennes était au singulier, tandis que plus tard, parce que le monastère était habité par

[26] Mango, C., "The Monastery of St. Abercius at Kurşunlu (Elegmi) in Bithynia", *DOP* 22 (1968), σελ. 175.
[27] Janin, *Les Églises et les monastères...*, σελ. 132, βλ. σημ. 5. Mansi 13, 152[E].
[28] Ibidem, σελ. 132.
[29] Menthon, *Τα μοναστήρια και ...*, σελ. 78.
[30] Hergès, A., "Le monastère des Agaures", *EO* t. 2, no 5, (1899), σελ. 231.
[31] Ibidem, σελ. 230.
[32] Geyer - Lefort, *La Bithynie au ...*, σελ. 443.
[33] Menthon, *Τα μοναστήρια και ...,* σελ. 79.
[34] *Βίος αγίου Ευστρατίου* §31.
[35] *Βίος αγίου Ιωαννικίου* (*BHG 936 Πέτρος*) §54.
[36] *Βίος αγίου Ευστρατίου* §31.
[37] *Βίος αγίου Ευστρατίου* §31.
[38] *Βίος αγίου Ιωαννικίου* (BHG 936 Πέτρος) §59.
[39] *Βίος αγίου Ευστρατίου* §14.
[40] Ibidem, §23.
[41] Ibidem, §35 και §§51-52. και Mango, C., "The Monastery of St. Abercius at Kurşunlu (Elegmi) in Bithynia", *DOP* 22 (1968), σελ. 173-174.
[42] Menthon, *Τα μοναστήρια και ...,* σελ. 79.
[43] *Βίος αγίου Ευστρατίου* §29.
[44] Ibidem §13.
[45] Ibidem §28.
[46] Ibidem, §20.
[47] Janin, *Les Églises et les monastères...*, σελ. 134, βλ. σημ. 4. M M 1, nº 44, p. 80-81.
[48] Menthon, *Τα μοναστήρια και ...,* σελ. 78.

des eunuques, son nom fut changé en « le monastère d'Augarwn », qui avec une anagramme devint Agaurwn. Le monastère d'Agaurwn développa une grande activité dans la vie religieuse de Bithynie au cours du VIIIe siècle. Le monastère possédait de nombreuses actions (métochie), engagées dans la production de biens et leur exportation autour de Constantinople. De nombreuses informations topographiques sont fournies dans la Vie d'Eusstratios qui constitue une source précieuse pour la cartographie de la région.
Mots-clés : *Bithynie, Mont Olympe, Monastère d'Agaurwn, saint Eustratios, hagiographie, période byzantine.*

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The Transport of Goods and the Relationships Between Humans and Animals in Cappadocia Between the Hellenistic and Late Antique Periods

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Abstract
From the Hellenistic age to Late Antiquity, Cappadocia, located in the centre of the Anatolian plateau, was criss-crossed by important roads travelled by transport animals, remembered in literary sources now for their extraordinary reproductive capacity now for their cost now for their great docility and usefulness in the service of man. The purpose of the present study is to verify the presence in ancient testimonies of beast of burden and to place this evidence within the broader economic, social and political framework of Cappadocia.
Keywords: *Transport animals, Greek-Roman Cappadocia, roads, economics*

Highlights:

- Cappadocia, located in the centre of the Anatolian plateau, has always been a crossroads for people and goods carried mainly by animals.
- The ancient sources testify the presence non only of horses, but also of mules, donkeys, hinnies, elephants (?) and camels.
- Cappadocia, through the use of beast of burden, export and import products on a large, medium and short-range commercial network, increasing wealth of the urban notables of late ancient Cappadocia, owners not only of extensive lands, but also of whole herds of these animals.

1. Introduction

Cappadocia, located in the centre of the Anatolian plateau, has always been a crossroads for people and goods carried mainly by animals. According to the geographer Strabo, a native of the Pontic Amaseia (today Amasya), Cappadocia occupied the central area of the Anatolian plateau in "width" from Pontus to the Taurus Mountains for 1,800 stadia (1 Attic stadium = 177.60 m = 319.68 km), in "length" from Lycaonia and Phrygia to the Euphrates and Armenia for 3,000 stadia (= 532.8 km). It was provincialized by Romans in 17 A.D., on the death of the last king Archelaus[1]. As can be seen, the size of this province was much larger than today's "Cappadocia" – term by which now we mean only the area around the cities of Archelais (modern Aksaray), Nyssa (approximately 1 km north of Harmandalı) and Tyana (Kemerhisar), characterised by a peculiar geomorphological conformation with rocky and subterranean habitats – and reached as far as the Euphrates River, traditionally considered as the eastern *limes* of the Roman Empire.
In the description of ancient sources, Cappadocia is presented as a hostile land both to human and animals: if Cicero considered it a desolate region, practically a "desert"[2], Strabo spoke of "volcanic plains full of fire pits for many stadia" around the capital Mazaka-Caesarea (today Kayseri, located 1,050 m above sea level) and mentioned the widespread presence of underground fires near the territory of Mount Argaios (Ἀργαῖος ὄρος, today Erciyes Dağı, 3,917 m), which rises 3,000 m above the depression around Caesarea; flames emanated from the marshy ground at night and cattle could run serious dangers by falling into hidden fire pits[3]. The traces of ancient volcanisms that occurred on the Argaios in geologically recent times are also evident in the peculiar consistency of the rock strata and in the presence of thermo-mineral waters and mephitic quarries[4]. Strabo concludes his description of Caesarea by stating that, although the land was basically unsuitable for human settlement, it was good land for fodder, which the kings of Cappadocia had great need of because they practised animal

[1] Strabo 12, 2, 10 C 539: μέγεθος δὲ τῆς χώρας κατὰ πλάτος μὲν τὸ ἀπὸ τοῦ Πόντου πρὸς τὸν Ταῦρον ὅσον χίλιοι καὶ ὀκτακόσιοι στάδιοι, μῆκος δὲ ἀπὸ τῆς Λυκαονίας καὶ Φρυγίας μέχρι Εὐφράτου πρὸς τὴν ἕω καὶ τὴν Ἀρμενίαν περὶ τρισχιλίους. Cappadocia thus extended from Cilicia Tracheia almost to the Pontus Euxinus, while Trabzon, Pharnakeia and the hinterland tribes were under the rule of the queen Pythodoris of Pontus. After the death of her husband Polemon (8 BC), she married Archelaus, king of Cappadocia, and thus the two rulers ended up controlling all non-Roman Asia Minor west of the Euphrates: Strabo 12, 3, 29 C 555–556; 12, 3, 37 C 559–560; cf. 14, 1, 42 C 649; Cass. Dio 54, 9, 2. On Pythodoris cf. Konstan 2002: 19–21; Braund 2005: 253–270; Campanile 2010: 57–85; Roller 2018b: 99–120. In general, see Biffi 2012: 411–430. On the different semantic valence of the word "Cappadocia" in various places in Strabo's work cf. Lamesa 2021: 209–225.

[2] Cic. *leg. agr.* 2, 21, 55: *venire nostras res proprias et in perpetuum a nobis abalienari in Paphlagoniae tenebris atque in Cappadociae solitudine licebit?* Cf. Cic. *fam.* 15, 1, 6 (18 September 51 BC, letter written immediately after receiving worrying messages about the Parthians): *Cappadocia est inanis, reliqui reges tyrannique neque opibus satis firmi nec voluntate sunt*.

[3] Strabo 12, 2, 7 C 538: μικρὸν δ' ἔτι προϊοῦσι καὶ πυρίληπτα πεδία καὶ μεστὰ βόθρων πυρὸς ἐπὶ σταδίους πολλοὺς … ἀξύλου γὰρ ὑπαρχούσης σχεδόν τι τῆς συμπάσης Καππαδοκίας ὁ Ἀργαῖος ἔχει περικείμενον δρυμὸν ὥστε ἐγγύθεν ὁ ξυλισμὸς πάρεστιν, ἀλλ' οἱ ὑποκείμενοι τῷ δρυμῷ τόποι καὶ αὐτοὶ πολλαχοῦ πυρὰ ἔχουσιν, ἅμα δὲ καὶ ὕφυδροί εἰσι ψυχρῷ ὕδατι, οὔτε τοῦ πυρὸς οὔτε τοῦ ὕδατος εἰς τὴν ἐπιφάνειαν ἐκκύπτοντος, ὥστε καὶ ποάζειν τὴν πλείστην· ἔστι δ' ὅπου καὶ ἑλῶδές ἐστι τὸ ἔδαφος καὶ νύκτωρ ἐξάπτονται φλόγες ἀπ' αὐτοῦ. Οἱ μὲν οὖν ἔμπειροι φυλαττόμενοι τὸν ξυλισμὸν ποιοῦνται, τοῖς δὲ πολλοῖς κίνδυνός ἐστι, καὶ μάλιστα τοῖς κτήνεσιν ἐμπίπτουσιν εἰς ἀδήλους βόθρους πυρός; cf. Hirschfeld 1895, 684; Weiss 1985, 21–48.

[4] Strabo 12, 2, 7 C 538; cf. 12, 2, 8 C 538 on the marshes around Caesarea covered with volcanic fires.

husbandry[5]. In general, the region has good crops and in particular produces wheat and pasture grasses of all kinds[6].

The purpose of the present study is to verify the presence in ancient sources of beast of burden managed by humans and to place this evidence within the broader economic, social and political framework of Cappadocia, a land to which the Romans devoted considerable efforts to the reinforcement the road network. As David H. French's important studies have shown, military, but also administrative needs, had contributed largely to the development and maintenance of roads[7]. As can be seen from the map (Fig. 1), the most important road is the one that led from Archelais through Caesarea to Melitene (Eskimalatya), but in western Cappadocia, specifically in Tyanitis, Garsauritis, Morimene and Chamanene – ancient Cappadocian strategies which, from a geomorphological point of view corresponded approximately to the peculiar and well-known rock and underground habitat of the region –, it was necessary to own and use animals capable of crossing roads that were impervious both because of the climate and the only partial pavement.

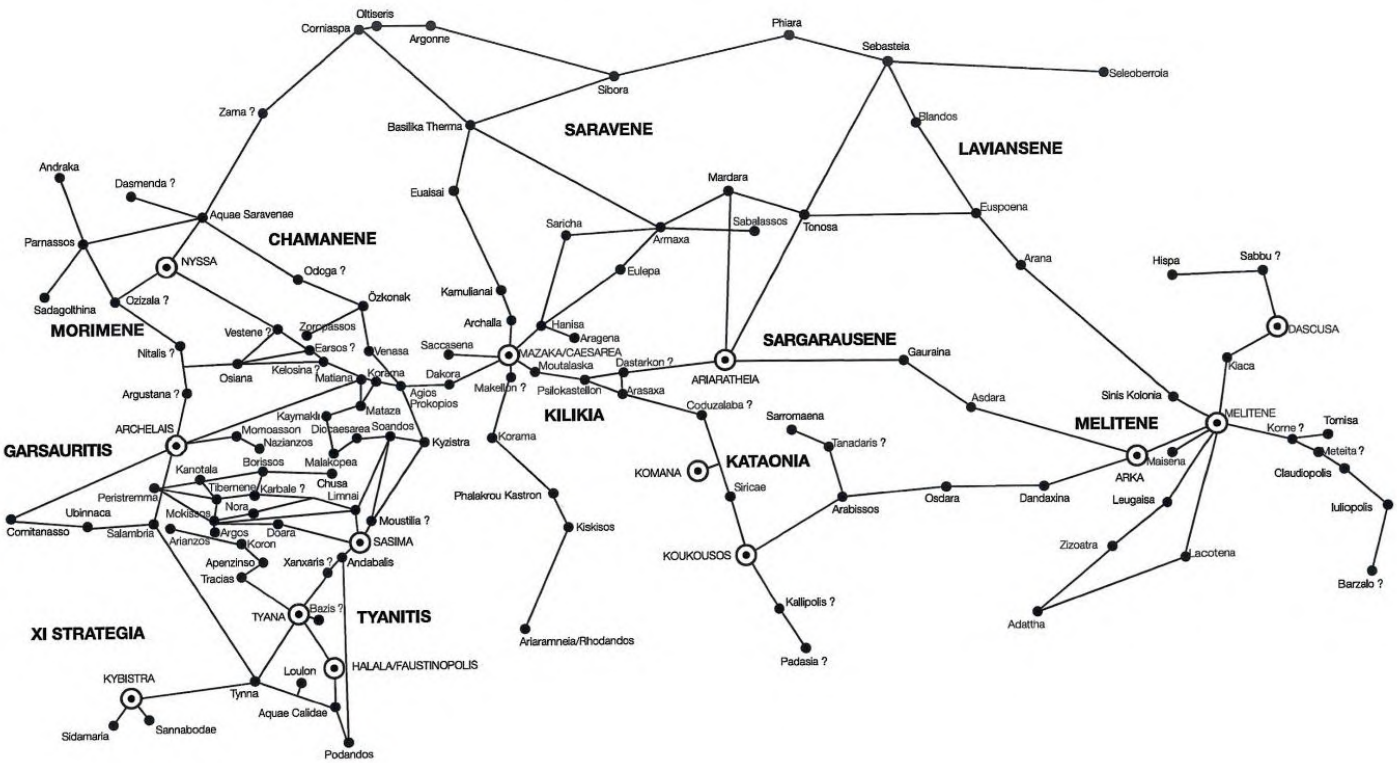

Figure 1 Urban systems and communication networks of Cappadocia (from Cassia 2004: 281, Graph 13).

2. Mules, donkeys, and hinnies

Breeding, especially of horses, but also of mules, donkeys, hinnies and camels, is often attested by ancient sources[8]. The prodigious fertility of the female mules of Cappadocia – generally considered sterile animals, as the hybrid fruit of the crossbreed between a donkey and a mare – was already known to the Pseudo-Aristotle[9]. Theophrastus, in a passage handed down by Pliny the Elder, confirms the singularity of this species of female mules:

equo et asina genitos mares hinnulos antiqui vocabant contraque mulos quos asini et equae generarent. Observatum ex duobus diversis generibus nata tertii generis fieri et neutri parentium esse similia eaque ipsa, quae sunt ita nata, non gignere in omni animalium genere; idcirco mulas non parere. Est in annalibus nostris perperisse saepe, verum prodigii loco habitum. Theophrastus vulgo parere in Cappadocia tradit, sed esse id animal ibi sui generis[10].

[5] Strabo 12, 2, 9 C 539: ἀφυὲς δ' οὖν κατὰ πολλὰ τὸ τῶν Μαζακηνῶν χωρίον ὃν πρὸς κατοικίαν μάλιστα οἱ βασιλεῖς ἑλέσθαι δοκοῦσιν, ὅτι τῆς χώρας ἁπάσης τόπος ἦν μεσαίτατος οὗτος τῶν ξύλα ἐχόντων ἅμα καὶ λίθον πρὸς τὰς οἰκοδομίας καὶ χόρτον, οὗ πλεῖστον ἐδέοντο κτηνοτροφοῦντες.

[6] Strabo 12, 2, 10 C 539: ἀγαθὴ δὲ καρποῖς, μάλιστα δὲ σίτῳ καὶ βοσκήμασι παντοδαποῖς.

[7] French 1980: 707–711; French 1997: 181; French 2012; see also French 2016 on the *Itineraria*.

[8] The famous horses of Cappadocia are excluded from this paper, for which cf. Cassia 2016a, 67; Cassia 2016b, 453–478; Cassia 2020, 175–178; Cassia 2021, 264. For the importance of the horse in the Achaemenid age both among the Persian civilisation and other Iranian populations, see recently Biondi 2024, 63–79. It is certainly significant that, in a work of such controversial dating as *Alexander Romance*, the origins of Bucephalus, the famous steed that belonged to the Macedonian, were traced back to Cappadocia: on this subject cf. Landucci 2024, 82–83.

[9] Ps. Arist. *mir. auscult.* 69 (835b Bekker), p. 62 O. Apelt (Lipsiae: Teubner, 1888): ἐν Καππαδοκίᾳ φασὶν ἡμιόνους εἶναι γονίμους. Cf. Panichi 2018: 51 and nt. 155.

[10] Theophr. *apud* Plin. *nat.* 8, 69, 172–173: "male foals of an ass by a horse were in old days called hinnies, while the term mules was used for the foals of a mare by an ass. It has been noticed that the offspring of two different races of animals belong to a third kind and resemble neither parent; and that such hybrids are not themselves fertile: this is the case with all kinds of animals and is the reason why mules are barren. A number of cases of reproduction by mules are recorded in our Annals, but these were considered portentous. Theophrastus states that mules breed commonly in Cappadocia, but that the Cappadocian mule is a peculiar species", transl. Rackham 1967: 121–123.

As we learn from Strabo, the Cappadocian mules were already part of the annual tribute paid to the Persians:

τῆς γὰρ Καππαδοκίας παρεχούσης τοῖς Πέρσαις κατ' ἐνιαυτὸν πρὸς τῷ ἀργυρικῷ τέλει ἵππους χιλίους καὶ πεντακοσίους, ἡμιόνους δὲ δισχιλίους, προβάτων δὲ πέντε μυριάδας, διπλάσια σχεδόν τι τούτων ἐτέλουν οἱ Μῆδοι[11].

Strabo himself mentions that in Garsauritis and Morimene the land offered pastures to onagers or wild donkeys; the presence of these animals is also attested in an area that, although falling within the territorial limits of Cappadocia, does not seem to be a real στρατηγία, the Βαγαδανία/Βαγαδαονία, an arid plateau, desolate refuge of wild donkeys between Mount Argaios and the Taurus:

ἡ δὲ Βαγαδανία [= Βαγαδαονία] καίπερ πεδιὰς οὖσα καὶ νοτιωτάτη πασῶν (ὑποπέπτωκε γὰρ τῷ Ταύρῳ) μόλις τῶν καρπίμων τι φέρει δένδρων, ὀναγροβότος δ' ἐστὶ καὶ αὕτη καὶ ἡ πολλὴ τῆς ἄλλης, καὶ μάλιστα ἡ περὶ Γαρσαύιρα καὶ Λυκαονίαν καὶ Μοριμηνήν[12].

Pliny also speaks in his *Naturalis Historia* of the *onagri*, which wouldn't cross *limitem qui Cappadociam a Cilicia dividit*[13]. The good quality of the Cappadocian donkey is praised by Apuleius, who in the *Metamorphoses* says that, when the auctioneer was asked about the origin of the animal – which in truth is the same protagonist, Lucius, transformed into a donkey –, *at ille Cappadocum me et satis forticulum denuntiat*[14].

Numerous references can also be found in Gregory of Nyssa, who, beyond the edifying purpose of his writings, must certainly have had in mind geographic contexts and socio-economic dynamics attributable to his region of origin. In the ascetic homily *Adversus eos qui castigationes aegre ferunt*, the Cappadocian Father combines the image of the "slow" donkey with that of the "strong" mules and the "big" camels:

οὕτω ταύρους δαμάζομεν καὶ ὑπάγομεν τῷ ζυγῷ, καὶ γῆν ἀρότροις ἀνατέμνειν παρασκευάζομεν, καὶ ἵππον ταχὺν τοῖς ψαλίοις κατάγχοντες ἔχομεν εὐπειθῆ, καὶ τὸν βραδὺν ὄνον τοῖς ῥοπάλοις ἐπείγοντες ποιοῦμεν ὀξύτερον, καὶ τὰς σκληρὰς ἡμιόνους ὀχήματα ἔλκειν καὶ ἁχθοφορεῖν ἀναγκάζομεν· ἐλεφάντων δὲ τὴν ἐκκεχυμένην πολυσαρκίαν, καὶ καμήλων τὸ μέγεθος εὐμηχάνως πρὸς τὸ δοκοῦν μεταχειριζόμεθα[15].

A small stele from Kayseri, decorated with a bas-relief depicting a wagon and its driver, datable to III-IV or 230-270 A.D., records a Phrygian waggoner named Papylos[16].

The different uses of animals by humans returns in the *Encomium in XL martyres 2* (οὕτως ἵππος ταχύς, συριγμῷ πρὸ τῆς μάστιγος διεγειρόμενος πρὸς τὸν δρόμον· βραδὺς ὁ ὄνος, καὶ μόλις διὰ τῶν ῥοπάλων τὴν ὁδοιπορίαν ἀνύων)[17], but also in the homily *In sanctum Pascha*, where Gregory of Nyssa lists a series of animals better than men, and includes camels and mules for strength, but also donkeys for their ability to point at the route: αὐτίκα δρόμῳ μὲν ἡμᾶς ὑπερβάλλονται ἵπποι καὶ κύνες καὶ ἄλλα πολλά, δυνάμει δὲ κάμηλοι καὶ ἡμίονοι, σημειώσει δὲ ὀδῶν οἱ ὄνοι[18].

The Cappadocian Father also alludes to these blindfolded equines used to turn the wheel: οὐ καθ' ὁμοιότητα τῶν ἐν τῷ μυλῶνι ταλαιπωρούντων ζῴων κεκαλυμμένοις τοῖς ὀφθαλμοῖς τὴν τοῦ βίου μύλην περιερχόμεθα ἀεὶ διὰ τῶν ὁμοίων περιχωροῦντες καὶ ἐπὶ τὰ αὐτὰ ἀναστρέφοντες;[19]. As is evident, animals are only described in relation to what they can do for humans, i.e. their usefulness in transporting goods or their endurance in turning the millstone.

Beyond these "edifying" contents, the testimony of Basil himself appears even more adherent to the economic and social context, when he includes among the wealth of the great Cappadocian owners a multitude of mules divided by the colour of the fur and guided by the copious staff who precedes or follows the rich person:

ἡμιόνων πλῆθος, κατὰ χρόαν διῃρημένων· ἡνίοχοι τούτων, ἀλλήλων διάδοχοι, οἱ προτρέχοντες, οἱ παρεπόμενοι[20].

All the "trousseau" of the notable is also listed in the homily *Quod rebus mundanis adhaerendum non sit* about the story of Job:

διὰ τί δὲ ἵππους μὲν, καὶ ἡμιόνους, καὶ καμήλους, καὶ πρόβατα, καὶ γεώργια, καὶ πᾶσαν τὴν τῆς περιουσίας τρυφὴν ἑκ τοῦ διπλασίονος ὑπεδέξατο, ὁ τῶν παίδων δὲ ἀριθμὸς ἴσος τοῖς ἀποθανοῦσιν ἐβλάστησεν; Ὅτι τὰ μὲν ἄλογα κτήνη, καὶ πᾶς ὁ πλοῦτος

[11] Strabo 11, 13, 8 C 525: "for Cappadocia paid the Persians yearly, in addition to the silver tax, fifteen hundred horses, two thousand mules, and fifty thousand sheep, whereas Media paid almost twice as much as this", transl. Jones 1961: 313.
[12] Strabo 12, 2, 10 C 539: "Bagadania [= Bagadaonia], though level and farthest south of all (for it lies at the foot of the Taurus), produces hardly any fruit-bearing trees, although it is grazed by wild asses, both it and the greater part of the rest of the country, and particularly that round Garsauira and Lycaonia and Morimene", transl. Jones 1961: 367. The geographer had already spoken about the freezing climate and the low productivity of this specific territory in 2, 1, 15 C 73: ἀλλ' ἡ μὲν Βαγαδανία [=Βαγαδαονία according to Casaubon, Corais e Ramsay], πεδίον ἐξαίσιον μεταξὺ πίπτον τοῦ τε Ἀργαίου ὄρους καὶ τοῦ Ταύρου, σπάνιον εἴ πού τι τῶν καρπίμων δένδρων φύοι, καίπερ νοτιώτερον τῆς Ποντικῆς θαλάττης σταδίοις τρισχιλίοις, "but Bagadaonia, an enormous plain which falls between the Argaeus Mountain and the Taurus Range, only scantily (if anywhere) produces fruit-trees, although it is three thousand stadia farther south than the Pontic Sea", transl. Jones 1960: 275. This area is also remembered by Stephen of Byzance as the "southernmost part of Cappadocia": 155, 6–7, *s.v.* Βαγαδαονία, μοῖρα Καππαδοκίας νοτιωτάτη. Τὸ ἐθνικὸν Βαγαδάονες. It is a plain about 50 km long, in the village of Yeşilhisar (53 km south-southwest of Kayseri), on the last slopes of the Taurus and on the southwestern slopes of Argaios. Today Gabadonia/Develi corresponds both to the name of a site and to a larger territory located about 40 km south of Caesarea: Lasserre 1981: 189; Hild and Restle 1981: 178–179; Roller 2018a: 66: «the plain of Bagadania lies surrounded by mountains at 1,400 m elevation, just southeast of modern Kayseri: it is no wonder that agriculture was sparse there, and that olives grew hundreds of kilometers to the north on the Black Sea coast»; cf. 692. See generally Ruge 1896: 2765; Cassia 2004: 46–47; 70; 75.
[13] Plin. *nat.* 8, 83, 225.
[14] Apul. *met.* 8, 24: "he claims that I'm from Cappadocia, and quite the dynamo", transl. Relihan 2007: 170.
[15] Gr. Nyss. *castig.* pp. 323–324 D. Teske, *GNO* X, 2 (E.J. Brill, Leiden-New York-Köln, 1996): "so we domesticate the bulls and yoke them, and we are preparing to trace a furrow in the earth with the ploughs, and with the whips we make obedient the fast horse, and with the rods we push the slow donkey and force the strong mules to tow the waggons and to bear the weights; ingeniously we drive even the elephant with the big body that overflows like water and big camels towards what seems best to us".
[16] French 2024: 67–68, nr. 44: Παπύλος ἁμαξάρχης | Φρὺξ ὥρα Καππαδο-|κῶν δύσμορος | ἐνθάδε κεῖται· | ὃς ἂν κακῶς πυήσι | τῷ τάφῳ ἔστη αὐτῷ | πὸς τὸν Θεόν, "Papylos, a waggoner, a Phrygian, in the boundaries of Cappadocia, unlucky lies here; whoever does harm to the tomb, he shall be accountable to God".
[17] Greg. Nyss. *quadr. mart. 2*, p. 162 O. Lendle, *GNO*, X, 1 (E.J. Brill, Leiden-New York-København-Köln, 1990): "for example, at the sound of a whip, a horse immediately begins to run, whereas a donkey is slow and hardly moves except when urged by a club".
[18] Gr. Nyss. *sanct. Pasc.* p. 256 E. Gebhardt, *GNO*, IX, 1 (E.J. Brill, Leiden, 1967): "in running, horses and dogs and many other things excel us. In strength, camels and mules. In indicating routes, donkeys", transl. Hall 1981: 12–13.
[19] Greg. Nyss. *Flacill.* p. 485 A. Spira, *GNO*, IX, 1 (E.J. Brill, Leiden, 1967): "is there anything more miserable like ourselves who are beasts destined for toil with hidden eyes, who always walk in circles and return to the same place?".
[20] Bas. *hom. in div.* 7, 2, pp. 45–47 Courtonne 1935: "a multitude of mules, separated by color; their drivers, succeeding one another, they run before, they parade alongside", transl. Boyd 2014: 74–75.

διαφθειρόμενος, εἰς τελείαν ἦλθεν ἀπώλειαν· οἱ παῖδες δὲ, καὶ τεθνεῶτες, ἔζων τῷ καλλίστῳ μέρει τῆς φύσεως[21].

Basil, in a letter addressed to the governor of the province, Elias, in 372, asked both him and the emperor for authorisation to self-administer the churches and their wealth, in order not only to erect a sumptuous house of prayer for God, but also to build hostels for foreigners and places of care for sick travellers, to whom the bishop doesn't consider improper providing comfort, thanks to doctors, transport animals and stretcher-bearers. In this passage, in fact, the bishop accurately describes the different components of the new structure of reception called "Basilias" and considers the pack animals (τὰ νωτοφόρα) necessary, useful for transporting the patients to the newly built multifunctional structure, "new" attractive pole in relation to the nearby city of Caesarea:

τίνα δὲ ἀδικοῦμεν καταγώγια τοῖς ξένοις οἰκοδομοῦντες, οἷς ἂν κατὰ πάροδον ἐπιφοιτῶσι καὶ τοῖς θεραπείας τινὸς διὰ τὴν ἀσθένειαν δεομένοις, καὶ τὴν ἀναγκαίαν τούτοις παραμυθίαν ἐγκαθιστῶντες, τοὺς νοσοκομοῦντας, τοὺς ἰατρεύοντας, τὰ νωτοφόρα, τοὺς παραπέμποντας; Τούτοις ἀνάγκη καὶ τέχνας ἔπεσθαι, τάς τε πρὸς τὸ ζῆν ἀναγκαίας καὶ ὅσαι πρὸς εὐσχήμονα βίου διαγωγὴν ἐφευρέθησαν, οἴκους πάλιν ἑτέρους ταῖς ἐργασίαις ἐπιτηδείους, ἅπερ πάντα τῷ μὲν τόπῳ κόσμος, τῷ δὲ ἄρχοντι ἡμῶν σεμνολόγημα, ἐπ' αὐτὸν τῆς εὐφημίας ἐπανιούσης[22].

As passages from the Basilian homilies show, agriculture and animal husbandry were two of the most important activities of the local elites, even if the rich, although he possessed many acres of arable and planted land, was never satisfied[23]. The purchase of houses, land and animals was the most widespread form of capital investment by the notables[24].

The Basilian epistles also testify to the existence of an excellent and secure system of communication through the roads of Cappadocia that were still maintained by Romans throughout the IV century. Indeed, in spite of the enormous distances, travel was on the whole fairly smooth since Basil twice speaks of the speed with which slanderous letters had spread within Cappadocia itself and outside it, to Pontus, Galatia or Constantinople[25].

Specifically, the mules, frequently used as pack animals in the rough stretches of the roads, constituted an important vehicle of transporting the iron extracted from the rich mines of the Taurus. After the division of Cappadocia in 372 by emperor Valens, Anthimos, bishop of Tyana, capital of *Cappadocia Secunda*, eager to escape the jurisdiction of Basil, metropolitan of Caesarea, capital of *Cappadocia Prima*, claimed the assets of the Caesarean church located in the strategy of Tyanitis: this area included the monastery and the church of Saint Orestes, recipients of the substantial income from the Taurus, which, with great disappointment of Anthimos, were the responsibility of Basil. The bishop of Tyana was so interested in perceiving the fruits of Saint Orestes, that on one occasion he sent a band of brigands to attack the convoy of Basil's mules, which was going to Caesarea:

ὃ δὲ πλεῖον αὐτὸν ἐξέμηνεν, αἱ Ταυρικαὶ πρόσοδοι καὶ παρόδιοι, αὐτῷ μὲν ὀρώμεναι, ἐκείνῳ δὲ προσγενόμεναι, καὶ τὸν ἅγιον Ὀρέστην ἐκκαρποῦσθαι μέγα ἐτίθετο· ὡς καὶ τῶν ἡμιόνων λαβέσθαι ποτὲ τοῦ ἀνδρὸς ἰδίαν ὁδὸν ὁδεύοντος, εἴργων τοῦ πρώσω μετὰ λῃστρικοῦ συντάγματος[26].

Basil himself then sends a letter to a widow to apologize for having used a loan of female mules for too long:

στοχαζόμενός σου τῆς περὶ ἡμᾶς διαθέσεως καὶ ἣν ἔχεις περὶ τὸ ἔργον τοῦ Κυρίου σπουδὴν ἐπιγινώσκοντες κατεθαρρήσαμεν ὡς θυγατρὸς πρῴην καὶ ταῖς ἡμιόνοις ἐπὶ πλεῖον ἐχρησάμεθα πεφεισμένως μὲν ὡς ἠμετέραις χρώμενοι, παρετείναμεν δ' οὖν ὅμως αὐτῶν τὴν ὑπηρεσίαν[27].

This information is of particular interest because it confirms the existence of women owners of beast of burden.
The mules, therefore, were also used for the transport of people and were yoked to the wagons, as Gregory of Nyssa also recalls, when he returns, after a long absence, to his city transported by female mules along a very rough road from Vestene to Nyssa, perhaps in the middle of 378. After the rainstorm, his mule-drawn cart moved faster on the moist mud:

καὶ ἤδη ὑπὲρ κεφαλῆς ἡμῶν βραχεῖα νεφέλη πνεύματι βιαίῳ ὑποληφθεῖσα τὸν ὑετὸν ὤδινε, καὶ ἡμεῖς κατὰ τὸ Ἰσραηλιτικὸν θαῦμα, μέσοι πανταχόθεν τῶν ὑδάτων διειλημμένοι, ἄβροχοι τὴν μέχρις Οὐεστηνῆς ὁδὸν ἐπεράσαμεν· ἐν ᾗ καταχθέντων ἡμῶν ἤδη καὶ τὰς ἡμιόνους ἀναπαυσάντων, τότε παρὰ τοῦ θεοῦ ἐδόθη τῷ ἀέρι τοῦ ὄμβρου τὸ σύνθημα. τριῶν δὲ ὡρῶν ἢ καὶ τεσσάρων ἐκεῖσε διαγαγόντων ἡμῶν, ὡς ἱκανῶς εἴχομεν τῆς ἀναπαύσεως, πάλιν διέσχεν ὁ θεὸς τὸν ὄμβρον, καὶ τὸ ὄχημα εὐδρομώτερον ἐαυτοῦ [ἢ πρόσθεν] ἦν, ἐν ὑγρῷ τε καὶ ἐπιπολαίῳ τῷ πηλῷ τοῦ τροχοῦ δι' εὐκολίας ἐνολισθαίνοντος… Ὡς δὲ ἤδη τῆς στοᾶς ἐντὸς ἐγενόμεθα, ἐπειδὴ διὰ ξηροῦ τοῦ ἐδάφους κατεκτύπει τὸ ὄχημα, οὐκ οἶδα ὅθεν ἢ ὅπως, ὡς ἐκ μηχανῆς τινος ἀθρόον ἀνεφάνη δῆμος κύκλῳ περὶ

[21] Bas. *hom*. 21, *mund*. 12, *PG* 31, 564A: "but why, around horses, mules, camels, flocks, fields and all the luxurious display of abundance, he received double, while the number of children sprouted up equal to that of the dead? This happened because the irrational cattle and all the lost wealth completely perished; the children, however, even if they died, in the most excellent part of nature continued to live".

[22] Bas. *ep*. 94, vol. I, p. 206 Courtonne 1957: "whom will we wrong if we build rest houses for the foreigners, occasional travellers as well as persons in ill health who need to be taken care of, and of establishing whatever is necessary for their relief, medics, physicians, pack animals, and convoy personnel? It would be also necessary to add arts and crafts, those that are needed for life, and those that have been invented in order to ensure a gracious living; and again, other houses suitable for working, all things which are an adornment to the place and would be an object of pride to our *archon*, for the praise returns to him", transl. Barrios 1986: 98. Cf. Cassia 2009: 45–47.

[23] Bas. *hom*. 7, *in div*. 6: ἔχεις γῆς ἀροσίμης πλέθρα τόσα καὶ τόσα, γῆς πεφυτευμένης τοσαῦτα ἕτερα, ὄρη, πεδία, νάπας, ποταμοὺς, λιβάδας, "you possess as many acres of arable land, as many acres of planted land, mountains, plains, forests, rivers, founts".

[24] Bas. *hom. in illud: Attende tibi ipsi* p. 31 S.Y. Rudberg, Stokholm 1962: οἴκους κτῶνται καλοὺς καὶ μεγάλους· πληρώσαντες τούτους παντοδαπῶν κειμηλίων, γῆν περιβάλλονται, ὅσην ἂν αὐτοῖς ἡ ματαιότης τῶν λογισμῶν τῆς ὅλης κτίσεως ἀποτέμηται; *hom*. 21, *mund*. 3, *PG* 31, 545D–548A: οὔτε εἰ ἐπὶ γῆς πλέθρα κτήσαιτό τις μυρία, καὶ μεγαλοπρεπεῖς οἰκίας, καὶ ζώων ἀγέλας παντοδαπῶν, καὶ τὴν ἐν ἀνθρώποις ἅπασαν περιβάλοιτο δυναστείαν, ἀπολαύει δι' αἰῶνος αὐτῶν.

[25] Bas. *epp*. 223, 7, vol. III, p. 17; 224, 1–2, vol. III, pp. 17–19 Courtonne 1966. On the subject in general cf. Gain 1985: 1–39; Teja 1974: 141–144.

[26] Greg. Naz. *or*. 43, 58, p. 250 Bernardi 1992: "what made Anthimos most furious was the circulation of the profits of the Taurus, which he saw, but which were paid to the other; he also considered the incomes the Saint Orestes so much that once took possession of the mules of Basil, who travelled for personal reasons, and, with the help of a band of bandits, prevented him from going on". On the use of mules in the rough paths of Cappadocia cf. Courtonne 1973: 19–20; Gain 1985: 16; Cassia 2004: 75.

[27] Bas. *ep*. 296, vol. III, p. 171 Courtonne 1966: "conjecturing you own disposition towards us, and recognizing the zeal which you have for the Lord's work, we have made bold with you lately as with a daughter, and have made further use of your female mules, using them sparingly indeed, as through our own, but we did for all that prolong the service they rendered me", transl. Deferrari 1970: 211.

ἡμᾶς πεπυκνωμένοι, ὡς μηδὲ κατελθεῖν τοῦ ὀχήματος εὔπορον εἶναι· οὐ γὰρ ἦν εὐρεῖν τόπον κενὸν ἀνθρώπων. Μόγις δὲ πείσαντες ἡμῖν τε δοῦναι καιρὸν πρὸς τὴν κάθοδον καὶ ταῖς ἡμιόνοις ἐπιτρέψαι τὴν πάροδον, ἤειμεν παρὰ τῶν περιρρεόντων ἡμᾶς κατὰ πᾶν μέρος συνθλιβόμενοι, ὥστε τὴν ὑπερβάλλουσαν αὐτῶν φιλοφροσύνην μικροῦ δεῖν καὶ λειποθυμίας γενέσθαι αἰτίαν[28].

Gregory of Nazianzus, when describing the route to Andaemona, recounts that he was forced, due to the slope, to get out of the cart and travel part of the way on foot, part on horseback, even though it was a Roman road, as can be seen from the mention of πεντεκαίδεκα σημεῖα[29].

Of great interest is also a passage of Oration 8 for the deceased Gorgonia[30], daughter of Gregory the Elder and Nonna, bride of Alypius[31], and sister not only of Gregory of Nazianzus but also of the physician Caesarius[32]. Here Gregory remembers a terrible accident that occurred precisely to his sister, when the vehicle on which she was travelling overturned because of the mad mules. Gorgonia would have suffered many serious fractures which, however, would have been completely healed thanks to divine intervention:

ἵστε τὰς μανείσας ἡμιόνους, καὶ τὴν συναρπαγὴν τοῦ ὀχήματος, καὶ τὴν ἀπευκτὴν ἐκείνην περιτροπὴν, καὶ τὴν ἄτοπον ἔλξιν, καὶ τὰ πονηρὰ συντρίμματα, καὶ τὸ γενόμενον ἐντεῦθεν σκάνδαλον τοῖς ἀπίστοις, εἰ οὕτω δίκαιοι παραδίδονται, καὶ τὴν ταχεῖαν τῆς ἀπιστίας διόρθωσιν· ὅτι πάντα συντριβεῖσα καὶ συγκοπεῖσα καὶ ὁστᾶ καὶ μέλη, καὶ ἀφανῆ καὶ φαινόμενα, καὶ οὔτε ἰατρὸν ἄλλον πλὴν τοῦ παραδόντος ἠνέσχετο· ὁμοῦ μὲν καὶ ὄψιν ἀνδρῶν αἰδουμένη καὶ χεῖρας (τὸ γὰρ κόσμιον κάν τοῖς πάθεσι διεσώσατο)· ὁμοῦ δὲ καὶ τὴν ἀπολογίαν ζητοῦσα παρὰ τοῦ ταῦτα παθεῖν συγχωρήσαντος, οὔτε παρ' ἄλλου τινὸς ἢ ἐκείνου τῆς σωτηρίας ἔτυχεν· ὡς μὴ μᾶλλον ἐπὶ τῷ πάθει πληγῆναί τινας, ἢ ἐπὶ τῷ παραδόξῳ τῆς ὑγιείας καταπλαγῆναι, καὶ διὰ τοῦτο δόξαι συμβῆναι τὴν τραγῳδίαν, ἵν' ἐνδοξασθῇ τοῖς πάθεσι[33].

Still in Cappadocia, must have been hinnies, hybrid specimens born from the crossbreed of the excellent Cappadocian horses with the female donkeys and used for the transport of people, as we learn from a letter by John Chrysostom addressed to the Olympias the Deaconess at the end of 404 A.D. The βόρδων (= *burdo*, "hinny"), which was pulling the litter, in fact, had fallen to its knees due to the narrow, steep and stony road in the territory of Caesarea:

εἶτα ὁ βόρδων ὁ φέρων ἡμῶν τὸ λεκτίκιον – τραχεῖα γὰρ ἦν σφόδρα ἡ ὁδὸς καὶ ἀνάντης καὶ λιθώδης – κατενεχθεὶς ἐπὶ γόνυ κατήνεγκέ με ἔνδον ὄντα καὶ μικροῦ ἔμελλον ἀπόλλυσθαι· εἶτα ἐκπηδήσας, συρόμενος περιεπάτουν ὑπὸ Εὐηθίου τοῦ πρεσβυτέρου – κατεπήδησε γὰρ καὶ αὐτὸς τοῦ ὑποζυγίου – καὶ οὕτως χειραγωγούμενος ἐβάδιζον, μᾶλλον δὲ ἐλκόμενος· οὔτε γὰρ βαδίζειν ἦν είς τοσαύτην δυσχωρίαν καὶ ὄρη χαλεπὰ ἐν νυκτὶ μέσῃ[34].

The woman who was able to accommodate John Chrysostom in Koukousos – a very important *statio* located by the *Itinerarium Antonini* on the road from Melitene to Tarsus in Cilicia – when he was forced to leave Constantinople must have been very rich. In fact, Olympias was able to ensure that basic necessities arrived from everywhere in Koukousos. John Chrysostom describes in detail the adverse weather conditions that can obstruct a mountain pass road such as the one that rans through the Taurus from Caesarea to Koukousos, severely affecting his already compromised health, but also constitute a "useful" obstacle to dangerous Isauric incursions[35].

3. Elephants (?)

After the partition of Triparadisus in 321 BC, Eumenes was forced to face Antigonus alone, withdrew to Cappadocia in 320 BC and faced his enemy at Orkynia. As Diodorus Siculus says, Antigonus had only 10,000 infantry, 2,000 cavalry and thirty elephants against Eumenes, who had some 20,000 infantry and 5,000 cavalries[36]. After the defeat, Eumenes had to take refuge in a fortress called

[28] Greg. Nyss. *ep*. 6, 3–4, vol. I, p. 166; 6, 8–9, vol. I, p. 168 Maraval 1990: "and over our heads was a small cloud, caught by a strong wind, already swollen with rain. Yet we, as in the Israelite wonder, passed through the midst of the waters on every side of us (cf. Ex 14.22), and completed the journey to Vestene without being drenched. Once we had found shelter there and our mules were given rest, the signal was given by God to the sky for the downpour. When we had spent some three or four hours there and had rested sufficiently, again God ended the downpour, and our carriage moved along more briskly than before, as the wheels sped easily through the mud which was just moist and on the surface… But as soon as we entered the portico the carriage struck against the dry pavement. At that, as if by some signalling device, the people suddenly appeared I know not from where or how. They thronged around us so closely that it was not easy to disembark from the carriage, for we could not find a spare space among them. But after we had with difficulty persuaded them to allow us a chance to descend and to let our female mules pass through, we were pressed on every side by the crowd all around us, so much so that their excessive affection all but made us faint", transl. Silvas 2007: 141–142. On Vestene, site located on the Halys east of Nyssa, cf. Cassia 2004: 218; Silvas 2007: 141, nt. 151. See *ep*. 1, 6, vol. I, pp. 86–88 Maraval 1990 on some roads so impervious that they can only be travelled on horseback and without a vehicle: καταλιπὼν ἐν τῷ τόπῳ τὸ ὄχημα, ἐν ᾧ παρὰ τῆς τοιαύτης κατελήφθην φήμης, ἵππῳ τὸ μεταξὺ διῆλθον διάστημα, κρημνῶδες καὶ ὀλίγου ἀπόρευτον ταῖς τραχυτάταις ἀνόδοις. Cf. Teja 1974: 31. For the location of Tyana on the important trade routes testified to by the *Itineraria* see Cassia 2004: 58.

[29] Greg. Naz. *ep*. 249, 7, p. 178 Gallay 1969 (= Greg. Nyss. ep. 1, 7, vol. I, p. 88 Maraval 1990): ἦν δὲ πεντεκαίδεκα σημεῖα, ὡς παρὰ τῶν ἐγχωρίων ἠκούσαμεν, οἷς τὸ ἐν τῷ μέσῳ διεμετρεῖτο διάστημα. Τούτων τὰ μὲν ἐκ ποδός, τὰ δὲ διὰ τοῦ ἵππου μόλις διελθών, ὄρθριος, μέρει τινὶ καὶ τῆς νυκτὸς συγχρησάμενος, κατὰ τὴν πρώτην τῆς ἡμέρας ὥραν ἐφίσταμαι τοῖς Ἀνδαημονοῖς· οὕτω γὰρ ὀνομάζεται τὸ χωρίον ἐν ᾧ ἦν ἐκκλησιάζων ἐκεῖνος μετὰ ἄλλων ἐπισκόπων δύο, "fifteen milestones measured the intervening distance, as we heard from the local people. Barely making headway, now on foot, now on horseback, in the early morning – for I had even employed part of the night – I arrived in the first hour of the day at Andaëmona, for that was the name of the place where he was holding church with two other bishops", transl. Silvas 2007: 109. On the attribution of this letter to Gregory of Nazianzus or to the Nyssen cf. Maraval 1990: 54–55; Silvas 2007: 105–107; Conte 2017: 314, nt. 1325.

[30] The bibliography on Gorgonia is quite extensive: cf. Hauser-Meury 1960: 87, *s.v. Gorgonia II*; *PLRE*, I: 398, *s.v. Gorgonia 2*; Conde Guerri 1994: 381–392; Burrus 2006: 153–170; Fatti 2011: 279–304; Børtnes 2013: 97–115.

[31] Greg. Naz., *epitaph*. 24 = *AP* 8, 103, 1–4: κτῆσιν ἐὴν σάρκας τε καὶ ὀστέα πάντ' ἀναθεῖσα / Γοργόνιον Χριστῷ μοῦνον ἀφῆκε πόσιν· / οὐ μὰν οὐδὲ πόσιν δηρὸν χρόνον, ἀλλ' ἅρα καὶ τὸν / ἥρπασεν ἐξαπίνης κύδιμον Ἀλύπιον. On Alypius cf. Hauser-Meury 1960: 28, *s.v.* Alypius V; *PLRE*, I: 147, *s.v.* Alypius 5.

[32] Cf. Cassia 2023: 339.

[33] Greg. Naz. *or*. 8, 15, pp. 278–280 Calvet-Sebasti 1995: "you know how her maddened mules ran away with her carriage, and unfortunately overturned it, how horribly she was dragged along, and seriously injured, to the scandal of unbelievers at the permission of such accidents to the righteous, and how quickly their unbelief was corrected: for, all crushed and bruised as she was, in bones and limbs, alike in those exposed and in those out of sight, she would have none of any physician, except Him Who had permitted it; both because she shrunk from the inspection and the hands of men, preserving, even in suffering, her modesty, and also awaiting her justification from Him Who allowed this to happen, so that she owed her preservation to none other than to Him: with the result that men were no less struck by her unhoped-for recovery than by her misfortune, and concluded that the tragedy had happened for her glorification through sufferings". On Gorgonia cf. Cassia in press.

[34] Ioh. Crys. *ep*. *Olymp*. 9, 3d, p. 228 Malingrey 1968: "then the hinny that carried our stretcher (since the road was very narrow and steep and stony), dropped to its knees, hurled me down while I was inside and lacked very little to die; then, jumped outside, I walked dragged by the presbyter Evetius (he also jumped down from the pack animal), and so I proceeded driven by his hand, or rather pushed: since it wasn't possible to proceed for such a rough land and inaccessible mountains in the middle of the night".

[35] Ioh. Crys. *epp*. *Olymp*. 9, 4c, p. 232; 12, 1a, p. 316; 15, 1d, p. 358; cf. 17, 1a, p. 368 Malingrey 1968. For testimonies on the site cf. Cassia 2004: 144–146.

[36] Diod. 18, 40, 7. Cf. Scullard 1974: 82.

Nora[37]. In this case, the main use of elephants is for warfare, but nothing prevents us from thinking that they were also used to transport army supplies, also because the development of subsequent events occurs rather quickly. Indeed, Antigonus met with Eumenes and tried to persuade him to take joint action. But the Cardian demanded the return of the previously granted satrapies and absolution from all charges. Antigonus sent a report to Antipater and, having left a sufficient garrison, moved through a forced march to attack the enemy generals, Alcetas, brother of Perdiccas, and Attalus, commander of the entire fleet[38].

The physician Aretaeus of Cappadocia in the 2nd century A.D., in order to explain the symptoms of elephantiasis (disease that has been identified with leprosy)[39], still speaks of elephants in such detail as to suggest direct knowledge of the animal, although we know almost nothing about his training as a doctor or the places where he practised his profession[40]. In any case, «Aretaeus has provided an interesting side-line on how a skilled physician regarded elephants»[41].

4. Camels

In addition to the passages of the Cappadocian Fathers already mentioned regarding size and strength of the camels (in *Adversus eos qui castigationes aegre ferunt* and *In sanctum Pascha* of Gregory of Nyssa), as well as their presence in the "supply" of the great owner (in Basil's *Quod rebus mundanis adhaerendum non sit*), the bishop of Caesarea speaks of real herds of these animals that some wealthy owners now used yoked to transport goods, now bred in the wild for the production of meat and milk (ἀγέλαι καμήλων, τῶν μὲν ἀχθοφόρων, τῶν δὲ νομάδων)[42].

A further destination for the use of these animals is evident from Basil himself, who recommended in 373 A.D. to Antiochus, nephew of Eusebius, τὸν δὲ ἀδελφὸν τὸν ἐπὶ τὰς καμήλους, "the brother who is in charge of the camels". According to Ramon Teja, this indication would be an evident reference to «alguna posta estatal surtida por camellos»[43].

Gregory of Nazianzus also describes the camel herds as status symbol of the rich: θέλεις λίθους διαυγεῖς, / πλάτη τε γῆς λιπώσης, / καὶ ποιμνίων ἀριθμοὺς, / βοῶν τε καὶ καμήλων;[44].

As J. Eric Cooper and Michael J. Deker wrote, «as elsewhere in the Empire, camel caravans had specialist drivers and camel-masters who moved the merchandise of pedlars and wealthy owners around the plateau»[45]. The camels, in fact, certainly had to be used in the transport of Cappadocia salt[46], particularly widespread at the mouth of the Halys river (today Kızılırmak) and especially in inland lakes such as Tatta (Tuz Gölü). This basin was already considered by Strabo a real natural saline and still in the Ottoman period the precious mineral was transported on camel and mule back across Anatolia, up to Constantinople[47].

In the mid-16th century, the camel was present throughout central Anatolia, as evidenced by an epistle of Augier Ghislain de Busbecq, Flemish writer, herbalist and diplomat: *quibus rebus magno numero cameli onerantur. Talem numerosæ multitudinis comitatum 'carravanam' vocant*[48]. In the first half of the XVIII century, the British diplomat, numismatist and antiquarian William Martin Leake (1777-1860) recalled that from this lake basin radiated throughout Anatolia the largest amount of salt, indispensable for preserving raw meat: entire villages were engaged in collecting and transporting the ore, carried out with the aid of camels, mules or wagons, and directed everywhere in Asia Minor, especially westwards as far as Constantinople[49]. Still in the mid-nineteenth century William Francis Ainsworth, English surgeon, traveller, geographer and geologist, reported that there were few pastures for large herds of camels around Nevşehir[50].

5. Conclusions

All these animals had to play a fundamental role in transport, especially in an orographically complex environment such as the Mediterranean, where the cobbled streets remained however a rarity compared to the countless beaten paths. In fact, unlike what happened with the use of means of transportation on wheels and pulled by oxen, these animals, burdened with saddlebags or packsaddles, undoubtedly proved to be more suitable for rough paths and decisively more competitive to support loads. If on the one hand individual animals could be used for limited transport in an economic circuit where the spread of small property allowed the production of reduced surpluses for the market, on the other hand long convoys, consisting of numerous pack animals, could face displacements medium and/or long distance with loads of significantly more important goods: this is the case of camel caravans which, for example, crossed the Anatolian peninsula for the transport of salt taken from Tatta Lake, as well as of dromedaries, that moved through the Arabian Peninsula up to Nabatean region and the Syro-Palestinian coast or even the Egyptian desert from the ports of the Red Sea to reach the river boarding areas on the Nile in Coptos[51].

A donkey could bear loads between 70 and 90 kg, a mule between 90 and 136 kg; the mules, in particular, were the most profitable as they were very resistant, provided with an exceptional balance, especially in the impervious mountain stretches; moreover, they not only imposed low maintenance costs, but also had a special resistance to fatigue, which allowed them to travel, even if not quickly, up to 80 km per day[52]. Even camels, like mules, had an extraordinary resistance to fatigue, as well as to thirst, and were able to carry really heavy loads[53]. In the transport receipts saved by

[37] Cf. Cassia 2013: 333–366.
[38] Diod. 18, 41.
[39] Gourevitch 2001: 160–164.
[40] Aret. 4, 13, 1–4, 13, 8, pp. 85–87 K. Hude, *CMG*, II (Berlin: 1958²).
[41] Scullard 1974: 222.
[42] Bas. *hom. in div.* 7, 2, p. 47 Courtonne 1935: "herds of camels, some bearing burdens, others bearing nomads", transl. Boyd 2014: 76–77; for the connection with Bible and luxury products see 76, nt. 177. On the possible dating of the oration and the use of wealth according to Basil cf. Cassia 2024: 20–23.
[43] Bas. *ep*. 158, vol. II, p. 392 Deferrari 1988, trans. Deferrari 1988: 393. Cf. Teja 1974: 141.
[44] Gr. Naz. *carm. de se ipso* (*carm. hist*. 2, 1, 88), vv. 18–21, *PG* 37, 1436: "do you demand shining gems, and vast expanses of fertile earth, and quantities of sheep, oxen and camels?"; cf. Teja 1974: 32.
[45] Cooper and Decker 2012: 101; cf. Teja 1974: 141.
[46] Pliny attests the existence of a particular variety of rock salt with a characteristic yellow color (*nat*. 31, 39, 73: *horum extremitates* [of the lakes] *tantum inarescunt, sicut in Phrygia, Cappadocia, Aspendi, ubi largius coquitur et usque ad medium*; 31, 39, 77: *effoditur et e terra, ut palam est umore densato, in Cappadocia. Ibi quidem caeditur specularium lapidum modo; pondus magnum glaebis, quas micas vulgus appellat*; 31, 39, 82: *et in Cappadocia e puteis ac fonte aquam in salinas ingerunt*; 31, 41, 84: *e Cappadocia qui in laterculis adfertur, cutis nitorem dicitur facere*; 31, 41, 86: *in Cappadocia crocinus effoditur, tralucidus et odoratissimus*); cf. Colum. 6, 17, 7; Galen. *succ*. 1, A, 724, XIX C.G. Kühn (Lipsiae: Car. Cnoblochii 1830); Veget. *mulom.* 1, 20, 1; Aet. 2, 43; 6, 48; 3, 81; 16, 124; 133; Paul. Med. 7, 25.
[47] Strabo 12, 5, 4 C 568. Even today 60% of Türkiye's salt requirement comes from the Tüz Gölü, whose salinity is 375‰: Kasparek and Kasparek 1993: 93.
[48] *Ep*. 4, p. 327, de Busbecq 1771.
[49] Leake 1824: 70. On Tatta cf. Cassia 2022: 357–371.
[50] Ainsworth 1842: 188. Today the camel spreading area has shrunk and is substantially limited to the south-eastern corner of Türkiye: Grzimek (ed.) 1990: 313–321.
[51] Bagnall 1985: 1–6.
[52] Cf. White 1986; Hanson and Sijpestein 1991: 268–274 for the breeding of mules in Egypt; Bagnall 1979–1982: 117.
[53] Daniel and Sijpestein 1986: 111–115; Nachtergael 1989: 287–336, on terracottas depicting types of saddles, packsaddles and loads; 314, nt. 5 on an

an Egyptian papyrus of the 4th century A.D. the terms “donkey” and “camel” are even used as a unit of size: the donkey normally carried three artabes (about 90 kg), while the camel twice[54].

The geographical location of the testimonies is concentrated in that peculiar area of the ancient historical region of Cappadocia, not surprisingly mainly characterized – as we mentioned – by a rocky and underground habitat. In general, the majority of studies on this area have on one hand covered the architectural and decorative aspects – iconographic programs, fresco cycles of the rock churches – and on the other hand focused on the monastic (hermitages, cenobes, laura) or housing use destination of these structures. Now, even if these are considerable aspects, here it is instead necessary to focus more, even if not exclusively, on the “economic”– rather than religious – function of these settlements dug in the rock or obtained in the bowels of the earth, on the relationship between these sites and viability, according to a less “frequented” perspective of the study of “living in cliffs or caves”, but more attentive to the persistence and changes of the agricultural landscape and productive activities in the long term. Thus, we find ourselves in front of an extra-urban, rural, lively, pulsating landscape, punctuated, sometimes even thickly, by *castella*, *stationes*, κῶμαι. The territory including the underground cities of Derinkuyu, Kaymaklı and Özkonak, the important centre of Avanos and the Peristremma valley, dense with cave settlements – roughly corresponding to today’s Nevşehir province – shows a truly impressive settlement continuity: in fact, the rocky cavities were inhabited until the last century (sometimes even to this day) and the fields are still fertilized with guano collected in the dovecotes dug into the soft tuff of the houses[55]. In this area, where wine has been produced since the Hittite age, horses, donkeys and mules are regularly used in agricultural work and in small and medium-range transport[56].

In conclusion, the centrality of the Cappadocian plateau – crossed by many roads belonging both to the crossroads of Caesarea, in a central position, and to that of Melitene, located east, near the Euphrates – constituted the connecting factor and the territory of the passage of traffic between Anatolia, Syria, Mesopotamia, India and China and carried the export and import of products on a large, medium and short-range commercial network. The trades consisted of both everyday objects or basic commodities, and luxury products, transported by long convoys of donkeys, mules, hinnies, but also camels, a real “supply” of wealth of the urban notables of late ancient Cappadocia, owners not only of extensive lands, but also of whole herds of these animals. However, they were not only used as pack animals, but were also destined for other purposes, such as agricultural work, the production of milk, meat and textiles, the transport of passengers and the patients, and the imperial mail service (*cursus publicus*).

Résumé - Le transport des marchandises et les relations entre humains et animaux en Cappadoce entre les périodes hellénistique et antique tardive : De l'époque hellénistique à l'Antiquité tardive, la Cappadoce, située au centre du plateau anatolien, était sillonnée par d'importantes routes empruntées par les animaux de transport, dont les sources littéraires se souviennent aujourd'hui pour leur capacité reproductive extraordinaire tantôt pour leur coût tantôt pour leur grande docilité et utilité au service des homme. Le but de la présente étude est de vérifier la présence dans les témoignages anciens de bête de somme et de placer ces preuves dans le cadre économique, social et politique plus large de la Cappadoce.
Mots-clés : *Animaux de transport, Cappadoce gréco-romaine, routes, économie.*

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[54] *P.Wisc*. II 47. Cf. Gara 1994: 81–82.

[55] Cf. in general Germanidou 2015: 43–47.

[56] Cf. Ayliffe and Dubin and Gawthrop 19973: 518; Cassia 2004: 65.

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Aspects of Romanisation in Cappadocia Staging Architecture and Cityscapes

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Abstract
Cappadocia, the north-easternmost province of the Roman Empire was established in AD 17 by the emperor Tiberius, after the death of Cappadocia's last king, Archelaus. This paper discusses settlement patterns, city foundations, the absence, at least during the 1st century AD, of an extended network of cities and the development of local communities in the region under the Romans. The establishment and the role of the Imperial Cult in this remote province is also addressed. This paper further attempts to trace the emergence of urbanisation and civic monumentality in Cappadocia, through the introduction of monumental architecture and prominent infrastructure within the major Cappadocian cities - and to understand whether Cappadocia followed, or stood aside from, the architectural/urbanistic developments launched in the rest of the Roman world.
Keywords: *Roman East, Cappadocia, Anatolia, Urbanisation, Monumentality, City-networks.*

1. Introduction

The Cappadocian land located in southern Anatolia is characterized by a large geomorphological diversity, consisting of river valleys, plateaux and mountains. To its South there is the Mount Taurus range, whereas to its North there is the ancient river Halys (mod. Kızılırmak)[1], whose tributaries drain towards the Black Sea. To the East it is defined by the catchment of the Upper Euphrates, and to the West lies the Konya plain[2]. (Figure 1)

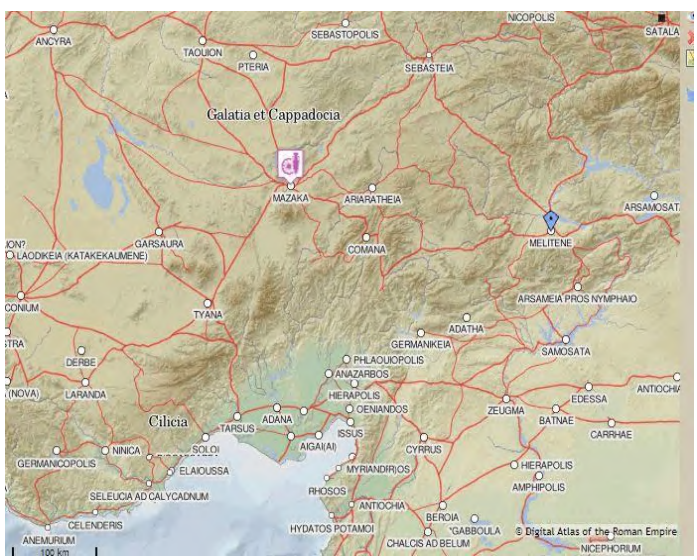

Figure 1. Map of Cappadocia region.
Adaptation from http://imperium.ahlfeldt.se/

1.1. Cappadocia under the Romans

After the death of its last king, Archelaus (36 BC-AD 17), amid allegations of disloyalty to Rome, the Kingdom of Cappadocia was annexed to Rome. In AD 17, Emperor Tiberius established Cappadocia as a Roman province[3]. Being an imperial province, it was governed by a *legatus Augusti*[4], whose main responsibility was to collect taxes, formerly extracted by the king, to the Roman treasury (Tacitus, *Annal.* 2, 42, 6). Under Nero, Galatia was joined with Cappadocia to form a vast *provincia* and two important *consular legates* were sent to control it, L. Caesennius Paetus and General G. Domitius Corbulo – the latter being one of the most important military and political figures of that time[5]; later, under Vespasian, the province incorporated the remaining regions of Galatia and Armenia Minor to make an enormous garrisoned province. These arrangements foreshadowed the organization of central and eastern Anatolia under Nerva and Trajan, when a huge province was governed by high-ranked Roman officers[6].

Cappadocia having been ruled by kings, lacked a basic civic structure, hence, the Roman administration had to regulate all aspects of provincial life. The administration of such a large province was too demanding to be handled, so a team of *legati Augusti* would also serve alongside the governor, undertaking some of the civil and judicial duties. Even then, the Roman personnel's burden would have been too difficult to cope with and much of the administrative tasks were transferred onto the local communities[7].

1.2. City foundations, settlement patterns and development

Until the Iron Age most settlements followed the mound-type location. From the period after Alexander's campaigns, throughout the Hellenistic and Roman period, the picture changes and an

[1] On Halys, ROELENS-FLOUNEAU 2018: 306-308.
[2] ALCOCK/ ROBERT 2014: 37.
[3] MITCHELL 1993: 97. MILLAR 2002: 316, 356. MILLAR 2004: 94, 165. SEAR 2006: 110.
[4] Strabo, I 2. I. 4, 534. MITCHELL 1993: 63.
[5] On G. Domitius Corbulo, SYME 1970.
[6] MITCHELL 1993: 64.
[7] MITCHELL 1993: 140.

increased settlement activity is detected[8]. Based on systematic surveys, material and epigraphic evidence, the whole region became densely populated with an estimated number of 260 sites[9]. Occupational strategy seems to change and new architectural site-types appear, including fortress sites[10]. This was probably justified by the need to protect the province's -and the Empire's eastern frontiers.

It seems that attempts to build cities in the region of Cappadocia were initiated around the end of the Julian-Claudian dynasty. Until then, the region remained largely without a developed network of cities[11]. The main form of settlement remained the village, and the regional economy was mainly based on pastoralism and agriculture[12]. Only a few settlements were developed into major cities. Pliny the Elder (*NH* 6. 8), though not a reliable source, provides a list of cities in Cappadocia: Archelais, Caesarea, Castabala, Melita (Melitene), which had not become an autonomous city until Trajan, Tyana, even the less significant Diocaesarea. The only city among them, acquiring a more significant status was Comana, a temple-city, known as *Hierapolis* during the reign of Vespasian [13].

The only source about Anatolia before Augustus is Strabo's book 12, which was probably completed in AD 18/19, but which pays little attention to the Augustan period when most of the area was annexed to the Empire[14]. Strabo (12. 2. 7, 537) comments that there were only two settlements that deserve the appellation «city»: Tyana, towards the Cilician Gates, which was called *Eusebeia*, next to the Taurus Mountain[15], and the *metropolis* of Cappadocia, Mazaca, renamed *Eusebeia*, by Mount Argaeus[16]. Both had been founded in the middle of the 2nd century BC by Ariarathes V. Although Strabo (12. 2. 6, 537) makes another statement that there were no cities in Cataonia, or Melitene, he does not ignore the fact that there were other important settlements in the region. The most important of these were temple-states, ruled by priests and inhabited by sacred slaves and servants. Indeed, the ruling priests of Comana and Venasa, which were Cappadocian temple-cities ranked second and third in importance after the Cappadocian king and controlled 6,000 and 3,000 sacred slaves (*hierodouloi*) respectively[17]. Strabo mentions Comana as *πόλις ἀξιόλογος* (12. 2. 3, 535), being highly populated and with a great temple dedicated to God Ma[18]. Ariarathes V is also associated with Cadena, in the district of Sargarausene. The site has not been identified, but Strabo (12. 2. 6, 537) describes it as a royal residence in the form of a city.

The urbanisation process in Cappadocia owes a lot to the influence of its western and northern neighbour provinces[19]. Following their examples, where cities were developed around trade and religious centres, Cappadocian communities were also gathered around trade centres and sanctuaries, both inter-regional and local. The development of road networks during the Roman period affected positively the stability of settlements[20]. Commerce had an equally profound impact on the growth and development of the central and eastern Anatolian cities. Harbours promoted communication and cultural interaction, although it did not necessarily entailed, or resulted to Hellenisation[21].

1.3. Roman military presence and fortresses

Due to its importance as a border province, Cappadocia was granted a permanent military garrison of two legions and several auxiliary Roman troops that would protect Roman interests against the Scythians, Sarmatians, the Alani, and the Parthian threats. It would also ensure peace throughout Anatolia. Legions *XVI Flavia Firma* and *Legio XII Fulminata* were stationed by Vespasian along the Euphrates frontier[22].

South central Anatolia, with its great open plains, was not a suitable terrain for the construction of strongly defended *castra*, nevertheless, here too fortified settlements are found[23]. One basic reason was that the plains of western and southern Anatolia were the starting points from which the Roman troops advanced, or launched the campaigns in Parthia and the eastern frontiers.

Strabo's description (12. 2. 1, 535) indicates that a large part of the country was controlled by *phrouria*. Archelais in western Cappadocia was known to Strabo (12. 2. 5, 5 37; 6. 1, 568; 14. 2. 29, 663) by its old name Garsaoura and it is described as a village city (*κωμόπολις*) or small town (*πολίχνιον*). Although it was a regional centre in the Augustan period, it is unlikely that it developed a city constitution, even after it was named Archelais by the last Cappadocian Ruler[24]. Likewise, its neighbour, the Lycaonian village of Coropassus, was also described as *phrourion* (Strabo, 12. 5. 6, 568; 6. 1, 569). The *castrum* of Tomisa, which guarded the crossing of the Euphrates towards Sophene, extends to the eastern borders of Cappadocia[25]. Strong mountain *castra* existed also at Azamora and Dastarcon, with the renown temple of Apollo Cataonian, which as recorded by Strabo (12. 2. 5,537) controlled the route southwards over the Taurus, from Mazaca to the Cilician plain. *Castra* existed also at Argos and Nora/Neroassos, which guarded the western boundaries of Cappadocia (Strabo, 12. 2. 5, 537)[26]. The capital Mazaca was not fortified. Its defence and security were dependent on numerous fortresses, some belonging to the King, others to his friends (Strabo, 12. 2. 7, 538; 2. 9, 539). The north-western frontiers between Cappadocia and the Pontic regions were guarded by the fortress at Dasmenda (Strabo, 12. 2. 10, 540).

2. Cities of Cappadocia

Until recently little was known about the region archaeologically, and epigraphic evidence of pre-Roman Cappadocia remained quite scarce, limited to only a few finds[27]. Hopefully, the systematic excavations that were launched in the last

[8] ALCOCK/ ROBERT 2014: 50.

[9] On the detected sites see ALCOCK/ ROBERT 2014: 40 table 2, 41 figs. 2-3, 42 fig. 4 43 fig. 5, 44 fig. 6.

[10] Despite the detected activity, the area around Tüz Gölü (Salt Lake) is avoided, probably due to the health and environmental hazards (illnesses, floods) produced by the lake, ALCOCK/ ROBERT 2014: 44.

[11] MITCHELL 1993: 98 note 196 (Cappadocia, like Egypt, was administered through domains and estates, not cities).

[12] MITCHELL 1993: 148 note 49. ALCOCK/ ROBERT 2014: 50.

[13] MITCHELL 1993: 97.

[14] MITCHELL 1993, 81. On Strabo's references to Cappadocia, VAN DAM 2011: 83-84.

[15] On this VAN DAM 2011: 91.

[16] On this VAN DAM 2011: 93-95.

[17] MITCHELL 1993: 82.

[18] MITCHELL 199: 82.

[19] MANOLEDAKIS 2022, on the south littoral of the Black Sea.

[20] ALCOCK/ ROBERT 2014: 50.

[21] On Cappadocian trade products, MITCHELL 1993: 82-84. TEJA 1980: 1093-1102.

[22] MITCHELL 1993: 34. *Legio XVI Flavia Firma* was stationed on the river Euphrates at Samosata (Samsat, Türkiye), from AD 117 until the 4th century. *Legio XII Fulminata* was guarding the Euphrates River crossing near Melitene from AD 71 until the early 5th century.

[23] YEGÜL/ FAVRO 2019: 599.

[24] Claudius founded a colony at Archelais, an isolated last addition to the great Augustan program (Pliny, NH 6. 8.), MITCHELL 1993: 95.

[25] MITCHELL 1993: 84.

[26] Nora/Neroassos (*Νώρα/Νηροασσός*) has been identified with the fortress at Gelin Tepe, near Sivrihisar. MITCHELL 1993: 84 note 34; EQUINI SCHNEIDER 1992-1993: 394-396, figs. 7-10. LEKA 2001: http://asiaminor.ehw.gr/Forms/fLemma.aspx?lemmaid=12267&contlang=58. Also, TURCHETTO 2013: 114.

[27] Cf SEG 29: 1532; SEG I: 466. ROTT 1908: 370-371 no. 78. MITCHELL 1993: 82-84.

years will provide more evidence of the formation of centrally organised city networks after Cappadocia's incorporation into the Roman Empire[28]. The following paragraphs will briefly present some of the few cities of Roman Cappadocia that, to a degree, present a certain degree of urban organisation.

2.1. Caesarea Cappadociae (mod. Kayseri)[29]

Set in the heart of a rough and little-urbanized province, Caesarea, formerly known as Mazaca, was situated in the *Strategia* of Cilicia, immediately northwards of the mountain Argaeus, frequently depicted on its coins. The city was under Persian rule, until after the battle of Ipsus, when the city passed on to the Seleucid Empire. Around 250 BC it became the capital of the autonomous Kingdom of Cappadocia, under Ariarathes III. It was renamed *Eusebeia-by-Argaeus*, in honor of Ariarathes V Eusebes Philopater (163-130 BC)[30]. In 12-9 BC, the Cappadocian King Archelaus renamed the city *Caesarea-in-Cappadocia* to honour Emperor Augustus[31]. The city passed under formal Roman rule in AD 17.

The city was reputed to be marshy and rather unsuitable for a capital (Strabo, 12.2.7-9), because the land was volcanic, infertile and arid, as the underground water did not emerge to springs, but to swamps. On the other hand, it was most suitable for animal husbandry. Being located close to river Melas[32]and upon the junctions of five ancient trades routes crossing Asia Minor from east to west and north to south (Strabo, 14.2.29), it reached a considerable commercial and economic growth[33].

Caesarea remained the Seat of the government of the Province and the *Koinon* of the Cappadocians. Inscriptions record the existence of a *Cappadocarch* at around AD 25[34]. Under Tiberius, the city became an official mint for the Eastern provinces, thus acquiring the right to issue silver coins often dated by the Emperor's regnal year.[35] Specific issues are directly associated with specific events and activities on the eastern frontier, such as the Parthian conflicts[36]. Caesarea's First Neokorate was awarded under Septimius Severus, presumably during the 14th year of his rule (AD 205/206)[37]. Coins of this first Neokorate depict a two-column Corinthian temple[38], Mt. Argaeus, the city's title and its Festivals[39]. (Figure 2) However, no traces of an Imperial temple have been found. Caesarea retained its close relations with the Severans and gained its second Neokorate under Alexander Severus[40].

The city was not fortified, despite being the capital of the Kingdom. The kings used the city more likely as a camp and relied on neighbouring *phrouria* for their safety (Strabo,12.2.7). It received fortification during Gordian's III reign (238-244)[41]. The circuit of the fortification walls and its irregular shape made its defence difficult and Justinian considered it necessary to replace the walls, at that time with a shorter circuit (Procopius, *De aedificiis*, 5.4.7-14), reflecting both the city's and the population's shrinkage at that time. Parts of the fortification walls and two towers were still visible at the late 20th century. The city was destroyed by the Sassanid king Shapur I after his victory over the Emperor Valerian I in AD 260[42]. At that time, its population was 400,000 inhabitants. The city managed to recover and gradually became home to several early Christian saints[43]. Little of the ancient city remained visible, until recently, when excavation projects were launched.

Figure 2. Caesarea. Septimius Severus, AE17 of Caesarea, Cappadocia. AD 193-211. AYT KAI Λ CEΠ (CEOYHPOC ΠEP), laureate head right. / MHTPO KAICAP, tetrastyle temple with Mt. Argaeus within. Date ET B (?) below. Syd 401a var (obv. legend). With permission of wildwinds.com, ex Savoca London Auction 5.

The theatre building of the city has not been identified yet, however its existence is verified by written sources, mostly inscriptions[44]. One inscription records a certain Meliton, son of Meliton (*Μελίτωνα Μελίτωνος*), a kitharist honored by the Counsil and the People and the Gerousia of Aphrodisias[45]. His honorific monument is dated at the early 3rd century AD and attests the existence of both a *Koinon* of the Cappadocians and the official Festivals, the *Commodeia* and the *Philadelpheia Severeia*[46].

On the north side, towards Argaeus Mt., there are traces of perhaps a **gymnasium-baths complex**. Random finds are displayed in the local Museum.

2.2. Colonia Archelais (Aksaray, Niğde)[47]

Archelais, formerly known as Garsaoura, was the chief town of the *Strategia* of Garsaouritis. Strabo (12.2.6; 14.2.29) describes it as a small village city (*κωμόπολις* and *πολίχνιον*). During the Hellenistic period it was refounded as Archelais, after King Archelaus . Under Claudius it was upgraded to the status of a colony (Pliny, HN 6.8). The site actually consists of a large oasis SE of Tuz Gölü, 225 km southwards of Ancyra. No monuments survive, though occasional tombstones are found.

[28] ALCOCK/ ROBERT 2014 study integrate and discuss data and results deriving from three field surveys conducted in Cappadocia which recorded material remains from Early Holocene until the establishment of the Republic of Türkiye

[29] PECS s.v. Caesarea Cappadociae (Kayseri) Türkiye (R. P. Harper), accessed July 2020 from *http://www.perseus.tufts.edu/hopper/text?doc=Perseus:text:1999.04.0006:entry=caesarea-cappadociae*. Also, *https://www.livius.org/articles/place/caesarea-mazaca-kayseri/* and imperium.ahlfeldt.se/places/21242.

[30] Strabo12.2.7. SOFOU 2001: note 2-3.

[31] IMHOOF-BLUMER 1898: 13-15 (on the related coins). SOFOU 2001.

[32] On Melas, ROELENS-FLOUNEAU 2018: 271-272.

[33] MAGIE 1950: 201, 492, 1095, note 3. MITCHELL 1993: 132. HILD/RESTLE 1981: 194.

[34] BURRELL 2004: 246 note 2. Also, HAENSCH 1997: 272-276. MORETTI 1953: 164, no 62.

[35] cf. SOFOU 2001: notes 14-15. BURRELL 2004: 246 note 3.

[36] BURRELL 2004: 246 note 5. Also, BAR 1986.

[37] BURRELL 2004: 246-248, on chronological issues of Caesarea's first Neokorate coins. . PRICE 1984: 269

[38] BURRELL 2004: 248, pl. 37 fig.193 (type 1a, Berlin 709/1914).

[39] More details on BURRELL 2004: 248, pl. 37 fig. 195 (type 4b, Paris 602).

[40] BURRELL 2004: 248-250, with a discussion on the chronological problems of the second Neokoria.

[41] IMHOOF-BLUMER 1898: 22 (on the related coins).

[42] BURRELL 2004: 250 note 44. Also, DODGEON/LIEU 1994: 57-65

[43] Saints Dorothea and Theophilus the martyrs, Gregory of Nazianzus, Gregory of Nyssa and Basil of Caesarea, VAN DAM 2003.

[44] Cf. http://www.theatrum.de/670.html.

[45] ROUECHÉ 1993: 196 no 69. Also in, http://insaph.kcl.ac.uk/iaph2007/iAph010182.html. On Meliton, STEFANIS 1988b: 1634

[46] MITCHELL 1993: 218-221.

[47] *PECS*, s.v. Colonia Archelais (R. P. Harper), accessed August 2020 from http://www.perseus.tufts.edu/hopper/text?doc=Perseus:text:1999.04.0006:id=colonia-archelais

2.3. Comana Cappadociae (mod. Shar)[48]

According to ancient geographers, Comana (Gr. *Κόμανα*, τα; Hit. Kummanni) was situated in Cappadocia in the valley of the Sarus, in the deep glens of the Antitauros[49]. It was founded at ca. 750 BC and was a major city of the *Strategia* of Cataonia (Strabo 12.2.3). The city was considered important throughout Antiquity due to its position at the eastern end of the main route of the Kuru Çay, the western Anti-Taurus range, through which the road from Caesarea-Mazaca towards Melitene passed[50]. This road was upgraded by Septimius Severus into the primary military road towards the eastern Anatolian frontier of the Empire. Several parts of the Severus's road are preserved, among them a bridge at Kemer, and a significant number of milestones (in situ or reused).

Under Caracalla, Comana was re-founded as the Roman colony *Colonia Julia Augusta Comana*, or *Colonia Julia Augusta Comanenorum*[51]. It fell into decline around AD 640. Roman inscriptions record the city also as *Hierapolis*, due to her status as a temple-state, one of the two major cult centres (the other was *Comana Pontica*) of the West-Asian Nature Goddess Ma, assimilated by Strabo with the Syrian Moon Goddess, Enyo. As a temple-state, Comana was not fortified and was ruled by a High Priest, who ranked second after the King of Cappadocia and generally originated from the royal family. Much of the population was settled in the surrounding fertile valleys, where scattered traces of human presence are found.

Both the temple of Enyo-Ma and the Festival held in honour of the goddess were famous. Today, the exact site of the great temple has not been adequately identified or researched.

The theatre was built on the left bank of the river, upon the natural hill slope[52]. No excavation has been conducted, however part of the *cavea* (two not continuous rows of seats) is visible on the ground. From the *balteus* between them runs a vaulted corridor, preserved in good condition.

Another preserved monument is the so-called Kirik Kilise, originally the funerary monument of the Roman Senator *Aurelius Claudius Hermodorus* (Tit.Coman.Capp. 6,29: *Αὐρηλιου Κλ. Ἑρμοδωρου συνκλητικου*)[53]. (Figures 3-4)

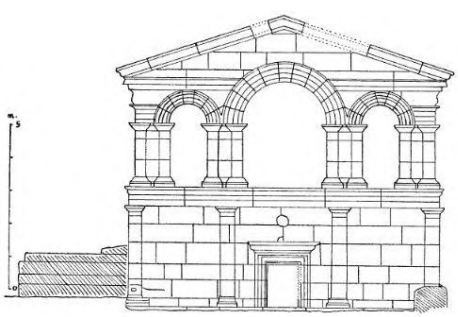

Figure 3. Comana. Kirik Kilise. Monument of Aurelius Claudius Hermodorus. Façade drawing. After HARPER - BAYBURTLUOĞLU 1968: fig.4.

Figure 4. Comana. Kirik Kilise. Monument of Aurelius Claudius Hermodorus. State view. © Katpatuka-Own work, FAL, https://commons.wikimedia.org/w/index.php?curid=3854562

During the Byzantine period, the monument was converted into a Christian church[54]. The temple faces west and it is built of fine ashlar masonry[55]. The two-storey façade was divided horizontally by a tripartite moulded architrave. The lower part had a rectangular doorway flanked by two pairs of engaged piers. The upper storey was decorated with a central arch flanked by two smaller arches, all supported on engaged pilasters. It was roofed by an angled pediment. The main doorway leads to a vaulted chamber. The inscription recording *Hermodorus*, the original occupant of the monument, is carved below the middle *loculus*. From the eastern end of this chamber, a vaulted channel forms two openings. The lower one terminates to another *loculus* and the upper leads to a second vaulted chamber[56].

The so-called Ala Kapi was originally a tetrastyle prostyle temple with Corinthian capitals, dated in the 2nd century AD[57]. (Figures 5-6)

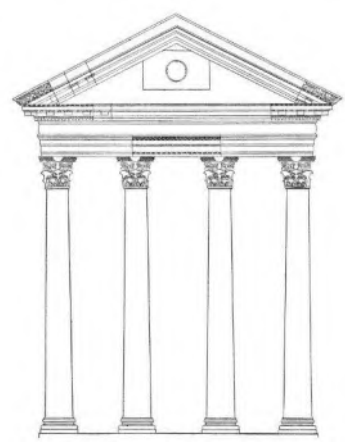

Figure 5. Comana. Ala Kapi. Tetrastyle prostyle temple. Façade drawing. After HARPER - BAYBURTLUOĞLU 1968: fig.7

[48] *PECS s.v. Comana Cappadociae (Kayseri) Türkiye (R. P. Harper)*, accessed July 2020 from http://www.perseus.tufts.edu/hopper/text?doc=Perseus%3Atext%3A1999.04.0006%3Aentry%3Dcomana-cappadociae; Also, imperium.ahlfeldt.se/places/21240; https://pleiades.stoa.org/places/628959, and https://topostext.org/place/383363UCom.

[49] HARPER 1968: 93-147. HARPER/ BAYBURTLUOĞLU 1968: 149-158.

[50] On recent projects focusing on the socio-economic and political structures of the Hellenistic and early Roman Anatolia, cf. HALDON 2018: 211 with notes.

[51] STROBEL/ OLSHAUSEN 2006 (s.v. Komana).

[52] HILD / RESTLE 1981: 208-209. SINCLAIR 1989: 474, figs.107-109. CHASE 2002: 133 with fig., 160 with fig. SEAR 2006: 359. Also, imperium.ahlfeldt.se/places/24850

[53] HARPER 1964: 167-168, fig.2. HARPER /BAYBURTLUOĞLU 1968: 150-155, figs.2-5.

[54] HARPER / BAYBURTLUOĞLU 1968: 153.

[55] Dimensions: 9.25 m. wide, 18 m long and possibly 9.00m. high, HARPER / BAYBURTLUOĞLU 1968: 150.

[56] HARPER 1964: 168, on a possible identification with the Governor of Noricum, AD 311 (CIL III, 4796).

[57] HARPER / BAYBURTLUOĞLU 1968: 155-158, figs.6-8.

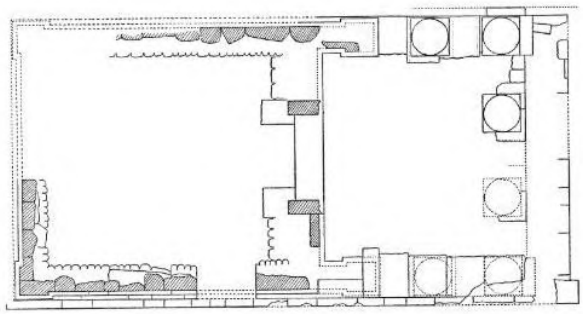

Figure 6. Comana. Ala Kapi. Tetrastyle prostyle temple Ground plan. After HARPER - BAYBURTLUOĞLU 1968: fig.6

The temple faces east and the dimensions of the *cella* are 11.00 X 9.60 m. The Roman monument was probably converted into a church for the Christian population of the Byzantine period. The Corinthian capitals had small decorative figures of Pan, Nike and Hermes, emerging from the foliage.[58] It presents certain similarities with the 2nd/3rd century AD capitals from the temple at *Heracleia Pontica*, but they are of better quality[59]. Several of the retrieved architrave blocks were decorated with animal hunt scenes[60].

Presumably, there was also a Gymnasium complex, since there are several references on a certain *Ἰαζημιος*, son of *Ἰαζημιος*, High-Priest and Gymnasiarch (Tit.Coman.Capp. 2,02; 2,05 2,19: *ἀρχιερεως και γυμνασιαρχο[υ·*).

Most of the sculptural monuments are today kept and exhibited in the Adana Museum. They include mythological statues, imperial and private portrait statues, among them cuirassed and togate figures, and a large variety of funerary monuments.

2.4. Melitene (mod. Eski Malatya)[61]

Melitene was an ancient city on the Tohma River, a tributary of the upper Euphrates, rising in the Taurus Mountains. It has been identified with *Arslantepe* (Melid), an important Hittite settlement and a major Neo-Hittite city state[62]. The Assyrians called the city *Meliddu*, a name that was preserved both by the Greeks (*Melitene*) and the Romans. According to Strabo (12.2.1), its inhabitants shared the same language and culture with the nearby Cappadocians and Cataonians. After the Cappadocian Kingdom's annexation to the Roman Empire, the settlement was re-established as Melitene (AD 72) and relocated as the base camp of *Legio XII Fulminata* - which continued to station there until at least the early 5th century[63].

The station of Melitene controlled all accesses of southern Armenia and the upper Tigris. It was the terminal of an important route running east from Caesarea[64]. Subsequently, the camp also attracted a civilian population. According to Procopius (*De aedificiis* III, 4, 18), early in the 2nd century AD, Melitene was awarded a civic status by Trajan and was upgraded to *municipium*. This upgrade launched a period of economic flourishment that allowed a series of building projects to be initiated. These altered the city landscape, which was then extended beyond the old city limits. However, no actual traces of the Hellenistic or Roman town exist, though Procopius (*De aedificiis* III, 4, 15-20) records with admiration the existence of temples, fora and even a theatre in Melitene. Traces of a theatre were actually spotted outside the ancient town outskirts, however, no excavations have yet been conducted[65].

The city walls were probably built during the late Roman or early Byzantine period. The city is also known to have been awarded the right to strike imperial coins between the 3rd and early 5th century[66].

2.5. Nyssa[67]

William Smith's *Dictionary of Greek and Roman Geography* placed the town at a village, not otherwise mentioned, called Nirse or Nissa, and said that it laid at a district called *Muriane*, not far from the river Halys, on the road from Ancyra to Caesareia[68]. Ptolemy's *Geography (5.7.8)* places it at 68°20' 38°40 (in his degrees) in the *Strategia* of Murimene. It is also mentioned at the *Itinararium Antonini* (Itin. Ant. 206,4). The *Synecdemus* and the *Notitiae Episcopatum* indicate that Nyssa was in the Roman province of *Cappadocia Prima*. The site of ancient Nyssa has been identified near the modern town of Harmandalı, in south-central Türkiye[69].

D. H. French during his research in Cappadocia has discovered two epigraphical evidence about Nyssa[70]. The first one is a limestone fragment (max 0.32 × max 0.525 × 0.16), dated between AD 198-209 carrying a probable votive inscription to Septimius Severus and his family: [ὸ δῆμ]ος Νησα[έων]. Today, it is kept at the Kirşehir Museum. The second one is a marble slab (0.22 × 0.73 × 0.483) found in Kirşehir and is probably originating from the nearby Harmandalı. It is also dated between AD 193-211 and carries a votive inscription to Septimius Severus by the Demos: ὸ δῆμος ὸ Νησαέων[71]. This inscription enhances the hypothesis that Nyssa was located close to modern Kirşehir[72].

The site is marked by a settlement mound, with a circuit of walls enclosing an area of ca.0.12km^2 [73]. Three Gates were opened to the North, East and South. The actual archaeological site consists of two hills, named the Large Fortress (Büyükkale) and the Small Fortress (Küçükkale). The ancient city's centre was located at the western slope of the Large Fortress (Büyükkale)[74].

2.6. Tyana (mod. Kemerhisar/Bahçeli, Bor, Niğde)[75]

Tyana was firstly recorded under the name of *Tuwanuwa* and *Tawuna* in the Assyrian sources[76]. It is today

[58] HARPER / BAYBURTLUOĞLU 1968: 158, pl. LIVa,b.
[59] On Herakleia Pontike, HOEPFNER 1966: pl. 12-19.
[60] HARPER / BAYBURTLUOĞLU 1968: 158, pl. LVa-c.
[61] PECS, s.v. MELITENE (R. P. Harper), accessed August 2020 from *http://www.perseus.tufts.edu/hopper/text?doc=Perseus:text:1999.04.0006:id=melitene*. Also, https://pleiades.stoa.org/places/629040.
[62] https://topostext.org/place/384384RMel. Also, FRANGIPANE 1993; HAWKINS 1993.
[63] SINCLAIR 1989: 3-12.
[64] HILD 1977: 84-104 (on the road from Caesarea to Melitene).
[65] HILD / RESTLE 1981: 236. SEAR 2006: 360. Also, http://www.theatrum.de/638.html
[66] On Melitene on late Antiquity, NICHOLSON 2018: 1001, s.v. Melitene (K. M. Klein).
[67] https://pleiades.stoa.org/places/619222/nyssa/?searchterm=Nyssa*
[68] *PECS*, s.v. Nysa accessed August 2020, from http://www.perseus.tufts.edu/hopper/text?doc=Perseus%3Atext%3A1999.04.0064%3Aentry%3Dnysa-ge. Cf. SMITH 1854.
[69] On ancient writers recording Nyssa, in POCHOSHAJEW 2008:1 with notes.
[70] FRENCH 1997: 115-124, pl. 21-23.
[71] FRENCH 1997: 115-117, pl. 21
[72] POCHOSHAJEW 2008: 2, notes 13-14.
[73] NICHOLSON 2018: 1091, s.v. Nyssa (PJT). Also, HILD 1977: 78. HILD/RESTLE 1981: 246-248, fig.17.
[74] HILD/RESTLE 1981: 247.
[75] PECS, s.v. Tyana (R. P. Harper), accessed August 2020 from http://www.perseus.tufts.edu/hopper/text?doc=Perseus:text:1999.04.0006:entry=tyana. Also, HILD/ RESTLE 1981: 298-299. http://www.ehw.gr/asiaminor/Forms/fLemma.aspx?lemmaid=9671&contlang=58. YILDIRIM / GATES 2007: 331. NICHOLSON 2018: 1535 s.v. Tyana (IJ).
[76] Cf. https://pleiades.stoa.org/places/648801. SOFOU 2002 in http://www.ehw.gr/asiaminor/Forms/fLemma.aspx?lemmaid=9671&contlang=5

located in the village of Kemerhisar, 10 miles south of Nigde[77]. Xenophon (*Anabasis 1.2.20*), who visited the city and described it as a «worldwide, big and blessed city», calls it *Dana (Δάνα).* The name Tyana was first reported on coins minted by the Cappadocian Ruler Ariaramnes (ca. 255-220 BC) after it became the second most important city of the Cappadocian Kingdom. During the 2nd century BC, King Ariarathes IV renamed the city *Eusebeia-on-Tauros*. This name was retained until the Cappadocian Kingdom became a Roman province (AD 17), when the initial name, Tyana, was restored. In AD 213, during the reign of Emperor Caracalla, the city gained the status of a colony and was renamed to *Colonia (Aureliana) Antoniana Tyanorum*. After AD 372, it became the capital of *Cappadocia Secunda*. In late Antiquity, the city once again changed its name to *Christoupolis*, the City of Christ[78].

The city was founded at a strategic location, 30km north of the Cilician Gates and along the ancient road system which gave it control over the communication of East and West[79]. It was built on a low artificial hill 15 m high, at the centre of a plain. During the Hellenistic and Roman periods, the city had a surrounding wall, part of which is still preserved. Within 4 km from the city there was a freshwater spring, next to which the Temple of Zeus Asbamaeus (Amm. Marc. 23.6.19) was built. The existence of that spring, in combination with the close by thermal springs, favoured human settlement since the prehistoric period. The architectural remains of the Hellenistic city are scarce, but of excellent quality. They reveal the ambitious building project of the early 2nd century BC, launched by the philhellene King Ariarathes V, to transform Tyana after the Greek standards. The city probably reached an impressive cultural development, compared to the rather undeveloped urban life of the rest Cappadocian Kingdom, nevertheless lower in comparison with the coastal cities of Asia Minor[80].

The privileged location of Tyana, which allowed control of the route from central Anatolia to the Cilician Gates and the Mediterranean, attracted the interest of several Roman Emperors, whose benefactions contributed greatly to Tyana's flourishment and development[81]. A fragment of Hadrian's official itinerary (CIL VI.5076-4) found in Rome, informs us that Hadrian arrived at Tyana on October 17th, AD 117[82]. Septimius Severus had also visited Tyana during his return trip to Rome in AD 202[83].

It seems that the urban organization of Tyana generally followed the standards of other roman cities of the 2nd century AD[84]. Among the preserved architectural remains in Tyana, there are sophisticated water transferring systems and water structures, including water reservoirs, thermae and sections of an aqueduct. These constructions seem to be organically and functionally connected, as components of a unified water system. They are dated during the reigns of Trajan and Hadrian (late 1st/early 2nd century AD).

The roman aqueduct of Tyana is the most important architectural remain in Kemerhisar[85]. (Figure 7) It was built in the late 1st/early 2nd century AD. The aqueduct brought drinking water to ancient Tyana from a spring, located in Bahçeli, 4 km to the east of Kemerhisar. In the Roman period, the spring was enclosed with a rectangular pool (23m x 66m x 2.5m), today excavated and restored[86]. (Figure 8) The aqueduct, whose preserved visible length is 1,170 m and the overall length 4 km, extends from the city centre eastwards, along the Tyana Caddesi (Tyana Str.). Systematic excavation began in 2001 (University of Padova) with focus on the Tyana's Roman water transferring system. Excavations attempted to discover the *Castellum aquae*, the terminal point of the Tyana aqueduct at the "Su Kemer" suburb (NE of Kemerhisar). Excavations have also revealed a roman Nymphaeum (Figure 9), and a bath complex, identified at the south part of the city of Tyana. It is preserved at ground-floor levels. Both are dated early in the 3rd century AD[87]. Surprisingly, apart from Tyana's water system not many traces have been found regarding water transferring and managing systems in the rest of the region. Not much literature exists on the Cappadocian water supply, and perhaps some of the future investigations could include this as well[88].

An inscribed base from Tyana is of great importance[89]. According to the inscription (SEG I, 466), Atizoas (Ατηζωας), son of Dryinos (Δρυηνοῦ), holding both the titles of *Gymnasiarch* and *Agonothetes*, dedicated a list of *Gymnasiarchs* to Hermes and Heracles, in favour of the King Ariarathes VI, starting from the 5th year of the King's reign.

Figure 7. Tyana. Site. View of the Nymphaeum. © Carole Raddato, https://followinghadrian.com/2017/10/17/17-october-117-hadrian-arrives-in-tyana-hadrian1900 (under Attribution-ShareAlike license)

Figure 8. Tyana. The water reservoir. State view. © Carole Raddato, https://followinghadrian.com/2017/10/17/17-october-117-hadrian-arrives-in-tyana-hadrian1900 (under Attribution-ShareAlike license)

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[77] On recent research, ROSADA /LACHIN 2010; 2011.

[78] Cf. https://turkisharchaeonews.net/site/tyana-kemerhisar

[79] On the road systems of Tyana, HILD 1977: 41-60, chart 2. Lately, TURCHETTO 2013 and 2015.

[80] BERGES/ NOLLÉ 2000: 490, 493.

[81] BERGES/ NOLLÉ 2000.

[82] Details in https://followinghadrian.com/2017/10/17/17-october-117-hadrian-arrives-in-tyana-hadrian1900/, with image.

[83] Cassius Dio 76 (75).15.4. HALFMANN 1986: 216-223;

[84] BERGES / NOLLÉ 2000: 29.

[85] https://romaq.org/the-project/aqueducts/article/725#tab-details

[86] Photos in https://www.cappadociahistory.com/post/tyana-kemerhisar.

[87] ROSADA 2006.

[88] GILLI -YAMAÇ 2015.

[89] MITCHELL 1993: 86 note 63. Robert 1963: 492-493. BERGES / NOLLÉ 2000: 205-206.

Figure 9. Tyana. Aqueduct. State view.© Carole Raddato, https://followinghadrian.com/2017/10/17/17-october-117-hadrian-arrives-in-tyana-hadrian1900 (under Attribution-ShareAlike license)

This reference dates the inscription at 130/110 BC, specifically at 126 BC[90]. This inscription is important for many reasons: primarily, because it implies the existence of a Gymnasium at Eusebeia/Tyana. Secondarily, because it attests to the conduction of official Games and, consequently, the existence of a specific venue monument (stadium, theatre, or amphitheatre) where the Games would be held. It is accepted that the Hellenisation of Cappadocia, which began sometime around the 3rd century BC, has been a slow and long process. If so, should this inscription be taken as proof that the institution of Gymnasium was introduced at such a late period (126 BC), in Cappadocia, as some scholars (Robert) suggest[91]? Regardless, what is even more important is that Atizoas was a native and that this inscription stands as a unique case of a local Hellenised Cappadocian being awarded the title of *Gymnasiarch*[92]. The reference to Hercules in this inscription is intriguing. Hercules was worshipped in Cappadocia since at least the mid-2nd century BC, being assimilated with the son of Astarte, the patron deity of Tyana[93]. The use of the theophoric name Heracleides (*Ἡρακλεῖδης*) of another *Gymnasiarch* recorded in the list, not only stands as proof of the existence of Hercules' cult in the region, but it also reveals that, just like Atizoas, this recorded Officer was probably a Hellenised local[94].

3. Aspects of Romanisation in Cappadocia

The existence, or absence, of cities is not the only criterion by which the Hellenisation of central and eastern Anatolia can be assessed. The fundamental features of Greek and Roman civil culture and structure, such as the existence or not of official civil buildings and institutions are also important parameters[95].

Building techniques and traditions are useful when examining cross cultural interactions. Both Cilicia and Cappadocia were two central Anatolian regions rich in volcanic stones and local masonry traditions. The lack of strong Hellenistic building traditions left enough space for the Roman construction techniques, especially *opus caementicium*, to prevail[96]. In Cappadocian cities, the use of *opus incertum* and *opus reticulatum* as facings for concrete-core walls are associated to their status as colonies and stations of Roman troops[97]. This phenomenon should not simply be attributed to the abundance of local volcanic material, but also to the knowledge and technological expertise received by the Romans, both military and administrative personnel, stationed in this remote and rugged province.

Inevitably the presence of large military forces and their stations necessitated a massively upgraded system of **roads** (*viae publicae*) since roman military control rested on rapid communications, as well as the ability to move troops and supplies efficiently between provinces and frontiers[98]. The great distances that travellers faced in Anatolia were a constant challenge to both Hellenistic and Roman Rulers[99]. The frontier was joined to the inland Asia Minor, and ultimately with the Balkans and Europe, by an immense network of major highways covering about 9,000 km[100]. These roads, some of which are traced, are broadly divided into two categories: those main roads used by the official, military, and administrative personnel and those secondary roads used by traders, travellers, private citizens travelling from one town to the next or, from the countryside to the cities[101]. The cost of road construction of this scale, either in manpower or financial terms, would have been huge and would have required an enormous labour force[102]. It is safe to assume that both the Roman troops stationed in Anatolia and the local populations were engaged in their construction[103]. Septimius Severus acknowledging the importance of Cappadocia, launched infrastructural projects in the region, including road constructions, that lasted at least until AD 208[104].

The Imperial Cult being the official connecting link between the Emperor and the provinces, was rapidly diffused and established in the newly annexed and largely non-urbanized regions of central Anatolia[105]. The observed local variations in its reception and expression agree with Price's argument that «the cult in these smaller communities might better be seen not as a product of their aspirations to civic status but of their urban development and local organization»[106]. The Imperial cult was linked to Rome's official deities and was clearly perceived as an expression of power, essential to Rome's survival and as such, the monuments associated with the Emperor had to be placed in the core of the civic life[107] This explains why in the modest settlements of the remote province of Cappadocia, the Imperial temples are the earliest and the most imposing examples of public architecture, defining the region's newly formed urban culture[108].

The Imperial Cult, the adjoining Festivals and the Games held in honour of the Emperor were organised and conducted by the provincial *Koina,* both at local and provincial levels[109]. The diffusion

[90] For the text see, https://epigraphy.packhum.org/text/287316?&bookid=172&location=1607. Lately, http://nautilos.arch.uoa.gr/preview.php?id=3963.
[91] Cf. ROBERT 1963: 469-523.
[92] GROSS/ALBENHAUSEN 2004: 319.
[93] BERGES/NOLLÉ 2000: 373-374 (Hercules figure on Tyana coins), 480-482. On Hercules at Gymnasia, see ANEZIRI/DAMASKOS 2004: 248-251.
[94] BERGES/NOLLÉ 2000: 205.GROSS/ALBENHAUSEN 2004: 316
[95] MITCHELL 1993: 85. ROBERT 1963: 492.
[96] YEGÜL/FAVRO 2019: 608.
[97] YEGÜL/FAVRO 2019: 608-609, 786.
[98] On the ancient road network of central and southern Cappadocia, TURCHETTO 2013 and 2015.
[99] MITCHELL 1993: 129-132 with maps.
[100] On the four major routes in the Anatolian network, MITCHELL 1993: 126-129. MAGIE 1950: 1309-1310, 1349-1350. FRENCH 1983: 87. More on TURCHETTO 2015.
[101] MITCHELL 1993: 132-136.
[102] On construction costs, BARKER/ COURAULT/ DOMINGO /MASCHEK 2023.
[103] MITCHELL 1993:127.
[104] MAGIE 1950: 676-677, 1545-1546.
[105] MITCHELL 1993: 100-117. Indicatively on the Imperial Cult, PRICE 1984. GRADEL 2002. On Caesar's and Augustus' divinization, KOORTBOJIAN 2013
[106] PRICE 1984: 86.
[107] On the Imperial Cult architecture in the Agoras of the Greek cities, EVANGELIDIS 2008, with bibliography.
[108] On architecture related to the Imperia Cult, PRICE 1986: 133-169.
[109] On the Neokoroi cities of the Roman East and the role of the provincial *Koina*, BURRELL 2004.On the inter-city rivals, PRICE 1986: 126-132.

of the Emperor's cult was as rapid in the remote Cappadocia as it had been in the more cosmopolitan province of Asia. In Cappadocia, an organized Imperial Cult was initiated almost from the point of its annexation to Rome[110]. Just in AD 20 an inscription attests that a provincial association (a *Koinon*?) was sponsoring official Games[111]. Written evidence records the *Commodeia* Festival being celebrated in Caesarea[112]. Marcus Aurelius upgraded the status of the Cappadocian village of Hálala to a Roman colony (as *Faustinopolis*), in memory of his late wife and built a temple in her honour[113].

Royal patronage has been a key agent for the Hellenisation and Romanisation of Anatolia. The two major cities of Cappadocia, Caesarea and Tyana, were founded by the generously philhellene King Ariarathes V, who organised Games both in Cappadocia and in Athens[114]. After the Roman conquest, the emergence of a local aristocracy with strong ties to Rome and the imperial court affected greatly the provincial social structures. This rising elite had both the will and the means to travel and form connections. Their mobility obliterated the boundaries, geographical or symbolic, social or religious, between the West and the East[115]. In the case of Cappadocia, people appointed to the municipal offices, and thus had the power to rule at a local level, were Greeks and native Anatolians, who were granted the Roman citizenship. These privileged elite members had received a Greek based education and culture; hence they were already Hellenised before being Romanised. Their Greek paideia was remarkable and with a deeper significance than the mere possession of wealth because it allowed them to participate in the elite culture of the Greek East and the wider Anatolia, Cappadocia included[116].

Naturally, wealth was a precondition for being a member of this elite class since the high-rank officeholders and the High Priests of the Imperial Cult were expected to provide generously for their communities and to undertake large-scale benefactions and civic munificence (*euergesiae*), such as the construction of public buildings, or the conduction of religious Festivals and Games[117]. Their munificences gave a tremendous boost to the development of social and civic life and urban growth. The benefactions supplementing the rituals of the Imperial Cult were important not simply for the recipients of philanthropy, or for the visitors and spectators of the Festivals and the Games. They were important because such large scale civic patronage, signalled the donor's wealth, fame, educational and cultural background, their high rank position in the Roman state and their connection to the Imperial regime[118]. Wealthy local families were engaged with benefactions because they provided them with a context, a common language through which they competed for social prestige and promotion of their political ambitions, they impressed their communities, and evidently were awarded with positions of power and authority[119]. Concurrently, memorable Festivals and monumental architecture were a reflection of a city's image and a way to transmit specific messages throughout the Roman world.

In accordance, the introduction of monumentality signals the transition from the Greek forms to the Roman style aesthetics that appeared around the 1st century AD and reflects in stone the Roman imperialism in the eastern provincial lands[120]. Especially in the turn from the Late Republican towards the Early Imperial period, major and minor cities in the Eastern provinces incorporated many of the features and spatial arrangements that characterized the architectural armature of a Roman city at that time. Although filtered and according to their financial means, «the essential components are always replicated but with a large degree of adaption and change»[121].

Spectacle monuments (theatres, amphitheatres) played a key role in forming and expressing a shared culture. Cappadocia was somewhat isolated from the rest of the Mediterranean regions by massive mountain ranges and presents closer cultural connections with the Iranic cultures. As it appears, in Cappadocia theatres were almost absent until the late 1st century AD. By the reign of Hadrian and towards the 3rd century AD new religious Festivals named after the Emperor were introduced, which required new suitable spaces, such as the theatres and amphitheatres, to accommodate large crowds[122]. It is safe to assume that the appearance of spectacle buildings in Cappadocia was intended to meet the new needs, and also to accommodate the roman troops that were stationed at the region. Even then, Caesarea, Comana, Melitene, Tyana, are the only few cities in the province where a theatre is attested (or recorded). Could this be interpreted as a simple lack of archaeological evidence[123]? Or, could it be ascribed to the lack of willingness of these remote regions to invest large amounts of money in the construction of theatres, or even, to their preference towards other kinds of monuments?

4. Conclusions

The new components of the urban armature, such as terraces and porticoes, and the carefully orchestrated passageways, monumentally articulated crossroads and city gates that connected the different city sectors[124], official buildings, spectacle monuments and works of infrastructure such as aqueducts, elaborate fountain structures and nymphaea[125], were used to create a monumental urban environment, which, between the 2nd and early 3rd centuries AD, became the core around which civic life was arranged and experienced[126]. Architecture was used to express the principles that embodied the Roman way of life, namely social hierarchy and unity, civic grandeur and power, remembrance, and, evidently, the omnipresence of the Emperor[127]. At the same time, public edifices functioned as displays of power and prosperity, reflecting the city's past and present wealth and linking utility and aesthetics, political ambitions and regional development[128].

[110] MORETTI 1953: no. 62. MITCHELL 1993: 102.
[111] Also DEININGER 1965: 16-17, 36-37, 82.
[112] An inscription from Ankyra records an athlete who won at a contest celebrated for Commodus at Caesarea, BURRELL 2004: 248. MITCHELL 1993: 218, 221. MIRANDA 1992-1993
[113] Script. Hist. Aug. M. Aurelius, 16; Caracalla, 11. MITCHELL 1993: 114.
[114] Ariarathes V was the Chairman (Agonothetes) at the Panathenaic Games and was honoured by the Dionysiac Artists Guilt with a cult, and with annual and monthly Festivals, STEFANIS 1988a. On the Games named after him in Cappadocia, see the inscription of *Menodoros* from Delos (150-130 BC), I. Delos, 1957; MORETTI 1953: no. 51. STEFANIS 1988b: 281-286.
[115] YEGÜL/ FAVRO 2019: 600.
[116] YEGÜL/ FAVRO 2019: 600.
[117] PRICE 1986: 102-132.YEGÜL/ FAVRO 2019: 600.
[118] ARISTODEMOU 2018a: 211.
[119]Cf. MITCHELL 1993: 117. HÄUSLE 1980; SCHORNDORFER 1997: 8; DORL-KLINGENSCHMID 2001: 120-121; DORL-KLINGENSCHMID 2006; THOMAS 2007: 76; ARISTODEMOU 2012: 52-59. ARISTODEMOU 2018a: 211. ARISTODEMOU 2018b, on cases of nymphaea benefactors in Roman Greece.
[120] ROBINSON 2013: 362.
[121] Cf. the development of Agoras of the roman period in Greece, EVANGELIDIS 2010; 2014; 2020, 314. ROGERS 2015: 133.
[122] SPANU 2001: 455.
[123] On the example of the few existing theatres of Cilicia, SPANU 2001: 453-454
[124] DICKENSON 2016. EVANGELIDIS 2020: 301-2, 310, 313.
[125] ARISTODEMOU 2012; 2018a; 2018c.
[126] THOMAS 2007: 117.
[127] MACDONALD 1986: 29-30. EVANGELIDIS 2020: 315
[128] DRERUP 1966. On the key role of monumental fountains in the formation of dramatic sceneries, DORL-KLINGENSCHMID 2001: 149-150. ARISTODEMOU 2018c: 325.

When discussing Cappadocia, it becomes understood that there existed a certain conservatism, partially due to the rough terrain and the resulting isolation of the region. The former social structure of the region itself (states ruled by priests or Kings) and its demographical status as a dynastic state, consisting of relatively small cities that were scattered in the territory and had no strict civic structure, could have been a key factor for the rather late appearance of a network of cities equipped with monumental infrastructure. From a certain point in time however, the architecture of Cappadocia under the Romans did not remain at the edge of the current architectural developments in the rest of the Roman world. It presents observable ties with the contemporary architecture of the Empire, which are setting the frame and provide the background so that in the following period, namely Late Antiquity, Cappadocia develops into a key player in the emergence and diffusion of Christianity[129].

Résumé - Aspects de la romanisation en Cappadoce. Mise en scène d'architecture et de paysages urbains : La Cappadoce, la province la plus au nord-est de l'Empire romain, a été fondée en 17 après JC par l'empereur, Tibère, après la mort du dernier roi de Cappadoce, Archelaus. Cet article traite des modèles d'établissement, des villes fondations, l'absence, au moins au 1er siècle après JC, d'un réseau étendu de villes et le développement des communautés locales de la région sous les Romains. L'établissement et le rôle du Culte Impérial dans cette les provinces éloignées sont également abordées. Cet article tente en outre de retracer l'émergence de l'urbanisation et du civisme monumentalité en Cappadoce, grâce à l'introduction d'une architecture monumentale et d'infrastructures de premier plan dans les principales villes de Cappadoce - et pour comprendre si la Cappadoce a suivi, ou s'est tenue à l'écart, le développements architecturaux/urbanistiques lancés dans le reste du monde romain.
Mots-clés : *L'Est romain, Cappadoce, Anatolie, Urbanisation, Monumentalité, Villes-réseaux.*

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[129] On Byzantine Cappadocia, OSTERHOUT 2017.
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Dancing at the Cotyora Symposion in Xenophon's Anabasis

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Abstract
This paper presents the dances that are mentioned in Xenophon's work Anabasis. These dances were performed by men, who were soldiers in the Greek army and had various ethnic origins, and a girl, after a banquet held at Cotyora, on the territory of Paphlagonia. Greek and Paphlagonian ambassadors ate and enjoyed themselves together in this banquet, listening to songs and music and watching the dance performances. The author describes different dances accompanied by aulos music: war dances with weapons (e.g. Pyrrhic), agricultural mimetic dances and an oriental one. We aim to identify and classify the dances combining the text with similar representations in the contemporary Classical art, focusing on Xenophon's times (430/25 - 354 BCE). Selected examples are shown, especially from vase-paintings and figurines, which represent these dances performed at symposia. Another purpose of this paper is to show and emphasize the peaceful coexistence of people through common banquets, songs and dances and common entertainment and the peaceful resolution of problems.
Keywords: *Symposion, ancient Greek dances, war dances, pyrrhic, oklasma, ancient Greek music, Anabasis.*

1. Introduction

This article presents dances, which were performed by soldiers and a young woman during a symposion in Cotyora, a location in Paphlagonia, a region to the east of Bithynia, in the year 401 BCE. They are mentioned by Xenophon in his work *Anabasis*.

Xenophon (fig. 1) (c. 430-355/354 BCE) was an Athenian disciple of Socrates, writer, philosopher, historian, and military leader. He came from an aristocratic family and belonged to the equestrian class/τάξη των Ιππέων. After the fall of the Thirty Tyrants and the restoration of democracy, Xenophon, accepting the proposal of his Boeotian guest-friend Proxenus, decided to enlist in the mercenary army of Cyrus the Younger, who was planning to dethrone his older brother Artaxerxes II', the Great King of the Achaemenid Empire. The death of Cyrus, however, at the battle of Cunaxa[1], near Babylon, in 401 BCE and the assassination of the Greek generals by Tissaphernes forced the mercenaries to retreat through Asia to Byzantium. Xenophon, who was chosen at the age of 30 with others officials to lead the *Long March of the Ten Thousand* (fig. 2), successfully led the Greek mercenaries to the shores of the Pontos and then to Thrace.

In 396 BCE he accompanied the Spartan King Agesilaus in his campaign against Persia. Xenophon's admiration for the Spartan king was so great that two years later (394 BCE), at the battle of Coroneia, he fought on his side against the Athenian army. His compatriots exiled him for this act (although ancient accounts mention his participation in the campaign of Cyrus as the reason for his exile). Agesilaus, however, compensated him by granting him an estate in Scillous, where he retired for the next twenty years. Xenophon abandoned the estate in 370 BCE, when the Ilians captured Scillous, after the defeat of Sparta by Thebes at the battle of Leuctra (371 BCE) and fled to Corinth. Although his exile was revoked (after under increasing pressure from Thebes a rapprochement was made between Athens and Sparta), we are unable to say with certainty, whether Xenophon ever returned to Athens. But we do know that his two sons were deployed in the Athenian cavalry at the Battle of Mantinea in 362 BCE, and one of them, Gryllus, was killed. Xenophon's death is placed around 355 BCE, perhaps in Corinth.

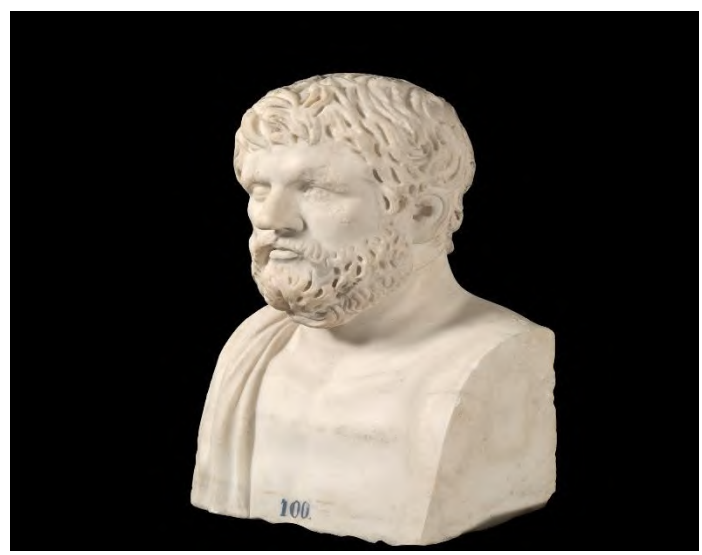

Fig 1. Bust of Xenophon, white murble, made by a Roman sculptor (c. 150 CE). (H.: 58 cm; W.: 34 cm; Base/bottom: 30 cm; Weight: 74.6 Kg.) Madrid, Museo Nacional del Prado, inv. no. E000100. Image Courtesy of the Museum. © Photographic Archive Museo Nacional del Prado.

[1] Wylie, 1992.

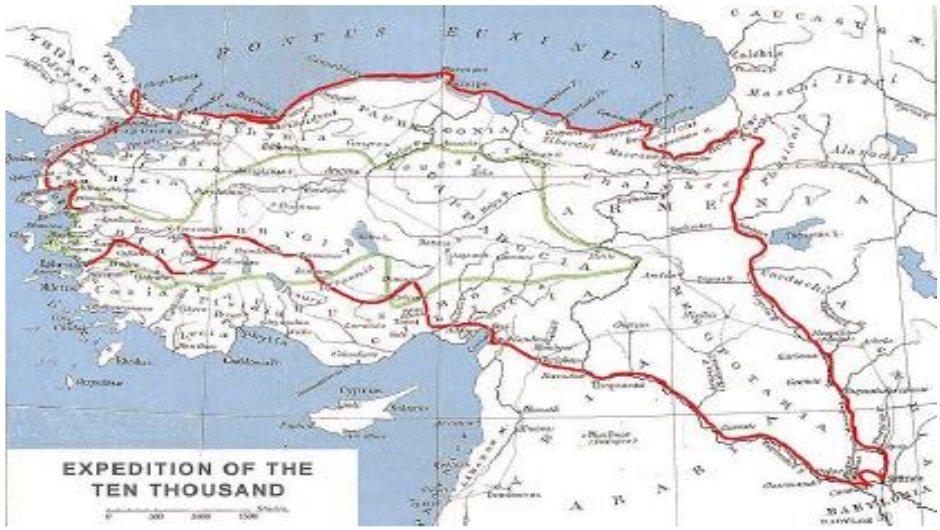

Fig. 2. The Expedition of the Ten Thousand, Map. (Photo after Wikimedia commons).

Xenophon was a prolific writer of the Greek Antiquity; some of their works are *Hellenica, Anabasis, Symposion etc*. *Anabasis* (*H Κάθοδος των Μυρίων/Ē Kathodos tōn Myriōn*) recounts his adventures with *the Ten Thousand*, one of the larger Greek mercenary contingents serving an Achaemenid scion[2]. The *Anabasis* was composed c. 370 BCE in Scillous. *Anabasis* is a unique first-hand, and self-reflective account of a military leader's experience in antiquity. It is certainly a special case of a historical composition, which combines typical features of war memoirs, travelogues and biographies. The *Anabasis* is divided in 7 books: the first six chapters narrate the advance of Cyrus's army as far as Cunaxa in 401 BCE. The narrative then presents the decisive battle, in which Cyrus is killed, the assassination of the Greek generals by Tissaphernes, the desperate situation of the mercenaries, the election of new generals (one of whom is Xenophon), their retreat to the Black Sea, as well as their subsequent adventures in Asia Minor until the survivors were incorporated into the Spartan army of Thibron.

2. The Symposium at Cotyora/or Kotyora

In the 6th book of *Anabasis* (6.1.4-13) Xenophon offers a detailed description of a symposium, which was held in Cotyora (Κοτύωρα) in 401 BCE. Cotyora, the modern Turkish town Ordu, is situated in Paphlagonia, eastern of Bithynia[3]. It founded by Milesian colony, Sinope, in the late 7th century (c. 630 BCE)[4].

The banquet is offered by the Greek generals to the Paphlagonian ambassadors of the local leader Korylas and to selected citizens of Cotyora and Sinope. The event is divided in two parts: First, there was a sacrificial ceremony, which turned into a rich feast (4). The actual part of the symposium began with the libation of wine and the Paian, which was sang all together and during which several weapon dances were performed by various soldiers-dancers (5-12). Six ethnic war/armed dances are mentioned. Five were performed by soldiers and the last one by a woman; all were accompanied by aulos music. Two Thracians started the dance, followed by Ainianians and Magnesians who performed together, in pairs, a common dance, the carpaia (καρπαία), a Mysian who performed two different dances, a Mantinean- Arcadian team and finally a dancing girl, who accompanied one Arcadian. These dances replaced the dance, song and pantomime performances or the acrobatic shows of professional artists, which were usual in civil symposia[5]. - Let's see Xenophon's description of the Cotyora symposium in details, showing corresponding representations.

2.1. The Thracian Pyrrhic (Xen., *An*., 6.1.5-6)

[5] ἐπεὶ δὲ σπονδαί τε ἐγένοντο καὶ ἐπαιάνισαν, ἀνέστησαν πρῶτον μὲν Θρᾷκες καὶ πρὸς αὐλὸν ὠρχήσαντο σὺν τοῖς ὅπλοις καὶ ἤλλοντο ὑψηλά τε καὶ κούφως καὶ ταῖς μαχαίραις ἐχρῶντο: τέλος δὲ ὁ ἕτερος τὸν ἕτερον παίει, ὡς πᾶσιν ἐδόκει πεπληγέναι τὸν ἄνδρα: ὁ δ᾽ ἔπεσε τεχνικῶς πως. [6] καὶ ἀνέκραγον οἱ Παφλαγόνες. καὶ ὁ μὲν σκυλεύσας τὰ ὅπλα τοῦ ἑτέρου ἐξῄει ᾄδων τὸν Σιτάλκαν: ἄλλοι δὲ τῶν Θρᾳκῶν τὸν ἕτερον ἐξέφερον ὡς τεθνηκότα: ἦν δὲ οὐδὲν πεπονθώς.

[5] After they had made libations and sung the paean, two Thracians rose up first and began a dance in full armour to the music of a flute, leaping high and lightly and using their sabres; finally, one struck the other, as everybody thought, and the second man fell, in a rather skilful way. [6] And the Paphlagonians set up a cry. Then the first man despoiled the other of his arms and marched out singing the Sitalcas, while other Thracians carried off the fallen dancer, as though he were dead; in fact, he had not been hurt at all.

The Thracian pyrrhic was performed by two men, accompanied by aulos music, ending singing an old Thracian war song, the Sitalcas, composed in honour of the King Sitalcas/-es. Perhaps, we can imagine, how the two Thracians danced, looking these examples on vase paintings: The first one is on a black-figure skyphos in Paris, attributed to Ure's class of skyphoi A2 (550-500 BCE)[6];

[2] Numerous editions on Anabasis in various languages are published: e.g. Lendle, 1995; Lane Fox, 2004; Waterfield, 2006; Flower, 2012; see also in http://www.perseus.tufts.edu.

[3] On Cotyora (Κοτύωρα) see: Britannica, s.v. Ordu; DNP, 1999, s.v. Kotyora, 783; Avram et al., 2004, 959.

[4] For the colonization of the Black Sea coast by Greeks see: Tsetskhladze, 1998; Avram et al., 2004; Tsetskhladze, 2006; Greaves, 2007; cf. the contributions in Gabrielsen and Lund, 2007; Summerer, 2007; contributions in Erkut and Mitchell, 2007; Avram et al., 2021; Koromila, 2022.

[5] Xenophon describes the Attic symposium in more details in his work Symposium (Symp. 2.1-2 and 9).

[6] Paris, market: BAPD, no. 350987; Ceccarelli, 1998, pl. 6.6.

Fig. 3. An aulos player and one of the two pyrrhic dancers. Attic black-figure alabastron. Athens, National Archaeological Museum, no. 512, 470 BCE: Credit line: Athens, National Archaeological Museum, photograph by I. Miari © Hellenic Ministry of Culture / Hellenic Organization of Cultural Resources Development (H.O.C.RE.D.).

Figs. 4a, b. An aulos player and one of the two pyrrhic dancers. Attic black-figure lekythos (c. 470 BCE). Athens, National Archaeological Museum, no. 16253. Credit line: Athens, National Archaeological Museum, photo by the Museum's Photo Archive. © Hellenic Ministry of Culture / Hellenic Organization of Cultural Resources Development (H.O.C.RE.D.).

b) the second scene appears on an Attic black-figure alabastron in Athens (fig. 3), attributed to the Emporion Painter (470)[7]; the third dance is depicted on an Attic black-figure lekythos in Athens (figs. 4a, b), attributed also to the Emporion Painter (470 BCE)[8]; and the fourth pyrrhic performed by two armed men decorates the shoulder of a red- figure hydria in New York (figs. 5a, b), attributed to the workshop of the Dikaios Painter or to the Pioneer Group (c. 500 BCE)[9] . On the skyphos the dance-musical scene is placed in the centre, flanked by two parallel depicted anthemia/palmettes. The two dancers move vividly to the right each holding a spear and a shield and wearing a short chiton, high helmet, breastplate/thorax and shins. Opposite them to the right a standing aulos player dressed in chiton and wrapped in himation/mantle accompanying with music their movements.

The alabastron and the lekythos is decorated by the same painter, the so-called Emporion Painter, who uses almost the same pattern with small differences: Here, the musician stands on the left and the pyrrhic dancers on the right; they performed to the right looking to the left. In both vases the movents are almost similar; the dancers wear similar dresses and equipment (short chitons, helmets, thorax, shins, spears), as in the first example. However, we observe that the dresses on the alabastron are more patterned than on the lekythos; similarly the style is more elaborate. It seems that the Emporion Painter repeated the same pattern on another vase with a simpler design in the figures, and small differences in the frame of each scene. Exceptionally, in our last example, on the kalpis in New York, the figures arrangement is different: the crowned aulos player stands in the middle, looking to the right, while he is surrounded by two nude pyrrhic dancers, who wear only a helmet and hold a javelin and a round shield.

We suppose that the soldiers in the Cotyora symposium wore their ethnic garments, although Xenophon does not describe them or mention that they danced naked.

2.2. The Macedonian –Thessalian Pyrrhic, the Carpaia (Xen., *An*., 6.1.7-9)

[7] μετὰ τοῦτο Αἰνιᾶνες καὶ Μάγνητες ἀνέστησαν, οἳ ὠρχοῦντο τὴν καρπαίαν καλουμένην ἐν τοῖς ὅπλοις. 8] ὁ δὲ τρόπος τῆς ὀρχήσεως ἦν, ὁ μὲν παραθέμενος τὰ ὅπλα σπείρει καὶ ζευγηλατεῖ, πυκνὰ δὲ στρεφόμενος ὡς φοβούμενος, λῃστὴς δὲ προσέρχεται: ὁ δ᾽ ἐπειδὰν προΐδηται, ἁπαντᾷ ἁρπάσας τὰ ὅπλα καὶ μάχεται πρὸ τοῦ ζεύγους: καὶ οὗτοι ταῦτ᾽ ἐποίουν ἐν ῥυθμῷ πρὸς τὸν αὐλόν: καὶ τέλος ὁ λῃστὴς δήσας τὸν ἄνδρα καὶ τὸ ζεῦγος ἀπάγει: ἐνίοτε δὲ καὶ ὁ ζευγηλάτης τὸν λῃστήν: εἶτα παρὰ τοὺς βοῦς ζεύξας ὀπίσω τὼ χεῖρε δεδεμένον ἐλαύνει.

(6.1.7-8) 7 After this some Aenianians and Magnesians arose and danced under arms the so-called carpaea, (8) The manner of the dance was this: a man is sowing and driving a yoke of oxen, his arms laid at one side, and he turns about frequently as one in fear; a robber approaches; as soon as the sower sees him coming, he snatches up his arms, goes to meet him, and fights with him to save his oxen. The two men do all this in rhythm to the music of the flute. Finally, the robber binds the man and drives off the oxen; or sometimes the master of the oxen binds the robber, and then he yokes him alongside the oxen, his hands tied behind him and drives off.

The Thracian pyrrhic was followed by a Greek one, performed by the Ainianians and Magnesians. This henoplios/armed dance, called by Xenophon Carpaia, is a dance known to us from this passage only. It is a mimetic performance, also an agricultural and fertility dance similar to the Cretan Couretes dance. "It is associated with plowing and sowing. It was performed by two dancers accompanied by aulos music. The performers represented or reconstructed the fight between a farmer and a robber, where the farmer imitates the movements of his activities, i.e. of plowing and sowing. Winner is once the farmer, once the robber."[10] Representations of it are not preserved. Hesychios of Alexandria

[7] Athens, National Archaeological Museum, no. 512: Poursat 1968, 560, 564–65, figs. 12–13, no. 6; Ceccarelli 1998, pl. 22, nos. 1–2; Liveri, 2021, 33; Liveri, 2024, 92, fig. 4.5 with more references.

[8] Athens, National Archaeological Museum, no. 16253: BAPD, no. 331200; Ceccarelli, 1998, pl. 22.3; Delavaud-Roux, 1993, 85, no. 14.

[9] New York, The Metropolitan Museum of Art, AN 21.88.2: BAPD, no. 200196; Delavaud-Roux, 1993, no. 18; Bundrick, 2005, 79, fig. 48; Osborne, 2018, 163-164, fig. 6.12; Liveri, 2021, 33, fig. 5.

[10] For Carpaia or Karpaia see Liveri, 2023a, 53-54.

mentioned Carpaia orchesis Macedonian (*όρχησις μακεδονική*)[11]. Both tribes (Ainianians and Magnesians) shared a few deities (e.g. Zeus Akreos at Pliasisi, Zeus Hetaireios) and feasts (e.g. Hetairideia, which is mentioned by Athenaios in Deipnosophistai, XIII, 31)[12].

2.3. The Mysian Pyrrhic (Xen., *An*., 6.1.9)

[9] μετὰ τοῦτο Μυσὸς εἰσῆλθεν ἐν ἑκατέρᾳ τῇ χειρὶ ἔχων πέλτην, καὶ τοτὲ μὲν ὡς δύο ἀντιταττομένων μιμούμενος ὠρχεῖτο, τοτὲ δὲ ὡς πρὸς ἕνα ἐχρῆτο ταῖς πέλταις, τοτὲ δ᾽ ἑδινεῖτο καὶ ἐξεκυβίστα ἔχων τὰς πέλτας, ὥστε ὄψιν καλὴν φαίνεσθαι.

(6.1.9) After this a Mysian came in carrying a light shield in each hand, and at one moment in his dance he would go through a pantomime as though two men were arrayed against him, again he would use his shields as though against one antagonist, and again he would whirl and throw somersaults while holding the shields in his hands, so that the spectacle was a fine one.

The 3rd and 4th dances are solo male armed dances, performed both by a Mysian (i.e. a man from Mysia, a region western of Bithynia), who carried a light shield in each hand. It was a pantomime. Numerous representations in a great variety of movements and style appear on vase-paintings with one pyrrhic dancer, holding only one shield and not two as in Xenophon's description. For instance in three red-figure cups (kylikes) and in a black-figure oinochoe. The first example in Vatican was unearthed in Vulci and it is attributed to Epiktetos (520/10 BCE)[13]. It bears the inscripion ΕΠΟΙΕΣΕΝ (EPOIESEN, i.e. MADE), but without name. The pyrrhic dancer moves vividly to the right looking to the left, where a youth aulos player stands accompaning his performance. The dancer is naked; he wears only his helmet and holds a spear with his right hand and a round shield decorated with a horse, from which only the back part is preserved. The Late Archaic eye-cup (kylix) in Boston was also found in Vulci and it is attributed to the Oltos Painter or to Standard Eye-Cups (520-510 BCE)[14]. Between the eyes of the cup's back side a young armed warrior is depicted in profile to the left jumping or dancing. He holds a spear and a crescent shaped shield, called peltē/πέλτη, decorated with three black balls. Although the figure is not well preserved, we can make out the headdress/helmet, a short, tight and decorated tunic, shins and boots[15]. However, the musician is ommited. Therefore, it is not certain, that it is a pyrrhic movement or a simple warrior's representation, as numerous similar (e.g. the peltast on the interior medaillon of the kylix in the British Museum, which is mentioned below).

In the Attic black-figure oinochoe from Camiros/Rhodes in London, which is attributed to the Athena Painter (c. 490 BCE), the naked dancer, equipped like the first dancer is depicted on the right, as in the Vatican kylix, but he moves to the left, towards the piper who has a beard and is older than the first musician[16]. Additionally, behind him, is visible a stool (diphros), on which his clothes are placed. The pyrrhic in the Louvre cup is attributed to the Eucharides Painter (c. 490 BCE) and it is depicted on its interior medaillon[17]. The scene is surrounded by a maeander ornament. The performers stand on a plattform; here, the juth musician is on the right, while the naked dancer on the left, but in a different position than earlier: his body is almost rendered/represented frontally, but he is looking to the left.

Figs. 5a, b. Pyrrhic performed by two men. Attic red-figure terracotta hydria (kalpis)/water jar (around 500 BCE). New York, Metropolitan Museum of Art, AN 21.88.2 (Phot. The Metropolitan Museum of Art, Public Domain).

[11] Schmidt,1867, 815.

[12] "οἶδα δὲ καὶ ἑορτήν τιν᾽ Ἑταιρίδεια ἀγομένην ἐν Μαγνησίᾳ οὐ διὰ τὰς ἑταίρας, ἀλλὰ δι᾽ ἑτέραν αἰτίαν, ἧς μνημονεύει Ἡγήσανδρος ἐν Ὑπομνήμασι γράφων ὧδε ΄FHG IV 418':' ‘τὴν τῶν Ἑταιριδείων ἑορτὴν συντελοῦσι Μάγνητες. ἱστοροῦσι δὲ πρῶτον Ἰάσονα τὸν Αἴσονος συναγαγόντα τοὺς Ἀργοναύτας Ἑταιρείῳ Διὶ θῦσαι καὶ τὴν ἑορτὴν Ἑταιρίδεια προσαγορεῦσαι. θύουσι δὲ καὶ οἱ Μακεδόνων βασιλεῖς τὰ Ἑταιρίδεια.” (transl. I know, too, that there in a festival called the Hetæridia, which is celebrated in Magnesia, not owing to the courtesans, but to another cause, which is mentioned by Hegesander in his Commentaries, who writes thus:—"The Magnesians celebrate a festival called Hetæridia; and they give this account of it: that originally Jason, the son of Aeson, when he had collected the Argonauts, sacrificed to Jupiter Hetæias, and called the festival Hetæridia. And the Macedonian kings also celebrated the Hetæridia.")

[13] Vatican, Vatican City, Museo Gregoriano Etrusco Vaticano, no. 506 (previous 16575) : BAPD, no. 200471; Delavaud-Roux, 1993, 97, no. 23; Steinhart, 2004, 15, pl.4.1; Meyer, 2017, 335, fig. 352.

[14] Boston, Museum of Fine Arts, no. 13.83; a missing fragment was in Florence, National Archaeological Museum: BAPD, no. 200362; Delavaud-Roux, 1993, 93, no. 20; Steinhart, 2004, 15, pl. 4.2; see photos in: https://collections.mfa.org/objects/153737/fragment-of-an-eyecup-kylix?ctx=4fd30bc9-3f98-4152-80fa-9779877d1d7a&idx=1 (accessed 05.10.2024).

[15] Xenophon, in the *Anabasis* (*An*. 1.7.10), describes 2500 peltasts in action against Achaemenid cavalry at the Battle of Cunaxa in 401 BCE (*An*. 1.7.11), where they were serving as part of the mercenary force of Cyrus the Younger. for the battle of Cunaxa see e.g. Wylie, 1992, 119-134, for the armies esp. 123-129.

[16] London, British Museum, no. 1864.1007.237: https://www.britishmuseum.org/collection/object/G_1864-1007-237 (accessed 09.10. 2024); BAPD, no. 330883; Delavaud-Roux,1993, 100; Ceccarelli, 1998, pl. 3.3.

[17] Paris, Musée du Louvre, no. G136: BAPD, no. 202280; Lissarrague et al., 1984, 37, fig. 54; cf. P. 39, figs. 55-58 (armed dances in religious association); Delavaud-Roux, 1993, 80, no. 9; Ceccarelli, 1998, pl. 8.1; Oakley, 2020, 168, fig. 8.3.

2.4. Persian armed dance performed by the Mysian (Xen., *An*., 6.1.10)

[10] τέλος δὲ τὸ περσικὸν ὠρχεῖτο κρούων τὰς πέλτας καὶ ὤκλαζε καὶ ἐξανίστατο: καὶ ταῦτα πάντα ἐν ῥυθμῷ ἐποίει πρὸς τὸν αὐλόν.

[10] Lastly, he danced the Persian dance, clashing his shields together and crouching down and then rising up again; and all this he did, keeping time to the music of the flute.

Obviously the Mysian was a very skillful dancer. He offered a second mimetic weapon dance, called by Xenophon Persian dance. This performance can be identified with the oklasma dance, which had Persian origin[18]. Mysia in that period was part of the Achaemenid Empire. Therefore, this dance was known in Asia Minor and was diffused in Greece and in Greek colonies of the Black Sea, South Italy and Sicily. This is confirmed by representations in various artworks; nevertheless, without shields. In symposia it was performed usually by women, but also by men, as in our two examples. The first one appears on an Attic red-figure bell crater from Al Mina, attributed to the Nostell Painter (c. 390-380 BCE) in Oxford[19]. Here, a woman dances on the table in the middle of the scene in front of symposiasts. She is accompanied by aulos music performed by a satyr, who sits on a bed-couch/ klinē on the left, while another satyr stands on the right. In the centre of the scene are placed two symposiasts who sit on their bed-couches observing and enjoying the spectacle.

In the second example a naked youth dances on the street, accompanied by an aulos player and two spectators, after the symposium, during the komos.(Fig. 6) The scene decorates the second register of a red-figure calyx crater in Tarquinia, attributed to the Polygnotos Group (475-425 BCE), while the upper register includes the symposion[20]. Perhaps, a variation of oklasma or a simple pyrrhic performance, but without musician, is represented on the exterior surface of a red-figure kylix, attributed to the Colmar Painter (510-500 BCE) in London[21]. Three naked and armed men are depicted in three quarter view and in different positions between the vases handles. Each wears only an Attic helmet and holds a long spear and a round shield, which is decorated with various devices/motifs: on the first side are from left to right visible a wheel, a horse/only the rear part seen and the name LEAGR[OS]); on the other side the devices are different (a bull's head, a tripod and the inscription KALOS. The warriors perform various movements to the left, e.g. crousing or squatting. The interior of the kylix is decorated with a young Thracian warrior/or a warrior in Thracian garments,i.e. in chiton (dilute glaze folds and two line-border) and Thracian cloak who runs quickly/rapidly to the left, wearing an Attic helmet, a spear and a shield (peltē/pelta), decorated by a pair of eyes separated by a strip of continuous maeander[22]. The inscription ΑΘΕΝΔΟΤΟΣ (Athenodotos) names him.

-We return to Xenophon's description-

2.5. The Mantinean and Arcadian processional armed march-dance/Pyrrhic (Xen., *An*., 6.1.11)

[11] ἐπὶ δὲ τούτῳ ἐπιόντες οἱ Μαντινεῖς καὶ ἄλλοι τινὲς τῶν Ἀρκάδων ἀναστάντες ἐξοπλισάμενοι ὡς ἐδύναντο κάλλιστα ᾖσάν τε ἐν ῥυθμῷ πρὸς τὸν ἐνόπλιον ῥυθμὸν αὐλούμενοι καὶ ἐπαιάνισαν καὶ ὠρχήσαντο ὥσπερ ἐν ταῖς πρὸς τοὺς θεοὺς προσόδοις. ὀρῶντες δὲ οἱ Παφλαγόνες δεινὰ ἐποιοῦντο πάσας τὰς ὀρχήσεις ἐν ὅπλοις εἶναι.

Figure 6. A young man dances oklasma in the street accompanied by an aulos player and two symposiasts after the banquet. Red-figure kalyx crater, atttibuted to the Polygnotos Group (475-425 BCE). Image: Courtesy "foto archivio Parco Archeologico di Cerveteri e Tarquinia – Museo archeologico nazionale di Tarquinia". © The previous institutions.

[11] After him the Mantineans and some of the other Arcadians arose, arrayed in the finest arms and accoutrements they could command, and marched in time to the accompaniment of a flute playing the martial rhythm and sang the paean and danced, just as the Arcadians do in their festal processions in honour of the gods. And the Paphlagonians, as they looked on, thought it most strange that all the dances were under arms.

The Mysian's oklasma weapon dance followed a processional team pyrrhic, performed by soldiers from Mantineia and Arcadia, who marched rhythmically singing the paean, under aulos music. Both tribes had a tradition in hoplomachia and armed dances[23]. In Mantineia they were associated with the cult of Zeus Hoplosmios or with Dioskuri, who are perhaps depicted on the reverse of

[18] About oklasma see Liveri, 2023b, 129-139, figs. 1-5.

[19] Oxford, Ashmolean Museum, no.1954.230: https://www.ashmolean.org/collections- online#/item/ash-object-461194 ; (accessed 09.10.2024); Liveri, 2023b, 131 with references.

[20] Liveri, 2023b, 131-132.

[21] London, British Museum, no. 1897.10-28.1: https://www.britishmuseum.org/collection/image/735917001 (accessed 09.10.2024); (BAPD, no. 203706; Williams, 1993, 27-28, no. 13, pls. (794-795) 18a-b, 19a-b.

[22] Tsiafaki, 2021, 251, fig. 3; (here also see on Thracian warriors and their relation to Greeks).

[23] On Hoplomachia and its difference with pyrrhic dances see Wheeler, 1982, 223-233.

Mantinean coins of the 4th century BCE[24], while on the obverse a pyrrhichistes is visible[25]. Polybius (Polyb., 4.20.12) mentions "the annual displays of marching to the flute and dances performed by the Arcadian youth". It must be emphasized that the pyrrhic was very popular in Crete and Sparta, since it goes back to the Kouretes and the Dioskouri, as also Plato mentions[26]:

οὐδ' ὅσα ἐν τοῖς χοροῖς ἐστιν αὖ μιμήματα προσήκοντα μιμεῖσθαι παρετέον, κατὰ μὲν τὸν τόπον τόνδε Κουρήτων ἐνόπλια παίγνια, κατὰ δὲ Λακεδαίμονα Διοσκόρων.

[Nor should we omit such mimic dances as are fitting for use by our choirs,—for instance, the sword-dance of the Curetes here in Crete, and that of the Dioscori in Lacedaemon.]

This version of armed march-dances appears in a funeral on two Attic black-figure *cantharoi*, attributed both to the One-handled kantharoi class, in Paris (c. 510-500 BCE): on the one side is shown an ekphora (funeral procession to the necropolis) of the deseaced, on the other side warriors following an aulos player marched dancing: In the first example that was found in Vulci, the four participants wear additionally perizomata (loincloths)[27]; in the second cantharos the five warriors perform different movements crouching, suggesting a sort of dance steps[28]. In both cases they move to the right, accompanying the deseaced to the tomb.

It is known that a group pyrrhic was performed during the Panathenaia in Athens as well. A pyrrhic competition was included in the festival's program, involved chorus dancers from all Athenian tribes and the three ages (boys, un-bearded youths and men) participated[29]. The pyrrhic in Athens associated with Athena commemorated her battles against the giants (the goddess danced the pyrrhic twice: the first one after her birth and the second during the gigantomachia)[30]. She, as the city's protector, was the warrior par excellence[31]. Representations on vase-paintings confirm that such processional pyrrhic was imported in Athens by the Peisistratids and performed in the religious ceremonies and feasts: e.g. in Panathenaia on the fragmentary red figure skyphos of Nikosthenes in Thasos (520-510 BCE)[32]. Pyrrhic victorious dancers after the competition are visible on a marble relief base of a monument dedicated by the choregos Atarbos according to the inscription in the Acropolis Museum (figs. 7a, b)[33].

Atarbos was the winning choregos at the Panathenaic festival of the year 329 or 323 BCE. The image shows two groups each of four naked pyrrhic dancers, followed by a female figure, who may be interpreted as a Muse or the personification of a concept related to the festival. The dancers hold their shield with their left arm evenly/in the same way according to the rhythm of the dance.

Figs. 7a, b. Pyrrhic victorius dancers on the right. Marble relief base of a monument, dedicated by Atarbos. Athens, Acropolis Museum, no. 1338. Photos courtesy of the Acropolis Museum © Acropolis Museum: a. 2018, photo Yiannis Koulelis; b. 2009, photo N. Daniilidis.

2.6. Female Pyrrhic (Xen., *An.*, 6.1.12-13)

[12] ἐπὶ τούτοις ὁρῶν ὁ Μυσὸς ἐκπεπληγμένους αὐτούς, πείσας τῶν Ἀρκάδων τινὰ πεπαμένον ὀρχηστρίδα εἰσάγει σκευάσας ὡς ἐδύνατο κάλλιστα καὶ ἀσπίδα δοὺς κούφην αὐτῇ. ἠ δὲ ὠρχήσατο πυρρίχην ἐλαφρῶς. [

[12] Thereupon the Mysian, seeing how astounded they were, persuaded one of the Arcadians who had a dancing girl to let him bring her in, after dressing her up in the finest way he could and giving her a light shield.

The last dance in the Cotyora symposium was performed by a young woman, who belonged to an Arcadian, *after dressing her up in the finest way he could and giving her a light shield. And she danced the Pyrrhic with grace.* Female pyrrhic at symposia belongs to a common spectacle. The dancers were hetairai who were trained in the so-called dance or hetairai schools in pyrrhic and other dances[34].

[24] Lacroix, 1967, 306-311, figs. 1.1, 2, 4; Wheeler, 1982, 226-228; cf. Steinhart, 2004, 12, pl. 6.2.

[25] See the figure who could identify with an armed dancer holding spears in other Mantinean coins as well: Lacroix, 1967, figs. 1.2; 3,5 with another motif on the reverse.

[26] Pl., Leg., 7.796b, 3ff; cf. 7.815.

[27] Paris, Bibliothèque nationale de France, Cabinet des médailles, no. 353: BAPD, no. 301934; Delavaud-Roux, 1993, 116-118, no. 32; Laxander, 2000, 117-120, no. EZ4, pl. 64.1-4, esp. 1-2 (the musician and the dancers); Stampolidis and Oikonomou, 2014, 83, fig. 24 (C. Colonna); Oakley, 2020, 218-219, fig. 10.5, pl. 32.

[28] Paris, Bibliothèque nationale de France, Cabinet des médailles, no. 355: BAPD, no. 301935; Delavaud-Roux, 1993, 115, no. 31; Ceccarelli, 1998, 239, no. 4; Laxander, 2000, 117-120 EZ5, pl. 66.1-3, esp. 1-2 (the musician and the dancers); cf. similar representations on another kyathos, no. EZ3, p. 117-120, pl. 65.1-4, esp. 3-4 (the aulos player and four pyrrhic dancers; the musician stands in front of the dancers who move to the left); Stampolidis and Oikonomou, 2014, 82, fig. 23.

[29] Liveri, 2021, 33-34

[30] Meyer, 2017, 335f.

[31] See a unusual representation of an armed owl, the sacred bird Athena's, on a red-figure oinochoe, which is perhaps an Epiphany of the goddess with shield and spear: Lissarague, 1984, 40, fig. 60.

[32] Thasos, Archaeological Museum: 84.135.5 (275059 after Steinhart): BAPD, no. 44608; Poursat, 1968, 553, 555, 557-559, figs. 1-4; Steinhart, 2004, 18, pl. 4.3.

[33] Athens, Acropolis Museum, no. 1338: Steinhard, 2004, 15, pl. 7.2; Liveri, 2021, 33-34 with more examples and references.

[34] Goulaki-Voutira, 1996, 5-9, figs. 2-9; Schäfer, 1997, 64-68; 76- , pl. 40.1, 41.2, 42.1, 44.2 (pyrrhic); cf. 41.1, 42.2, 43.1-2, 44.1 (training in other dances).

Fig. 8. A naked woman dances pyrrhic in a symposium accompanied by aulos music. Red-figure bell crater (c. 425-375 BCE). Thebes, Archaeological Museum, no. 46284. Photo courtesy of the Thebes Archaeological Museum. © Hellenic Ministry of Culture and Sports (N. 4858/2021). Ephorate of Antiquities of Boeotia.

Sometimes, names are written in mentioned, e.g. Selenike, Dorkas[35]. This is confirmed by literary sources; for instance, in Xenophon's *Symposion*, which took place on an August day in 421 BCE, in the house of a rich Athenian Kallias, Socrates (Xen., *Symp*. 2.2), as one of the participants, expressed his preference for an armed dance and he highly praised the skilful dance of a young girl. ("On my word, Callias, you are giving us a perfect dinner; for not only have you set before us a feast that is above criticism, but you are also offering us very delightful sights and sounds." The dancer, an aulos player girl and a boy playing cithara and dancing were braught in symposium by a man from Syracuse who hired such artists offering a spectacle and he made money (Xen., *Symp*. 2.1). Representations in vase-painting show similar events as well. We selected four examples with this subject: e.g. a naked female dancer performs on the red-figure bell crater in Thebes, with helmet, shield and spear[36].(fig. 8) She moves quickly and briskly to the right, but looking back, in front of two beds where are reclining three male symposium's participants (one on the left and two on the right) observing and enjoying her spectacle; two small tables for placing food and drinks are in front of the bed-couches. The dancer is depected in the centre of the scene, while on her right and behind of the small table stands a naked woman playing her aulos and accompanying the pyrrhic dance.

Another half naked dancer runs before four symposiasts to the right on a red-figure bell crater in Naples (fig. 9a), attributed to Lycaon Painter or to the Polygnotos Group (440 BCE)[37]. She performs wearing a cross band over her bare chest, shorts, the *perizoma*, and an Attic helmet on her head, while holding a round shield with her left arm and a spear with the right. A recklined symposiast on the right accompanies her movements playing aulos music. The back side of the vessel is decorated with a *komos* scene, consisting of three young men (fig. 9b). In our third and fourth examples the female pyrrhic dancers seem to be waiting their turn: On the fragments of a red-figure chous, in Oxford (450-400 BCE or 420-400 after Schäfer) a woman with long chiton and helmet, holding two shields (one in each hand) stands on the right of a symposion's scene[38]. On a red-figure crater's fragment, attributed to the Talos Painter (c. 400 BCE) in Würzburg the armed woman stands on the left behind Dionysus or the main symposiast who is dressed as Dionysus[39]. On the right, two satyrs play music: next ot Dionysus a standing kithara player and below him another, whom only the head is preserved, aulos. All figure wear richly paterned garments, while the luxurious bed of Dionysus is impressive[40].

Fig. 9a. A female pyrrhic dancer performs in a symposium. Attic red-figure bell crater (c. 440 BCE). Naples, National Archaeological Museum, no. STG 281.
Fig. 9b. Komos of three men. Back side of the same vessel. Photos courtesy of the Ministero della Cultura –Museo Archeologico Nazionale di Napoli. Photos by Giorgio Albano.

[35] Schäfer, 1997, 76.

[36] Thebes, Archaeological Museum: no. 46284 BAPD, no. 3830; Poursat, 1968, 603, fig. 58; Delavaud-Roux, 1993, 135, no. 35.

[37] Naples, National Archaeological Museum, no. Stg 281: BAPD, no. 213564; Ceccarelli, 1998, pl. 8.4; Poursat, 1968, 599, no. 50, fig. 53; Delavaud-Roux, 1993, 146, no. 46; Matheson, 1995, 90, 92, 433, pl. 70. L9; Schäfer, 1997, 76, 110, pl. 39.2; Filser, 2017, 262-263, fig. 125; Oakley, 2020, 34, fig. 1.38.

[38] Oxford, Ashmolean Museum, no.1966.877: BAPD, no. 15332; Delavaud-Roux, 1993, 158, no. 56; Schäfer, 1997, 76, 110, pl. 40.2.

[39] Würzburg, Martin von Wagner Museum, no. H5708a-c: BAPD, no. 217527; Filser, 2017, 266-268, fig. 130.

[40] For bed-couches/klinai see: Liveri, forthcoming.

2.7. Symposium's end (Xen., *An*., 6.1.13)

[13] ἐνταῦθα κρότος ἦν πολύς, καὶ οἱ Παφλαγόνες ἤροντο εἰ καὶ γυναῖκες συνεμάχοντο αὐτοῖς. οἱ δ᾽ ἔλεγον ὅτι αὗται καὶ αἱ τρεψάμεναι εἶεν βασιλέα ἐκ τοῦ στρατοπέδου. τῇ μὲν νυκτὶ ταύτῃ τοῦτο τὸ τέλος ἐγένετο.

[13] And she danced the Pyrrhic with grace. Then there was great applause, and the Paphlagonians asked whether women also fought by their side. And the Greeks replied that these women were precisely the ones who put the King to flight from his camp. Such was the end of that evening.

[14] τῇ δὲ ὑστεραίᾳ προσῆγον αὐτοὺς εἰς τὸ στράτευμα: καὶ ἔδοξε τοῖς στρατιώταις μήτε ἀδικεῖν Παφλαγόνας μήτε ἀδικεῖσθαι. μετὰ τοῦτο οἱ μὲν πρέσβεις ᾤχοντο: οἱ δὲ Ἕλληνες, ἐπειδὴ πλοῖα ἱκανὰ ἐδόκει παρεῖναι, ἀναβάντες ἔπλεον ἡμέραν καὶ νύκτα πνεύματι καλῷ ἐν ἀριστερᾷ ἔχοντες τὴν Παφλαγονίαν.

[14] On the next day they introduced the ambassadors to the army, and the soldiers passed a resolution to do the Paphlagonians no wrong and to suffer no wrong at their hands. After this the ambassadors departed, and the Greeks, inasmuch as it seemed that vessels enough were at hand, embarked and sailed for a day and a night with a fair wind, keeping Paphlagonia on the left.

The Paphlagonians were very impressed by the celebration and the dances. They promised the Greeks that they would help them return home and advised them to follow the sea route through the Herakleia Pontike in Bithynia.

3. Conclusions

In conclusion the aforementioned dances replaced the dance, song and pantomime performances or acrobatic shows of professional artists, which were common in civic Attic symposia. Xenophon mentions selected variations of armed dances. However, it is strange that he does not include in his description the Cretan and Spartan armed dances, which were very famous and invented by the Couretes and Dioskuri respectively, according to the Greek mythology and religion. It is to emphasize that in Ancient Greece the armed or pyrrhic dances were very popular and varied by locality and the deity with which they were associated. The dances described by Xenophon appear to have little practical military value.

They are pantomimes, processional marches, or simple entertainment. It is uncertain, whether the pyrrhic was used for military training, or if there was a connection between tactics and dancing. Therefore, the pyrrhic dancing does not totally prepare an individual for a phalanx warfare. However, such dances might have increased physical fitness, agility, and dexterity in handling a shield and a spear. The Pyrrhic performance at a symposium, especially the female one, must have been of great importance, perhaps the most interesting point of entertainment, along with other mimic dances. In any case the banquet in Cotyora and the performed spectacular dances had positive results for the Greeks, since the local officials decided to help them and let them leave in peace through Paphlagonia.

Résumé - Danser au Symposion Cotyora dans l'Anabase de Xénophon : Cet article présente les danses mentionnées dans l'œuvre Anabasis de Xénophon. Ces danses étaient exécutées par des hommes, soldats de l'armée grecque et d'origines ethniques diverses, et une fille, après un banquet organisé à Cotyora, sur le territoire de Paphlagonie. Les ambassadeurs grecs et paphlagoniens ont mangé et se sont régalés ensemble à ce banquet, écoutant des chants et de la musique et regardant les spectacles de danse. L'auteur décrit différentes danses accompagnées de musique aulos : danses de guerre avec des armes (par exemple à la Pyrrhus), danses mimétiques agricoles et un oriental. Notre objectif est d'identifier et de classer les danses combinant le texte avec des représentations similaires dans l'art classique contemporain, axé sur l'époque de Xénophon (430/25 - 354 avant notre ère). Des exemples sélectionnés seront montré, notamment à partir de peintures sur vases et de figurines, qui représentent ces danses exécutées lors de colloques. Un autre objectif de cet article est de montrer et de souligner la coexistence pacifique des peuples à travers des des banquets, des chants et des danses, des divertissements communs et la résolution pacifique des problèmes.

Mots-clés : *Symposion, danses grecques antiques, danses de guerre, pyrrhique, oklasma, musique grecque antique, Anabase.*

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Inscribed Fibulae of Roman Soldiers in a Sienese Private Collection (Italy)*

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Abstract
Among the numerous metal objects purchased by a private collector from Siena (Italy) at the international antiques market many likely come from Roman military camps (armor, swords, rings, belts etc.). In this paper we will present some fibulae with short Latin inscriptions, perhaps belonged to soldiers or army officers. The texts are very concise and sometimes of difficult interpretation. These fibulae belong to these three types: Crossbow fibulae, Monogram fibulae and Openwork letters fibulae.
Keywords: *Military fibulae, inscribed fibulae, crossbow fibulae, monogram fibulae, typology, military equipment, collection studies, Roman period, Middle Imperial Age, Late Roman period.*

1. Introduction

In a private collection in Siena (Italy) there are personal ornaments and parts of armor from the Roman age, purchased on the international antiques market; among these objects there are also a large number of fibulae (**fig. 1**). Only some of them are inscribed and they can be perhaps traced back to the military sphere[1]. It is possible that some of them are belonged to the clothing of Roman soldiers or officers and we would like to focus on these. Unfortunately, the discovery places of all of them are unknown, but comparisons with others could be made on the base of typology and iconography. Concerning to material, there are examples in copper, orichalcum, bronze and silver, but those in bronze prevail. Their measures go to a minimum of 2 to a maximum of 4 centimeters. [G.L.G.]

1. Uninscribed fibulae

Before dealing with the inscribed fibulae, we would like to briefly present the unscribed fibulae, even if not all of them are surely attributable to the Roman castra along the Rhine-Danubian *limes*. They seem to belong to these four main types:

- Discoidal fibulae[2] (**fig. 2**): the first one has a riveted button in the center and two enamelled crowns, with checkerboard pattern; no decoration edge (**figs 3a-3b**); the second one belongs to the same type, but it has a third crown (**figs 4a-b**).
- Medallion fibulae (**fig. 5**)[3]: notched edge, in the center there is a silver circle, similar to a *phalera*, depicting the bust of a frontal male figure, perhaps Jupiter with a winged thunderbolt on his left side, how we can find on the reverse of some coins.
- Zoomorphic fibulae (**fig. 6**)[4]: decorated with different animals, like a wild boar, a rabbit, a horse, and a feline. Some legions had animals as their emblem, such as the wild boar for the *Legio XX*[5]; it cannot be excluded that some of these fibulae had belonged to legionaries.
- Shoe-shaped fibulae (skeuomorphic) (**fig. 7**)[6]: this type is often enameled and decorated with small metal circles. These fibulae were discovered in the landscapes of Roman provinces and can be dated from the first or the second half of second century A.D. and the third century A.D.[7]. We know a one tipology surmounted by a ring, the most common, the one that hasn't it, and finally the one which has no trace of enamel and is sometimes provided with a protuberance reminiscent of the ring of the preceding type, but full[8]. In our specimen, there is an enamelled part and maybe, on the bottom of the fibula, there is a broken ring and on the upper part there are concentric elements along the edge and the central area of the bar; they remember the shoes used by Roman soldier called *caligae*. [D.C.]

Other fibulae, more likely of a military tipology, can be traced back to four different types:

- Fibula in the shape of a sword (**fig. 8**)[9]: represents a sheated *gladius*; at the end there is a semi-circular knob, a very common feature for this type.
- Crested helmet-shaped fibula (**fig. 9**)[10]: the helmet could be the one of a horseman, with a high and vertical neck, a more or less wide oblique neck cover and a visor. Most probably it is attributable to the type of helmet called *Niederbieber*, datable between the second and the third century A.D., the presence of the crest may suggest that it is perhaps an helmet of a decurion of an *ala*.

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[1] Cfr. S. Veseli, in Lafli *et alii* 2022, 60.
[2] Schörle 2018-2019, 206; and now T. Potârniche *et alii*, in Lafli *et alii* 2022, 47.
[3] Riha 1979, 189-190.
[4] Genceva 2004, 118-119.
[5] Gonzalez 2003, 392.
[6] Riha 1979, 203; and now B. Storchan, in Lafli *et alii* 2022, 55.
[7] Riha 1994, 172.
[8] Feugère 1985, 372-382.
[9] Schörle 2018-2019, 205.
[10] Schörle 2018-2019, 205.

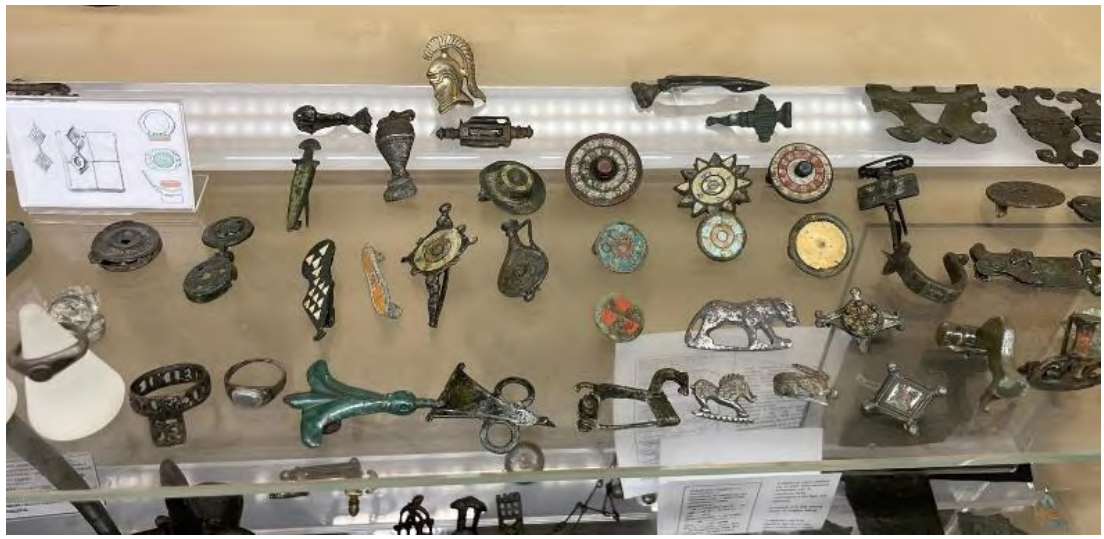

Figure 1. Siena, private collection: Fibulae of the Roman age

Figure 2. Siena, private collection: Discoidal fibulae

Figure 3. a-b Siena, private collection: Discoidal fibula with two enamelled crowns.

Figure 4. a-b Siena, private collection: Discoidal fibula with a third crown

Figure 5. Siena, private collection: Medallion fibula

Figure 6. Siena, private collection: Zoomorphic fibulae

Figure 7. Siena, private collection: Shoe-shaped fibula (skeuomorphic)

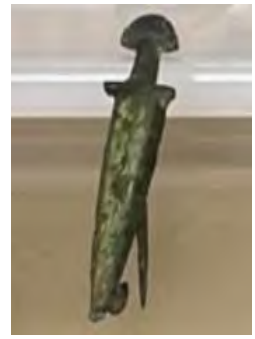

Figure 8. Siena, private collection: Fibula in the shape of a sword

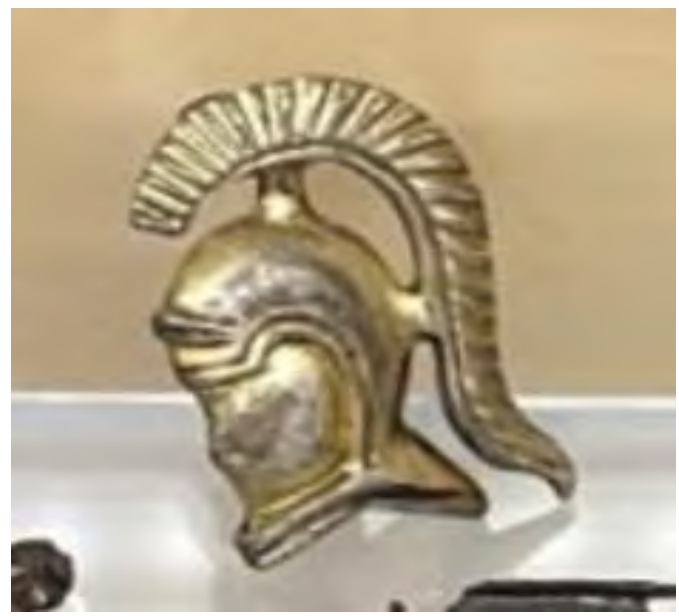

Figure 9. Siena, private collection: Crested helmet-shaped fibula

Figure 10. Siena, private collection: Swastika fibula

Figure 11. Siena, private collection: Swastika fibula with zoomorphic protomes

Figure 12. Siena, private collection: "Omega" fibula

- Swastika fibulae (**fig. 10**)[11]: some similar specimens have been found in the *castra* of *Novae* and *Dimum* in Bulgaria, datable between the second and the third century A.D. An eastern variant of this type shows, on the four terminals, zoomorphic protomes (**fig. 11**).
- So called "Omega" fibulae (**fig. 12**)[12]: this type is the most common in Britain, and it is rare in Gaul, Germany and Iberian Peninsula. Thinking about the discovery places, we can compare the shape of them with a *torques*, a collar used by celtic populations. The chronology of these fibulae is uncertain, because this type was widely used for a long time[13].[M.G.]

2. Inscribed fibulae

The fibulae with inscription of this collection, someone connected to the military world, belong to the following three types:

- Crossbow fibulae[14]: this type is known in different variants. "We know that the first and the second centuries A.D. saw the emergence of a large number of shapes and types, this development came to a rather abrupt halt when, in the early decades of the third century, the crossbow fibulae become the dominant type"[15].

In the Sienese collection there is an arched fibula with a square section and openwork letters (h. 0,5 cm) on it (*opus interrasile*)[16]. We read: "LEG XI CL P F" (which we can interpret as nominative or genitive) (**fig. 13**). The *Legio XI* in 42 A.D., on the occasion of the revolt of Lucius Arruntius Camillus Scribonianus against the emperor Claudius, remained faithful to the princeps and obtained the titles of *Claudia Pia Fidelis*. Similar inscriptions appear on brick stamps from Germania Superior, Pannonia Superior and Moesia Inferior, where over time this legion had its *castra*.

Another fibula of the same type, perhaps connectable to the military context and that can be considered a variant of the previous one, is a Latin Cross fibula that has on the arch this engraved inscription (letters h. cm 0,2): "HERCVLI" (**fig. 14**). The name could be considered a dative, interpreted as a dedication to Hercules, but since this fibula belong to the third or fourth century A.D., we cannot exclude that is a genitive of possession or a vocative, from the nominative *Herculius*. We know as comparison a gold fibula preserved in the Metropolitan Museum in New York[17]. The fibula could belong to an officer under the orders of *Maximianus Augustus Herculius,* colleague of Diocletian. But after the tetrarchical age, *Herculius*, like *Iovius*, was also used by ordinary people, legionaries or civilians.

In the Sienese collection there are also a fibula of this category with the engraved inscription "VTERE FELIX" (letters h. cm 0,5) (**fig. 15**), a good omen phrase, which is also found in other objects, not only military ones[18]. [F.M.]

Figure 13. Siena, private collection: Arched fibula with the text "LEG XI CL P F"

[11] GENCEVA 2004, 122; PETCU 2019.
[12] RIHA 1979, 177-179; and now R. ERICE LACABE, in LAFLI *et alii* 2022, 24.
[13] GENCEVA 2004, 122.
[14] RIHA 1979, 147-150; R. PETCU, in LAFLI *et alii* 2022, 45. On crossbow fibulae see now the hypotheses of C. CRAMATTE, quoted by CHRISTEN 2019.
[15] DEPPERT-LIPPITZ 2000.
[16] For this fretwork technique: PACINI 2012; GIMENO PASCUAL 2012, 209 (this technique was widely used from the III cent. AD).
[17] *CIL* XI 6711, 1; BEYELER 2011, n. 4; DEPPERT-LIPPITZ 2000, 48: the inscription is located on both sides of the arch; in the first side the vocative "HERCVLI AVGVSTE", and on the opposite side "SEMPER VINCAS".
[18] Other similar fibulae for instance in EDCS 00400, 00827, 00835, 01054 (unknown provenance, published in auction catalogs); cfr. RAYBOULD 1999, 140; FEUGÈRE 2022, 275. *Utere felix* is expression common also on rings; see GIMENO PASCUAL 2012, 208-209, 211-214 nn. 2-9 (figg. 1-2); KRIER 2017.

Figure 14. Siena, private collection: Latin cross fibula with the text "HERCVLI"

Figure 17. Siena, private collection: Openwork Letters Fibula with the text "MARS"

Figure 15. Siena, private collection: Crossbow fibula with the text "VTERE FELIX"

Figure 16. Siena, private collection: Monogrammatic fibulae with the text "PRIMA"

- Monogrammatic fibulae[19]: this type usually has a circular or quadrangular shape with intertwined letters inside (*opus interassile*). In the Sienese collection there are two specimens (**fig. 16**). The letters identifiable with certainty are R, M, A (letters h. cm 1,7/1,6), and the most immediate reading would be "ROMA"; other similar specimens, in silver or bronze, are known from the auction catalogs[20].

- Openwork Letters Fibulae[21]: this typology is characterized by a perforated structure (*opus interassile*), in which we could isolate more letters in connection with each other (h. cm 2,5/2,3) (**fig. 17**). The inscription could be interpreted as "MARS" or "MARTIS"[22]. The technique of using perforated letters is also found in other military ornaments, like belt decorations, and rings. [C.O.]

The study of these fibulae is only at the beginning; their dating is not always easy, above all for the lack of specimens from datable archaeological contexts. Furthemore it is not sure that all the fibulae are connected with soldiers, apart the "Kniefibel" (Fig. 13) and the Crossbows fibulae (Figs. 14 and 15). The others can be brooches, decorative objects also used by women; even the sword-shaped fibula is not necessarily a military ornament. We know that many civilians followed the armies and populated the canabae, adjacent to the Castra, which can lead to doubts in the interpretation of the objects from those contexts. For this reason prudence is more necessary than ever[23]. [G.L.G.]

[19] GENCEVA 2004, 121-122.
[20] For instance EDCS 00399, 00886, 00940, 00941, 00959, 00991, 00995, 01028, 01049, 01050, 01055, 01058, 01059, 01096, 01144, 01150, 01174, 01274, 01307.
[21] RIHA 1994, 78.
[22] Oher specimens from Raetia (EDCS 01344) e from Pannonia superior (*AE* 2017, 1158).
[23] Cfr. FEUGÈRE 2018.

Résumé - Fibules inscrites de soldats romains dans un siennois Collection privée (Italie) : Parmi les nombreux objets métalliques achetés par un collectionneur privé de Sienne (Italie) au salon international des antiquités beaucoup proviennent probablement des camps militaires romains (armures, épées, anneaux, ceintures, etc.). Dans cet article, nous allons présentent quelques fibules avec de courtes inscriptions latines, appartenant peut-être à des soldats ou à des officiers de l'armée. Les textes sont très concis et parfois d'interprétation difficile. Ces fibules appartiennent à ces trois types : fibules d'arbalète, fibules monogrammes et fibules lettres ajourées.
Mots-clés : *Fibules militaires, fibules inscrites, fibules d'arbalète, fibules monogrammes, typologie, équipement militaire, études de collections, période romaine, âge impérial moyen, période romaine tardive.*

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The Byzantine Fibulae of Sardinia: A Survey

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Abstract
The article provides an overall critique about the fibulae of Byzantine culture and provenance found in Sardinia. The current evidence includes 25 specimens of fibulae, found in 14 identifiable locations, while 3 finds are of unknown origin. The most attested fibulae are the disc-shaped ones, while there are fewer specimens with an arc and zoomorphic shape. Each type has individual specificities. The archaeological contextualization, where possible, leads to the identification of a majority presence of fibulas in female tombs, even if similar artifacts could also be the prerogative of the male dress. Their characteristics make them valuable artifacts and convincing evidence of the presence of high-ranking characters, using fibulae as a potential social value display.
Keywords: *Byzantine fibulae; Sardinia; Metal artifacts; Byzantine Archaeology.*

1. Introduction

Sardinia is the second-largest island of the Western Mediterranean. During Late Antiquity it was annexed to Byzantine Empire since 534, after the collapse of the Vandal Kingdom, of which it was a part. The island remained in the Byzantine sphere of influence at least until the ninth century, from which we have the first testimonies of the autonomous rulers - *iudikes*, *principes*, etc. - whose origin was one of the main features of the path the island undertook to shift from Byzantium to the Latin West [Metcalfe, Fernández-Aceves, Muresu (eds) (2021)]. Before that happened, Sardinia experienced several levels of Byzantine cultural influence and appearance. Such a long journey can be detected - among other things – by the analysis of the archaeological markers. One of the latter are the fibulae, or brooches, one of the most important class of metal artifacts known in the island.

In Sardinia are known 24 specimens of fibulae, found in 14 identifiable locations, while 3 finds are of unknown origin[1] (fig. 1). Only 6 sites (equal to 37.5%) are characterized by stratigraphic reliability[2], while the remaining (10, 62.5%) refer to fibulae discovered as a result of fortuitous finds, digging or archaeological investigations[3]. As for the contexts, the majority of the objects come from funerary areas[4] (10 locations, 58.8%), while the remaining locations (7, 41.1%) are indeterminable[5].

Most of the fibulae are made of silver, which is used to make 40% of the set[6]; the remaining known metals are, in order of use, bronze and gold[7], while individual specimens are made of copper and electro[8]. Morphologically speaking, the most attested fibulae are the disc-shaped ones[9], while there are fewer specimens with an arc and zoomorphic shape. Each type has individual specificities: the arched fibulae are mostly characterized by stirrup heads, while among the zoomorphic ones (only 3 specimens) there are objects in the form of an insect (a cicada or a bee, two specimens in silver and bronze respectively) and a dove (in bronze).

Figure 1. Late Antique Sardinia, list of places with findings of fibulae: 1. Porto Torres (Sassari, from now on SS), church of St. Gavino; 2. SS, Domus de Janas Giorre Verdi; 3. Borutta (SS), St. Pietro di Sorres; 4. Bortigali (Nuoro, from now on NU), Berre; 5. Teti (NU), Abini; 6.

[1] Identifiable locations: 1. Porto Torres (Sassari, from now on SS), church of St. Gavino; 2. SS, Domus de Janas Giorre Verdi; 3. Borutta (SS), St. Pietro di Sorres; 4. Bortigali (Nuoro, from now on NU), Berre; 5. Teti (NU), Abini; 6. Norbello (Oristano, fron now on OR), St. Maria della Mercede; 7. Cuglieri (OR), Cornus (Columbaris and Corchinas); 8 Nurachi (OR), St. Giovanni Battista; 9. Cabras (OR), St. Giorgio; 10. Nuragus (Sud Sardegna, from now on SU), nuraghe Santu Millanu; 11. Isili (SU); 12. Genuri (SU), nuraghe St. Marco; 13. Serri (SU), Sa Cungiadura Manna; 14. Dolianova-Serdiana (SU), Bruncu 'e s'Olia. Fibulae of unknown provenance: 15. Cagliari, Museo Archeologico Nazionale; 16. Sulcis-Iglesiente; 17. San Vito (SU).
[2] No. 1, 6, 7 (Columbaris), 8, 10, 12.
[3] No. 2-5, 7 (Corchinas), 9, 11, 13-14.
[4] No. 1-2, 4, 6, 7 (Columbaris), 8, 10, 13-14.
[5] No. 3, 5, 7 (Corchinas), 9, 11-12, 15-16.
[6] Locations no. 3 (no. 1 specimen), 6 (no. 1 s.), 7 (no. 3 s.), 8 (no. 1 s.), 9 (no. 1 s.), 10 (no. 1 s.), 13 (no. 1 s.), 16 (no. 1 s.).
[7] Gold: locations no. 4 (no. 2 specimens), 6 (no. 1 s.), 12 (no. 1 s.), 14 (no. 1 s.). Bronze: no. 2 (no. 1 s.), 3 (no. 2 s.), 5 (no. 1 s.), 7 (no. 2 s.), 9 (no. 1 s.), 11 (no. 1 s.).
[8] Copper: no. 1 (no. 1 specimen). Electro: no. 15 (no. 1 s.).
[9] Locations no. 3 (no. 1 specimen), 4 (no. 2 s.), 6 (no. 1 s.), 7 (no. 3 s.), 8 (no. 1 s.), 10-16 (no. 1 s. each).

Norbello (Oristano, fron now on OR), St. Maria della Mercede; 7. Cuglieri (OR), Cornus (Columbaris and Corchinas); 8 Nurachi (OR), St. Giovanni Battista; 9. Cabras (OR), St. Giorgio; 10. Nuragus (Sud Sardegna, from now on SU), nuraghe Santu Millanu; 11. Isili (SU); 12. Genuri (SU), nuraghe St. Marco; 13. Serri (SU), Sa Cungiadura Manna; 14. Dolianova-Serdiana (SU), Bruncu 'e s'Olia. Fibulae of unknown provenance: 15. Cagliari, Museo Archeologico Nazionale; 16. Sulcis-Iglesiente; 17. San Vito (SU) (elaboration by Marco Muresu; CC OA).

Arched fibulae are attested from Porto Torres-San Gavino (Sanciu, 1993: 201-202), Serri-Santa Vittoria (Serra, 1998: 366) and Abini-Teti (Taramelli, 1914: 387; Serra, 2002: 149-150; Serra, 2010: 531-532, 555) (fig. 2). Their morphological features recall a typology of artefacts which is widely attested in the Byzantine Mediterranean during 4-5 c. CE and it's known as 'crossbow fibulae' (Celik, 2016). The most relevant finding is the object from Porto Torres, which was found in a tile-roofed grave with NE-SW orientation in a open-air necropolis placed South of the Romanesque cathedral of San Gavino. The artefact was in bronze, with a gold patina. It was engraved with agemina in the arch and the foot, with alternated patterns of squares and circles. It could have been related originally to a wealthy man or woman (Serra, 2010: 532).

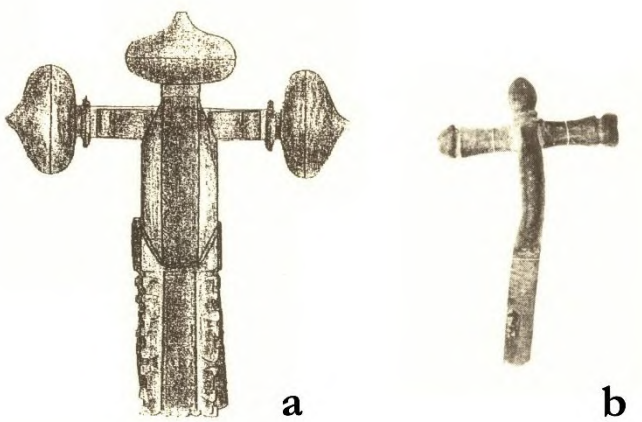

Figure 2. Bronze crossbow fibulae from Porto Torres - St. Gavino (a) and Teti - Abini (elaboration by Paolo Benito Serra; CC OA).

Another interesting exemple of arched fibula was found in Giorre Verdi-La Crucca, near Sassari, in the mid-XX c. CE during an excavation of a Domus de Janas, a peculiar typology of burial of Prehistoric chronology, carved into the rock in the shape of a house (with a different number of rooms, depending on the complexity of the tomb) (Rovina, 2002). The object is made of bronze and presents a perforation in the upper part of the arc. The latter is decorated with two parallel lines of yellow squares and green glass pastes; the foot has the shape of head of a small animal, probably a turtle, with two circular cavities instead of eyes, in which were originally two glass pastes (fig. 3). The peculiarities of the fibula recall comparisons with productions of Pannonia and Northern Italy (Serra, 2010: 544). The artifact was found along with other grave goods such as a golden ring, an earring with a globular pendant ('*a globo mammellato*') and a fragmented jug with ribbed bands on its surface. All these elements suggested a global chronology to the 7-8 c. CE. (Serra, 1976).

Figure 3. Sassari - Giorre Verdi/La Crucca, bronze arched fibula with zoomorphic head and a double line of decoration of glass squares and circles (photo by Daniela Rovina; CC OA).

Figure 4 Cabras - San Giorgio, bronze zoomorphic fibulae (photo by Barbara Panico; CC OA).

Finally, an arched fibula is presumed lost. It was found in Sant'Andrea Frius (central Sardinia) in 1922, along with other grave goods belonging to a man – presumably of military social status – buried in a stone sarcophagus. The burial was unearthed during the building of a house and all the objects were dispersed by the workers, including the fibula (Taramelli, 1923: 290-291).

As regards the zoomorphic specimens, the two in the form of an insect (a cicada, fig. 4) were found in S. Giorgio, near Cabras, along with a numerous set of metal artefact of unclear provenance which have been hypothetically related to a settlement (Panico, 2013: 142-143). The only known exemplar of dove-shaped fibula comes from

Sorres, near Borutta. The latter is on a limestone heel on top of which, at 524 m height, is still visible a polylobate nuraghe next to a basilica in Pisan Romanesque style (built between the twelfth and thirteenth centuries, cathedral until 1503) and its Benedictine monastery (Muresu, forthcoming).

The site has been the subject of a settlement continuity from the Bronze Age to the present day. The first archaeological informations, although with no reference to stratigraphy, date back to the mid-20th century. In 1965-66 the traces of an early medieval cemetery on the hill were identified (Maetzke, 1966). Towards the east, on the same line of the apse of the basilica, numerous finds were unearthed in the following decades during agricultural work or accidental discoveries. Among them was the above-mentioned fibula. The latter presents engraved motifs of lines and circles, to recreate the eyes of the bird and the decoration on its tail (fig. 5).

Figure 5 Borutta - Sorres, bronze fibula shaped as a dove and decorated with lines and circles (photo by Marco Muresu; CC OA).

The disc-shaped fibulae are the most documented set (16 artifacts) and that for which it is possible to theorize a local scale market and diffusion. As a matter of fact, the fibulae known in Sardinia do not show specific similarities with the contemporary products of the rest of the Mediterranean (Baldini, 1999: 67-112, 153-166). This suggests their origin as a result of local workshops, also for countertrend of using silver while in the contemporary Italic and European area dominated the gold (Dalceggio, 2018: 28, 67). The majority of the record is precisely made of silver, but there are also examples in gold, bronze and a single case in electro; most are intact. At a decorative level 12 specimens out of 15 have in the center an umbo[10], only in two cases affected by a median apex[11]. The central element is the point of convergence, as well as the slight concavity that characterizes the objects, of a frame with thin lines in relief that, depending on the fibula, is in the form of broken[12] or wavy segments[13]. Only three objects are perforated with pelt motifs or double volute side by side[14], while only one specimen has the surface affected by alveoli originally intended, probably, to accommodate glazed enamels according to the cloisonné technique[15]. The latter is applied on a disc-shape fibula in gilded bronze from Isili (fig. 6): the artifact – stylistically datable to the 7th century, currently at the Archaeological Museum of Cagliari – presents a decoration with six triangular cells scaled, facing the inside, and straight strips, alternating with as many cells facing the outside. In the center there is a circular bezel with a raised edge. The origin of the artifact is unknown (Spano, 1857: 139-140; Muresu, 2018: 177). According to Martina Dalceggio, who authored a recent inventory/classification of disc-shaped fibulae found in the Italian Peninsula from Sixth to Seventh century, this would be a possible imitation of a type of "narrow cell" production linked to gold and silver fibulae with structured and complex decorations (Dalceggio, 2018: 62-63).

Figure 6 Isili, disc-shape gilded bronze fibula (from Dalceggio, 2018; CC OA).

Of primary interest is undoubtedly the specimen coming from Bruncu e s'Olia, between Serdiana and Dolianova, in the rural hinterland of Cagliari. The object is in exquisite conditions, except for some superficial damage and for missing part of the coupling system. It is a fairly wide item (diameter 6.2 cm; weight 39.5 g) made of gold foil, with a slightly hollow flat edge. The decoration is divided into three registers, the former affected by three series of broken lines enclosed within three concentric frames with detected edge; center register has smooth surface while the third, surrounding the umbo, repeats the pattern with broken lines but on four registers. The fibula was discovered in unsafe stratigraphic conditions (Taramelli, 1919: 141); however, it was part of a necropolis with where possibly characters of high social rank would have been buried. This for the preciousness and richness of the decorative artifacts as grave goods (Muresu, 2018: 158, with previous references; Muresu, 2022a: 111). Among the latter is in particular a pair of gold earrings with bell-shaped pendants and globes, suspended by small chains (fig. 7).

Similar objects have been discovered more recently (2006) through archaeological research conducted in the main building (Tower A) of the nuraghe St. Marco near Genuri, in central Sardinia (Dore, 2016). Inside the protohistoric monument, eventually reused during the early Middle Ages as a burial – a recurring trend in the case of the funerary finds of rural Byzantine Sardinia (Muresu, 2022b) – were a fragmentary disc-shaped golden fibula and an elaborate golden earring with pendants (fig. 8). The former is shaped similarly to the earrings from Dolianova-Serdiana: three registers along the outer edge, four inside and, in the middle, a smooth surface band. There are, however, some differences, such as the alternation between the motifs in segments and the series of pelts, which can be found both in the first and third registers. The earring has also an exquisite figurative decoration: its plaque presents, on both sides, by two facing peacocks, recognizable by the tuft of feathers on the head and the long tail that develops in length.

[10] No. 3-4, 6, 7a, 7c, 8, 10-12, 14-16.
[11] No. 6, 15.
[12] No. 8, 12, 14-16.
[13] No. 3, 7a.
[14] No. 7c (*peltae*), 8 (volute), 10 (*peltae*).
[15] No. 11.

Figure 7. Dolianova - Bruncu e s'Olia, disc-shape golden fibula (left) and a couple of earrings with glass and gold pendants (right) (from Muresu, 2018; CC OA).

Between the two birds is a *kantharos* (a vessel with two high vertical handles), to which the animals drink; above the vase is visible a Greek cross potent. The scene on the obverse is embellished by a complex polychrome, with blue, green and purple nuances, made through the technique of champlevé enamel, which involved the revenue of alveoli on the surface of a metal object and their subsequent filling with vitreous enamel, which was then sanded and polished after firing and cooling. The rear side of the artifact is made through the cantilever technique.

Figure 8. Genuri - Nuraghe St. Marco, disc-shape fragmented golden fibula (left) and parts of earrings with gold pendants (from Dore, 2016; CC OA).

A proximity in the ornamental motifs to the fibulae of Dolianova-Serdiana and Genuri comes from a fragmented object from an uncertain location of Sulcis-Iglesiente (Salvi 1989: 216; Serra 2006: 361, tav. V, fig. 6) and especially the exceptional electro fibula kept at the National Archaeological Museum of Cagliari (Taramelli, 1919: 147). The latter, also of uncertain origin, presents the canonical alternation between decorated registers and bands without ornamental motifs, all arranged around the central umbo enriched by a median apex (Muresu, 2022a: 111-112) (fig. 9).

Figure 9. Cagliari - Museo Archeologico Nazionale, disc-shape electro fibula (photo by Marco Muresu; CC OA).

Another fibula of remarkable workmanship is that identified during the excavations at the medieval church of S. Maria della Mercede in Norbello (Oristano). It was one of the prominent elements among the artifacts of the grave called '*alpha'*, revealed a rich female deposition located in direct contact with the foundations of the religious building of the Middle Ages, under the right wall (D. Salvi in Sanna, Manca, Salvi, 2016: 51-52). The disc consists of two rows of four concentric annular elements, decorated with a zigzag pattern and separated from each other by a smooth face. The central part is slightly hollow and has the umbo decorated with an apex. As it was said, the latter is tightly comparable to the apex on the Electro fibula kept in Cagliari's Archaeological Museum. The zig-zag pattern, on the other hand, is comparable to the analogue decoration on two fragmentary gold objects from Berre (Bortigali) (Serra, 1987: 107; Muresu, 2019: 511-513) (fig. 10), about 20 km as the crow flies from Norbello (Muresu, 2019: 517-518). The needle is long and thin and through a ring end it binds to a pin attached to two rings welded on the back (fig. 11).

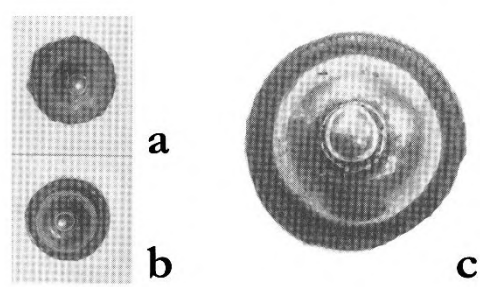

Figure 10. Bortigali - Berre, fragmentary disc-shape golden fibulae (a-b) and close caption of the fibula no. b (c) (from Muresu, 2019; CC OA).

Like Genuri, even the fibula of Norbello comes from punctual stratigraphic data. It was discovered in association with a pair of earrings in silver and gold with a pseudospherical globet passing through – also made with the use of two different metals, hypothetically for its provenance from the same goldsmith's workshop, then a silver ring with a monogram, a button holder and s series of small plates pertinent to the garment of the deceased (Muresu, 2022a: 109-110, with earlier bibliography). An interesting feature of Norbello's fibula is its bimetallism, similarly to the couple of earrings to which it was associated in the grave. This common detail could suggest the provenance of both objects from the same workshops, or even their conception as a *parure* jewellery accessory. It is also plausible the artefacts would have been a prerogative of high-rank buyers, to be used as a status symbol for their preciousness and exquisite workmanship.

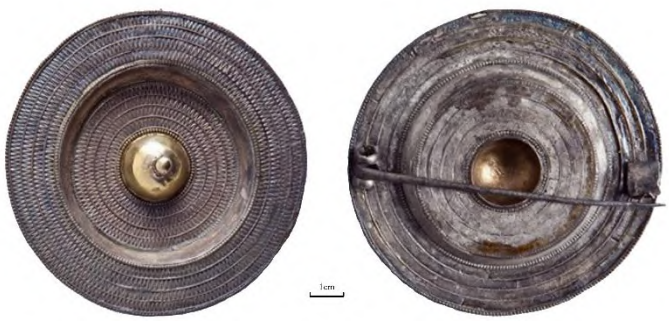

Figure 11. Norbello - St. Maria della Mercede, disc-shape fibula in silver and gold (from Muresu, 2019; CC OA).

Another notable example comes from the necropolis of the early Middle Ages identified below the present parish church of Nurachi (Oristano) were brought to light a series of burials with significant equipment and often associated with young subjects. The *Iota* tomb, obtained reusing an amphora, was discovered leaning against a wall outside the early Christian complex, near the apse. The tombs contained skeletal remains of a child and an adult, buried together (Stefani, 1985: 59). The very young *Iota* I wore a silver disc fibula, located near the right shoulder, while on the sides of the skull were two silver earrings with drop pendant, identical (Coroneo, 2011: 277). The fibula is slightly convex and divided into three registers. The first is composed of two concentric bands decorated respectively with oblique segments in relief very dense and converging to two to two, and very similar but more thinned segments; the second order has a smooth and slightly hollow surface while the third, that frames the smooth umbo, is decorated with open elements with double volute side by side (fig. 12).

The rendering of the decorative motifs of the fibula found at Nurachi makes it possible to compare it with other objects, equally in silver, from Oristano and Northern Sardinia. The first case refers to three artefacts from Cornus (near Cuglieri), where is an early Christian complex with necropolis (Giuntella, 1999). Two fibulae are of unknown origin: although certainly from Cornus, the details of any reference tombs are unknown (Amante Simoni, Martorelli, 1986: 188, nn. 144-145). Respectively, the specimens are a silver undecorated fibula with thickened edge, and one with eighteen pelt motifs arranged radially around a central smooth umbo, enclosed in a frame around the edge (fig. 13).

Figure 12. Nurachi - St. Giovanni Battista, disc-shape silver fibula (left) and a couple of earrings (right) (from Muresu, 2018; CC OA).

The latter can be compared with a silver fibula found inside a burial belonging to a burial of prepuberal age (6-7 years) discovered during recent excavations at the nuraghe Santu Millanu of Nuragus. The grave, in an earthen pit covered and closed on the top with roof tiles, was partially delimited, to the east, by an alignment of five quadrangular stone basins/urns, without lid, interpreted as the result of a hypothetical reuse in order to delimit the funerary area (Pilo, Dore, Candilio, Deaddis, 2021). The research is still ongoing and every hypothesis remains open.

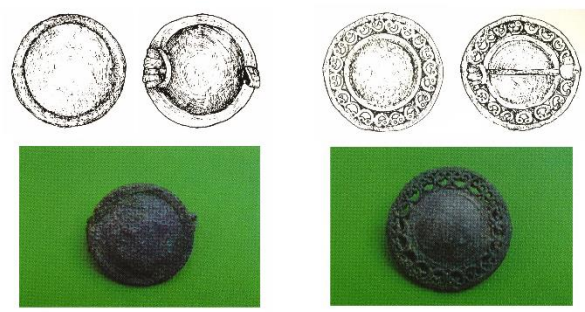

Figure 13. Cuglieri - Cornus, disc-shape silver fibulae with thickened edge (left) and pelt motifs arranged radially around a central smooth umbo (right) (from Amante Simoni, Martorelli 1986; CC OA).

Returning to Cornus, a last fibula is known to have definitely come from a grave, and the woman who wore it was a *honesta femina* named *Patriga* (Martorelli, 2000: 28-29, n. 5; Martorelli, 2011: 729-730). The fibula was found below her mandible. It has a silver foil on which goes a decoration in three registers. The former is decorated with continuous broken lines, thicker on one side and thinner on the other; the second register has a smooth surface but, near the umbo, has a continuous decoration of small semicircles of equal thickness. The object is framed by a wavy line (fig. 14). It dates to the full 7th century and was found in association with a crochet which bore the words, on three sides, PATRIGA FEMINA HONESTA (Muresu, 2018: 257-258, with previous references). It was also associated with some remnants of golden fabric, placed at the height of the head and probably relevant to a bonnet that was to ensure the hairstyle of the deceased, along with the pin (Giuntella, 1999: 147). The fibula, moreover, recalls a similar specimen coming from the already mentioned area of S. Pietro di Sorres, Borutta (Serra, 1987: 120-121) (fig. 15).

In conclusion, from the brief examination of the cased exposed

so far, it is however possible to recognize for the disc-shaped fibulae of Byzantine Sardinia the presence of two main typological groups, distinguished according to the metal and the characteristics of the shape. The first set refers to artifacts such as fibulae from Dolianova, Genuri, Norbello or that of unknown origin kept at the Archaeological Museum of Cagliari. Their characteristics, as already stated, make them valuable artifacts and convincing evidence of the presence of high-ranking characters (Muresu, 2022a). Similar considerations can also be extended to fibulas such as those found at Cornus or Nurachi: the usage of silver is equally recognizable a potential social value display, maybe relating to the middle ranks of society – such as Patriga, for instance (Muresu, 2018: 257-259).

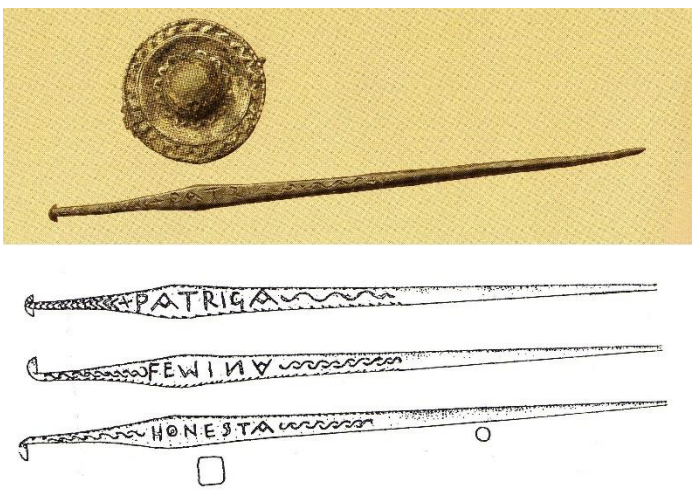

Figure 14. Cuglieri - Cornus, disc-shape silver fibula and crochet of Patriga, Femina Honesta (from Muresu, 2018; CC OA).

The archaeological contextualization, where possible, leads to the identification of a majority presence of fibulas in female tombs, even if examples such as the case of Sorres lead us to believe that similar artifacts could also be the prerogative of the male dress.

Figure 15. Borutta - Sorres, disc-shape silver fibula (photo by Paolo Benito Serra; CC OA).

Résumé - Les fibules byzantines de Sardaigne : une enquête : L'article fournit une critique globale des fibules de culture byzantine et de leur provenance trouvées en Sardaigne. Les preuves actuelles comprennent 25 spécimens de fibules, trouvés dans 14 emplacements identifiables, tandis que 3 découvertes sont de origine inconnue. Les fibules les plus attestées sont celles en forme de disque, alors qu'il existe moins de spécimens en arc de cercle et forme zoomorphe. Chaque type a des spécificités individuelles. La contextualisation archéologique, lorsque cela est possible, conduit à identifier une présence majoritaire de fibules dans les tombes féminines, même si des artefacts similaires pourraient être aussi l'apanage de la tenue vestimentaire masculine. Leurs caractéristiques en font des artefacts précieux et des preuves convaincantes de la présence de personnages de haut rang, utilisant les fibules comme une potentielle démonstration de valeur sociale.
Mots-clés : *Fibules byzantines ; Sardaigne ; Objets façonnés en métal ; Archéologue byzantin.*

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A Roman Age Brooch Workshop from Philippopolis

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Abstract
A workshop for strongly profiled brooches was discovered in the eastern part of the ancient city of *Philippopolis* (the modern city of Plovdiv, Bulgaria). The workshop was located in a building with rectangular plan and stone and mud bricks walls. Inside the room furnaces, a worktop, a working pad, small pits, places for storing hot ash and an anvil were identified. In the southeastern part of the room trash layers with about 1500 fragments of clay moulds, 150 fragments of crucibles, bronze spilths and residues were studied. Iron tools (an anvil, a shovel, a hammer, a knife and probably a file), defective items, and bronze ingots were also found inside the room. The *fibulae* type is a derivative of Almgren 84 Type. The variations of the moulds and the defective items define that several variants of this type were produced in the workshop. A whole exemplar is found in the area close to the room. According to the stratigraphic position of the workshop, together with the artefact, found in it, including two bronze coins (an imitation of an Emperor Octavian Augustus' as with a countermark and a *dupondius* of Emperor Vespasian) the brooch manufacturing dates to the last decades of the 1st century. The *fibula* workshop excavated in *Philippopolis* is the only one found in the city and in the territory of Bulgaria dated to the Roman period and provides important information about organization of brooch manufacturing.
Keywords: *fibulae, workshop, Philippopolis, strong-profiled brooches, bronze casting*

1. Introduction

A brooch workshop that functioned during the late 1st – early 2nd century was excavated in the modern city of Plovdiv, Bulgaria which now occupies the territory of the ancient *Philippopolis*. It was studied during rescue excavations lead by archaeologists from the Regional Archaeological Museum of Plovdiv in 2010-2011 (Божинова, 2011: 347-348; Божинова, Славкова, 2013: 619-620)[1].

Philippopolis, located in the central part of the Province of Thrace, was incorporated as an important part of the Roman Empire within the first half of the 1st century and after a short period it became the biggest city of the province. As a significant urban centre, situated on the route of *Via Diagonalis*, it had its economical functions with large scale trade and production activities. Nevertheless, published archaeological data for workshops, local products, imported goods etc. is still limited in number. Luxury ceramics such as Pontic and Eastern *terra sigillata* (ESC, ESB), fine vessels from Cnidus and North Africa and foods as olive oil and wine are among the studied imports (Димитрова-Милчева, 2008: 119-154; Бориславова, 2018: 11-35; Harizanov, 2020a: 82-89). Concerning local production there are only four pottery workshops excavated by now that are considered to have served the local market (Harizanov, 2020b: 119-120). At the same time artefacts such as unfinished products, production waste, crucibles and features as furnace found in the territory of the city, together with number of the epigraphic evidences are proof for the manufacture of bone, glass, stone, ceramic and metal products (Чернева-Тилкиян, 2008). Concerning *fibulae* production, a workshop dated to a later period in the 3rd – 4th century, is detected in the central part of the city on the basis of the presence of a kiln and ceramic moulds.[2] Since the situation remains unpublished nothing more could be said about it. Thus the recently studied brooch workshop contributes to the knowledge of the economic functions of *Philippopolis* but also in general for the process of *fibulae* making and its specific details due to the chance of a very well preserved archaeological situation.

The excavation site is situated in the lower eastern part of ancient *Philippopolis* (Fig. 1). This area has been inhabited from the 4th BC until nowadays with few periods of abandonment. The first desolation of this location is for about 2 centuries between the Early Hellenistic and the Roman period, evidenced by a 30 cm thick hiatus layer (Fig. 15: 1; Fig. 16 and 22: 2). The reoccupation of the terrain marks a new appearance of the settlement as a Roman city, but not much is known about the city plan here during the early Roman period. This area, together with the whole territory in the plain remains unfortified until 172 AD when the *Marcus Aurelius* fortification wall was built (IGBulg. III 1, 878; Топалилов, 2016: 9). Namely here in the late 4th century the main gate of the city, known in archaeological publications as the Eastern gate, was established as an imposing architectural complex (Topalilov, 2016: 1855; Топалилов, 2016: 11). Two workshops, one for brooches and another for iron working were located next to a side street.[3] The last reconstruction of this street dates to the 4th century, but it most

[1] Some small parts of the site, including the area just to the east of the workshop are awaiting for a final stage of the excavations before the construction activities for the modern building, but after 12 years, the building project is still in progress.
[2] Excavations by L. Botusharova. We own the information thanks to Dr. S. Cherneva-Tilkyan who has gathered it in the archived field documentation of the excavations in the city during her research for her PhD thesis (Чернева-Тилкиян, 2008).
[3] The iron workshop was studied at the neighboring plot to the west during rescue excavations led by Ass. prof. Dr. I. Topalilov, which are a part of the

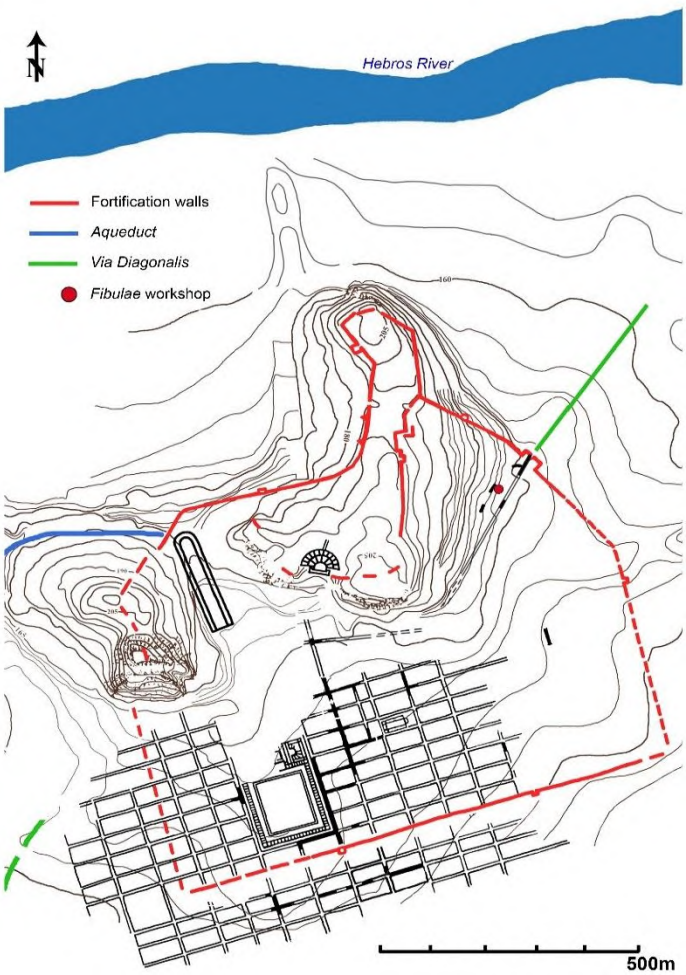

Figure 1

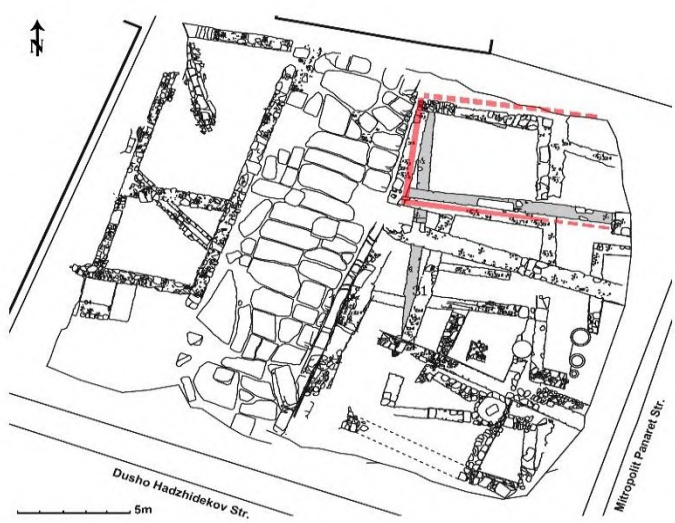

Figure 2

probably repeats the route of an earlier one that could be contemporary to the workshops (Топалилов, Станев, 2010: 386-388).

With the beginning of the reoccupation of the terrain during the 1st century a multi-storey building was erected. Most of the rooms were only partially studied because of the monumental architectural remains from succeeding periods, preserved to be displayed in situ. The artefacts found in these rooms do not allow determining their function. Better conditions for archaeological investigation were available in the northernmost room because of the current owner's illegal digging activities here, preceding the excavations, during which the upper layers were removed(Fig 2). Thus we had the chance to study archaeologically a larger area from the Early Roman and the Hellenistic periods.[4] Namely a room with features and artefacts that lead to its interpretation as a brooch workshop (Fig. 3).

Figure 3

Architecture

The room has a rectangular plan, with the west and south walls revealed. Its entrance is not determined. Thus the room measures approximately more than 4.60 m east-west and 5 m north-south. The walls are 0,60 m width, built on the ground without a substruction. They had stone bases with mud mortar to a height of about 0,50 m (Fig. 4; 18) and mud brick construction in the upper parts (Fig. 5). Three post holes (A)[5] with diameters of 0,26 and 0,30 m are registered that mark the places of massive vertical pylons for sustaining the roof (Fig. 6; 7). The roof was covered with tiles as judged from the limited number of tile pieces found within the room, but also by the situation with the other contemporary rooms of the building. The floor was made of compacted clay with 6 recorded consecutive levels within 60 cm difference between the highest and the lowest one (Fig. 22: 1).[6] These repairs and a repeatability of the production facilities as will be shown later, together with two reconstructions of the area by inner walls, testify for a relatively long use of the room for which at least two building phases are to be distinguished.

same building project (Topalilov, Stanev 2009, 387-388).

[4] About the archaeological features from the Hellenistic period and the hiatus layer here see Божинова, Христева, 2016: 164, обр. 2.

[5] For convenience the architectural structures and the production facilities are marked with letters from A to P, that are one and the same in the presented drawings, pictures and the text.

[6] The highest level is at 163,25 m altitude, the lowest one at 162,64 m.

Figure 4

Figure 5

Figure 6

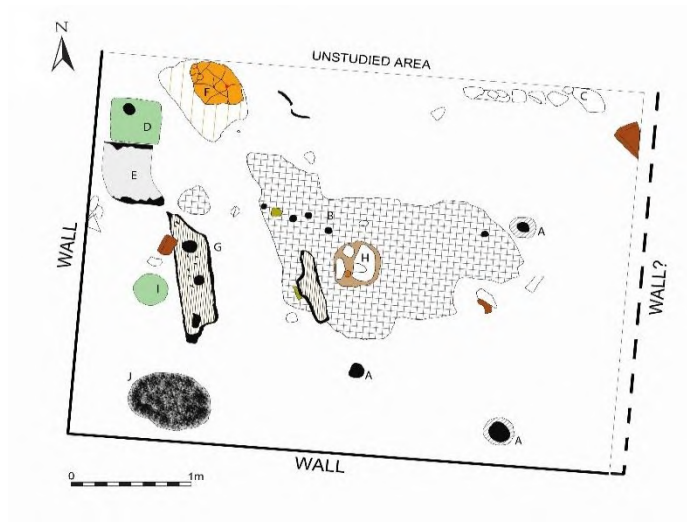

Figure 7

Figure 8

Figure 9

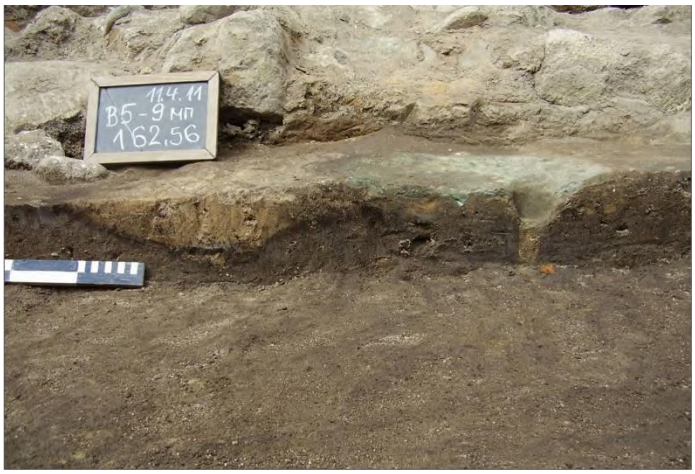

Figure 10

Figure 11

Figure 12

Figure 13

Figure 14

Figure 15

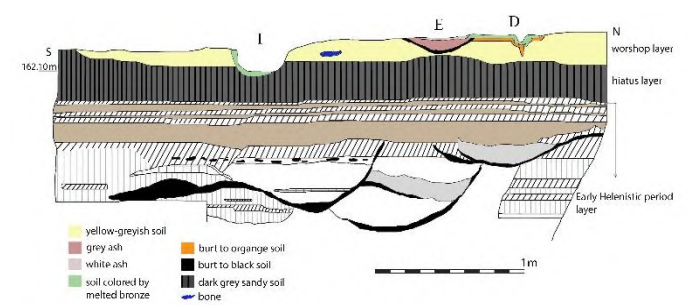

Figure 16

Figure 17

Figure 19

Figure 18

Figure 20

Figure 21

Figure 22

The lowest layer is the one best preserved and studied (Fig. 3 and 7). The room was divided partially by an inner wall made most probably with wattle-and-daub construction. 11 post holes were found in a strip that is 20 cm wide and 2,20 m long (B). The soil around them consists of yellowish clay that is similar to the floor but is thicker and not so compact, thus we suggest it is the destructions of this wall(Fig. 3). This wall starts from the north massive roof pylon, goes to the west just to end at about 1 m before the west wall of the room. A small part of a stone wall (C) was partially revealed in the north profile, which is probably the north wall of the room during this early phase, but it could also be another dividing wall as in the later period the floor continues to the north (Fig. 22).

Production facilities

A number of production facilities were documented on the lowest floor level, which is determined as a first building phase of the workshop.

Most of the features were situated in the west part of the room. In the northwest part, on the floor level, a square pad was made by well compacted clay (D). Its sides are 38 cm long, the angles are rounded and it has a slightly concave profile (Fig. 8-10 and 16). Its surface is impregnated with bronze to a depth of 1 cm. A hole for a vertical strake, with a diameter of 7 cm, is placed symmetrically in its north part. The hole has rounded outer edges and its sides are also impregnated with bronze in its upper part.

Just next to this pad is located another concave feature, deeper than the first one, that we will name a hearth (E). The rectangular bronze-working pad has a superposition to this feature that shows a sequence in their making, but the detection situation reflects the last stage of their use when both facilities were operating simultaneously. The hearth has a round plan with a diameter of 0,50 m and a depth of 0,10 m (Fig. 8-10 and 16). Its border is marked by a burnt black strip. It is covered to the top with grayish ash. The lack of orange coloring of the soil below testifies for the lack of intensive firing. This in turn suggests that the function of this feature was for storing the hot embers or ash, rather than as a real hearth. The assumption is also confirmed by the presence of a heating device on the other side of the bronze-working platform. It is situated just to its northeast but is badly damaged and its exact type cannot be determined (F). Pieces of burnt plaster were found, some of which with coating. The soil around had turned orange thus proving this was the original place of the device (Fig. 8). No traces of postholes or any padding were recorded. The reconstructed diameter of the feature is about 0,55 m. Judging from the number of found pieces and the heavily burnt soil it must have been a small furnace or kiln, but still its function is open to discussion. It could be a furnace used for melting the bronze (Sey, 2013: 254), or a kiln for firing the ceramic moulds for the brooches, or even just for ensuring coals, which were carried hot to the hearth where to melt the metal.

Another feature located southwest from the bronze-working pad and the hearth consists of two logs, with a width of 0,30 m, that are built in the floor parallel, at a distance of 1 m, to each other (G). Both are split logs placed flat side up and at the level of the floor, with strakes driven vertically into them (Fig. 11-12). An amorphous piece of iron found in one of the logs could be a connecting metal element of the structure. We interpret these features as the bases of a wooden table used for the production process – a tabletop. Its length, reconstructed by the larger log, is 1,25 m and the width – 1,20 m or more.

A small pit (H) is located east of this worktop and just to the south of the inner wall. The pit has a diameter of 0,26 m and a depth of 0,06 m. A flat stone (0,17 x 0,27 m) is placed horizontally in its centre, in the uppermost part. It has a small rectangular basin, 6,5 x 11 cm, about 1,5 cm deep, that seems to be artificially carved on its upper part. Two stones are placedvertically just next to one side of the pit, probably to strengthen it by preventing from collapsing (Fig. 13). The bottom of the pit is impregnated with bronze to a depth of 2 cm. The soil around the stone and the flat stone itself are partially colored in green too (Fig. 14).

A similar pit, again impregnated with bronze, was found just to the west of the workbench (I). Its diameter is 0,32 m and depth – 0,15 m (Fig. 15-16). Its opening is situated at a slightly lower level, than the one with the stone and the other features, which could indicate it is one of the earliest studied facilities.

These small pits must have been related to the metal melting process, as evidenced by the traces of melted bronze in their sides and bottoms. A research devoted to metalworking in the Bronze Age and supported with ethnographic parallels, reconstructs a process of melting the metal with crucibles filled with metal pieces and charcoals, placed in shallow pit and heated from above (Yahalom-Mack, 2019: 64, Fig.1). The function of the small pits from the *Philippopolis* workshop seems to be identical.

A round hearth (J), very similar to the first one and full with coals is situated in the southwestern most part (Fig. 17). Its diameter is 0,70 m. Opposite to the previously described pit, it is situated at a higher level. These two last facilities, being located at different levels than the others, suggest that they are asynchronous. Furthermore, the repetition of similar structures leads to such an assumption. The superposition of some features towards others proves their asynchronization, such are the pit with the stone and the workbench that had been dug in the suggested destructions of the inner wall; and the bronze-working platform stepping partially over the hearth next to it. Therefore, we have to assume that the first construction phase lasted a period long enough for certain facilities to get out of use and others to be made so as to replace them and the production process to continue.

The features that refer to the second building phase, as being found on the latest one or two floor levels, are less in number and are not that well preserved (Fig. 18-19).[7]

In this second phase the room is again divided by an inner wall,

[7]The excavations process at that stage was further complicated by a number of side circumstances as we were working in late autumn in rainy conditions, with reduced team and misunderstanding with the investor. All that negatively affected the quality of the research and documentation work. The level is also partially destroyed by the illegal diggings of the owner before the start of the excavations.

but this one is situated in the opposite direction than the one from the first phase. The wall (K) is reconstructed by a line of stones that starts from the south wall and continues to the north towards a length of 3,00 m, thus dividing the room into two parts again (Fig. 18-19). The character of the two separated parts of the room is different. The east one is filled with production residues, while the west part has features that show production activities. In addition to two facilities examined in the southeast corner - a furnace and a hearth, scattered stones and fragments of bricks and tiles, as well as spots of spilled bronze, were found in the rest of the room.

A small furnace (L) is situated at 1 m west from the inner wall. It has a round plan with a diameter of 0,60 m; its border is formed by vertically placed tile sherds and bricks (Fig. 20). The firing had been concentrated in the centre, judging from the heavily burnt soil in a small area, which was probably concavely formed. The furnace was partially dug under the floor level.

A badly preserved large hearth (M) is found to the south-east, between the inner wall and the kiln. It is fenced from the west by a row of vertically placed four pieces of bricks, and its bottom is made of tamped clay and horizontally placed pieces of bricks and tiles (Fig. 21). Its diameter is about 0,90 m. A round green spot with a diameter of 0,20 m is an imprint of molten bronze. A small piece of scorched soil at 10 cm below the base of the hearth indicates it was reconstructed at least once. Two other such fencings by vertical lines of sherds are found one in the south-east part of the area above the residues layers (Fig. 19: N) and another one in the central west part, in a lower level, but above the lowest one with the facilities of the first construction phase.

Figure 23

All these repeatable features are again guidance towards a long-term use of the workshop with reconstruction of the necessary equipment and indicate that the layer between these two levels is formed as a result of a continuous occupation of the room than as a single act of raising the level by an embankment layer.

A pit in the north part (O), situated partially outside of the excavated area, is another feature that belongs to the second phase of the workshop. The pit has an elongated form with a diameter of 1,06 m (Fig. 22). Its filling is very similar to the one of the layers between the floor levels, slightly darker. Only few pottery sherds (Fig. 32: 1) are found. No coating or other specific features were registered in the pit so its function remains unclear.

A thick layer with production residues (P) belongs also to this second phase of the workshop. It is deposited in a large negative spot of the floor in the south-east part of the room, east of the dividing wall. Consecutive layers of waste and soil indicate a long process of its formation (Fig. 23). The residues consist of pieces of clay moulds, melting pots, bronze melts, bronze ingots, sheet fragments and bronze waste (Fig. 24).

Figure 24

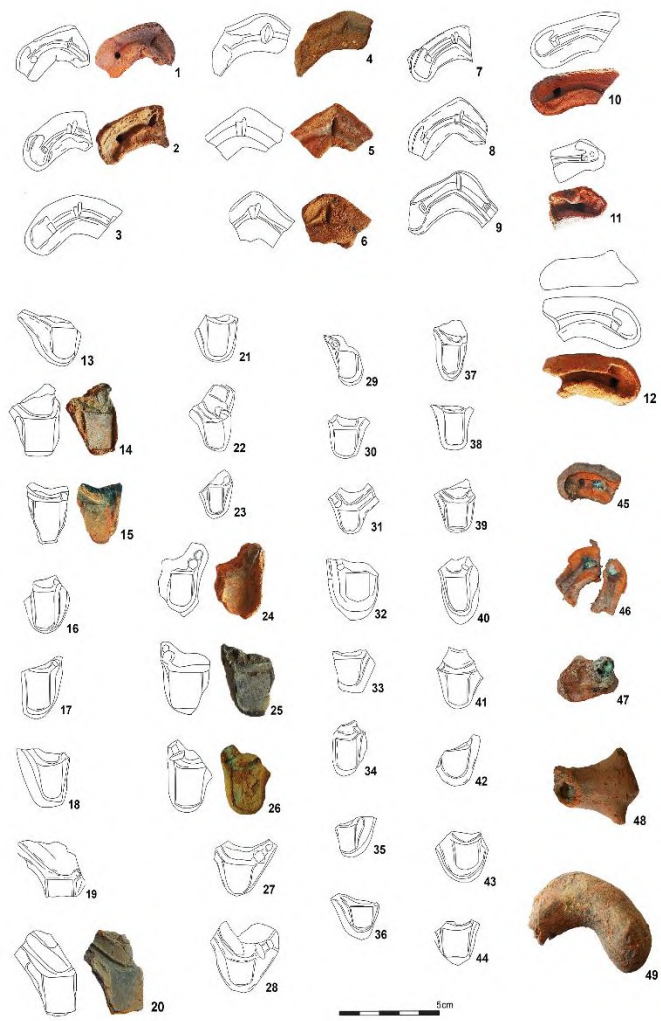

Figure 25

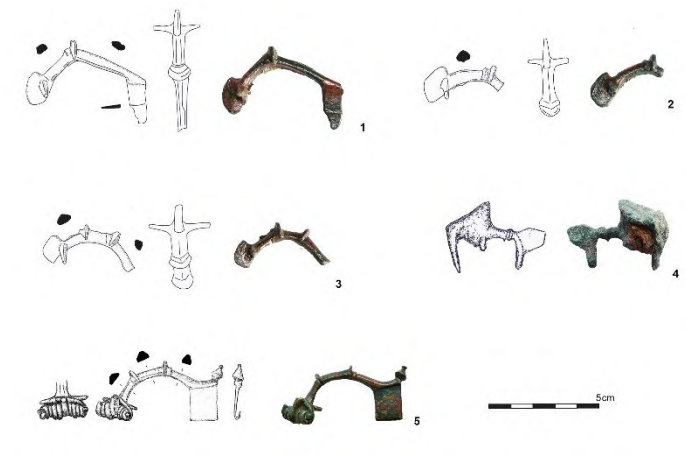

Figure 26

Moulds

More than 1000 pieces of two-parted clay moulds were found (Fig. 25). Calculations based on the weight of one mould (50 gr) related to the weight of all found fragments (13,657 kg) determines approximately the number of the discarded moulds to be about 273 pieces. The molds are from porous pottery. The clay is mixed with coarse sand, the surface is roughly smoothed.

Strongly profiled brooches with broad rectangular catch-plate were casted in the clay moulds, using the method of the "lost wax process" (Sey, 2013: 254). Such moulds for *fibulae* are known from Brigetio, Pannonia (Saro, 2020: 118, fig.1, fig. 4, cat. 1), Napoca, Dacia (Cociş, 2019: 21-22, pl.47), Durostorum-Ostrov, Moesia Inferior (Nuţu, Elefterescu, 2018: 31, fig. 7). Variants are differentiated based on their dimensions, size of the catch-plate and number of dividing knobs of the bow. Some moulds were used for casting two brooches together. We do not have evidence for production of moulds at the site, but it could have been in the neighboring rooms or unstudied areas. An indication for this is the fact that on part of the moulds the front plate (hook), where the axis for the spring passes, is pierced. Such examples are known from Brigetio (Saro, 2020: 119, fig. 1), where the author concludes that a semi-finished product was used to make the mould. This supports the assumption that the *fibulae* and the moulds were made in one and the same place. Even more, in Napoca both *fibulae* and moulds are found at the same place (Cociş, 2019: 23).

***Fibulae* / Brooches**

The *fibulae* were cast of copper alloy, probably bronze, as seen in the metal residues in some of the moulds.[8] Five defective items were found on the upper floor level (Fig. 26: 1-4).[9] They belong to two different variants. A whole specimen was found in a neighboring context, outside of the workshop, but it had been most probably produced here and had been in use (Fig. 26: 5). The *fibulae* found in *Philippopolis* have the following specifics. The bow has a triangular shape decorated with one or two dividing knobs. The upper part of the bow is reduced and has two horizontal protrusions. The catch-plate has a rectangular shape. The foot ends with one or two biconical knobs. The hook for the spring is casted in a mould together with the brooch. Springs and pins were not found so we have no data about their production. According to the information from the moulds we judge that the spring had been winded on an axis and kept by a hook.

Although in a highly fragmentary state, the variations in the numerous fragments of moulds and the four defective *fibulae* indicate that several variants of a single type of *fibula* were produced at the workshop. Three variants of the bow form are distinguished: 1) arc bow and triangular cross-section with two rings on the bow (Fig. 25: 1-5; Fig. 26: 2-3); 2); bow with triangular shape and a trapezoidal cross-section with one ring on the bow (Fig. 25: 6-8; Fig. 26: 1); bow with triangular shape and a trapezoidal cross-section with two rings on the bow (Fig. 25: 9).

On the basis of preserved fragments of the bow foot, two main variants can be distinguished: 1) *fibulae* whose foot ends with one biconical ball (Fig. 25: 14-23) and 2) with two biconical balls at the end of the foot (Fig. 25: 24-29). All of the mould fragments show that the *fibulae* had a tall, rectangular catch plate, which slightly varies in measures and height/width ratio. The front part of the bow ends with a hook for the axis of the spring, which hook is made completely finished in the mould or it is formed by secondarily piercing (Fig. 25: 11).

The *fibulae* type is a derivative of Almgren 84 Type. The production and distribution of this type could be dated in the period from the last quarter of the 1st till the end of the 2nd century. Several opinions are available in the literature about their chronology. W. Jobst dates the type to the second half of the 2nd - early 3rd century (Jobst, 1875: 40-41). In the study of the *fibulae* from August and Kaiseraugst E. Riha suggests an earlier dating – from the last quarter of the 1st century till the second half of the 2nd century (Riha, 1979, 80). The production and distribution of Almgren type 84 *fibulae* in *Dacia* can be attributed to the end of the 1st/beginning of the 2nd – the end of the 2nd century (Nuţu, Elefterescu, 2018: 31, Cociş, 2019: 24). In *Pannonia* this *fibulae* type occurs in the 2nd - beginning of the 3rd century (Saro, 2020: 119). The distribution area of the type is very large but prevailed in the Middle Danube area, although many items are also found in the Lower Danube region (Cociş, 2004:65, Nuţu, Elefterescu, 2018: 29-33, Cociş, 2019: 24). The production of the Almgren 84 type is registered in Brigetio, Carnuntum, Savaria,[10] Pannonia (Cociş, 2019: 51-52, pl. 118.12, 54-55, pl. 124.39, Saro, 2020: 118-119, fig. 1, cat. 1), Napoca, Dacia (Cociş, 2019: 24, pl.47-87) and Durostorum-Ostrov (Nuţu, Elefterescu, 2018: 29, pl. 2.9,10,12, pl. 3.18).

As a derivative of Almgren 84, the *fibulae* from the workshop fall into type 12b of E. Gencheva's typology, created specifically for the Roman *fibulae* from Bulgaria, Gencheva dates them in the period from the middle of the 2nd until the beginning of the 3rd century (Генчева, 2004: 37, T. VIII 7-9). A close parallel to the *fibulae* produced in *Philippopolis* is found in cremation grave No 18 from *tumulus* No 5 of the necropolis near the town of Straldzha, Southeastern Bulgaria, whose chronology is between the beginning of the 2nd and the first decades of the 3rd century (Пеева, Чолаков, 2016: 131; T.38, 330). Unfortunately, the materials from the grave do not contribute to its more accurate dating.

In *Philippopolis*, eight *fibulae* of the type are kept in the depot of the Regional Archaeological Museum of Plovdiv. Four of them come from excavations in the city but are still unpublished.

[8] The exact composition of the alloy will be known after impending analyses.

[9] One of the specimens is not presented illustratively here as considered being uninformative because of its small size and having the same characteristics as the others.

[10] The end of manufacturing in Savaria is dated in the first two decades of the 2nd c. AD (Cociş, 2019: 55).

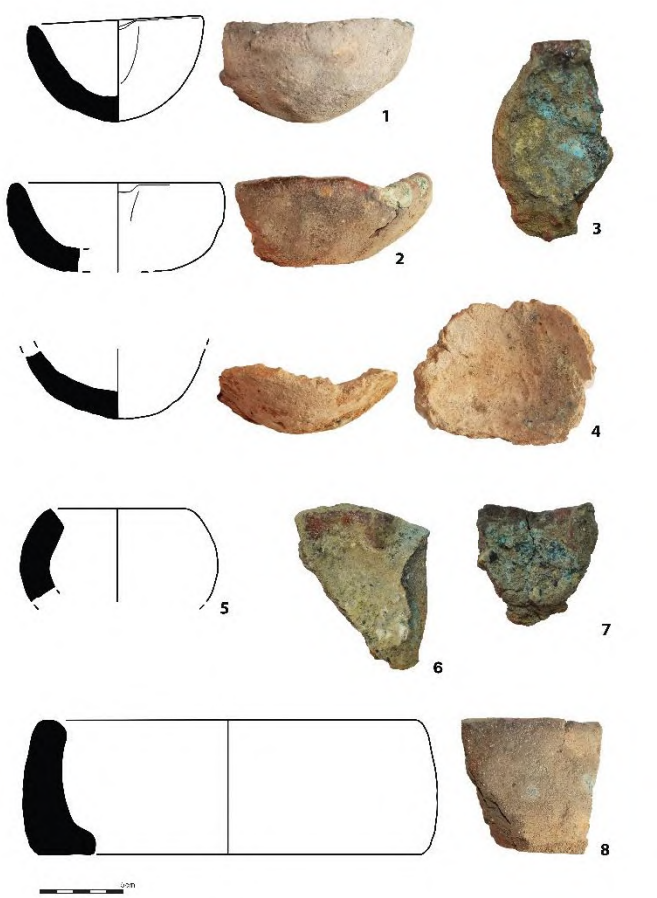

Figure 27

Crucibles

The metal alloy for the *fibulae* production was melted in crucibles heated in furnaces. About 150 pieces of these crucibles were found in the production residue layers (Fig. 27: 1-7). They were all made of clay, that is very similar as the clay of the molds. Only one specimen is fully preserved (Fig. 27: 1). Most of them have a hemispherical shape. The better preserved pieces have a slight spout. Their walls are thick, porous with vitrification and traces of bronze inside, and in one of them – of charcoal (Fig. 27: 4). The porosity of clay made crucibles resistant to high temperature. This type of crucibles is common over large area and for a long period and everywhere it has the same characteristics of the pieces found in Plovdiv (Katincharova, 2002: 235-254; Furger, 2018: Abb.19 15, Abb. 43 15, Abb. 20 5, Abb. 39 11; Cociş, 2019: Pl. 15 71,73, Pl. 16,79; Yahalom-Mack, 2019: 65-66, Type Cr2). Few crucibles have a more spherical shape (Fig. 27: 5). One is with larger diameter, shallower and with thinner walls (Fig. 27: 4). We have no data about the production place of the crucibles, but it is already discussed that they are most probably made separately in pottery workshops (Furger, 2018: 161-166; Cociş, 2019: 21).

Tools

Few iron tools come from the floor levels or in the layers between them, among which an anvil, a shovel, a hammer, a knife and probably a file.

The anvil is small in size and is used for reshaping the *fibulae* (Fig. 28: 5). The anvil falls into type I according to I. Cholakov's classification of the Roman age tools from Bulgaria (Чолаков, 2010: 142, обр. 239). They are L-shaped and fixed by driving their lower pointed part into a wooden base. The one from the workshop is heavily corroded and the lower part is chipped off. Its preserved height is 5,4 cm; the work base has a rectangular profile and a square section, 7,4 cm long and 3,3 cm wide. The preserved part of the lower part has also a square section, 1,5 x 1,5 cm.

A small shovel (*spatula*) has a completely preserved working part with rectangular shape and an arcuate section, which at the back is screwed as a tube to hold a probably wooden handle (Fig. 28: 3). In a metal working process such a tool is known to be used for cleaning the slag and stuck metal pieces in the crucibles (Andonova, 2013: 239, Fig. 2, 5-6).

A piece of an iron artefact with an asymmetrical triangular plate could be recognized, albeit conditionally, as a piece of a hearth and furnace rake (Fig. 28: 6). Similarly, to the shovel, such a tool is used to clean the metal residues, but the ones from the furnace or the place where the melted metal was poured (Andonova, 2013: 239, Fig. 2, 4).

The hammer is again a small specimen with a length of 6,3 cm, maximum width of 1,4 cm and thickness between 0,5 and 0,8 cm (Fig. 28: 2). It has a diamond shape and rectangular sections, which is a popular form of hammers with different sizes for use in various fields (Чолаков, 2010: 108-112, обр. 139а, 176-181). In the case of the workshop it could have also been used in different stages of the process of *fibulae* making, like breaking the moulds to remove the finished product, removal of redundant parts, etc.

Two much corroded pieces are recognized as the working part and the handle of a file (Fig. 28: 4). The working part is 4 cm long, with trapezoid cross-section, 0,9 x 0,9/1 cm. Such files are used for smoothing the edges of a product that result from its casting in the mould (Стоянов, Михайлова, 1993: 36, fig. 7 30-33), which interpretation fits well for a *fibulae*-making process.

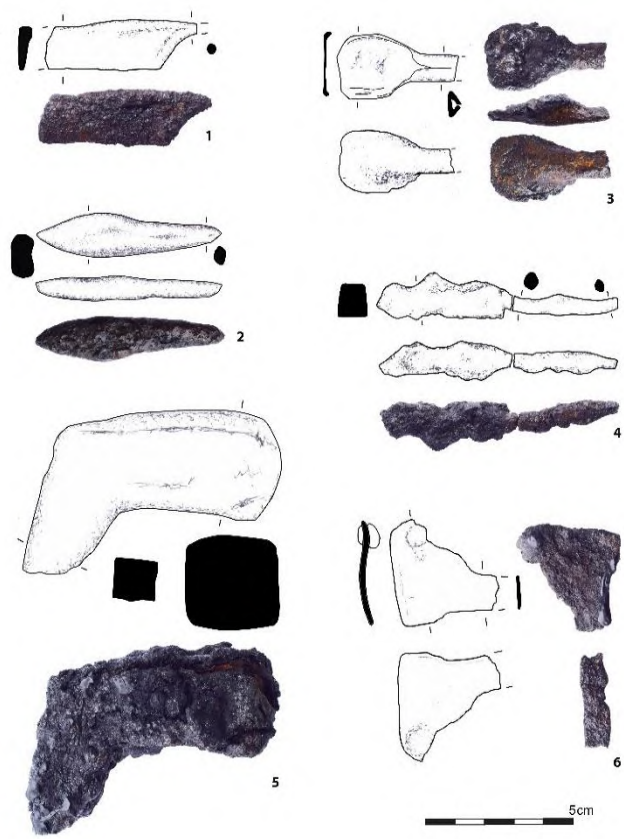

Figure 28

The knife (Fig. 28: 1), a piece of which is found in the workshop, has a common shape for very long period and is a tool, that could be understood as part of the toolkit of the brooch workshop, but could be used also in the daily life of the workers in any other aspect.

Ingots and spilth

The only data on the raw material used in production are thin and well-shaped elongated pieces with a rectangular cross-section, in the forms of a parallelepiped, trapezoid or stick, which we interpret as ingots (Fig. 29: 1-8; Fig. 30: 1-2). Some of the thinnest specimens were probably used to produce bronze wire for the *fibulae* needles or spirals. Such items were found in ancient Dierna, *Dacia*, where they are considered to be an intermediate form of brooch pins and springs (Cociş, 2019: 49, pl. 111.39-68). There is no clear data for recycling bronze objects, which is common for Roman period workshops (Cociş, 2019: 21). Still some sheet fragments and pieces of different products than brooches could be an indication for recycling (Fig. 29: 9-10; Fig. 30: 3-7).

Sufficient amounts of spilths, smelts and dross are considered as waste of the production process (Fig. 30: 8-48). Bronze residue is often found in some of the moulds (Fig. 25: 45-47).

The largest amount of these pieces, the billets, the sheet fragments and the waste, is found in the layer with the production residues (Fig. 24), though some fragments also appeared in the layers among or on the floor levels.

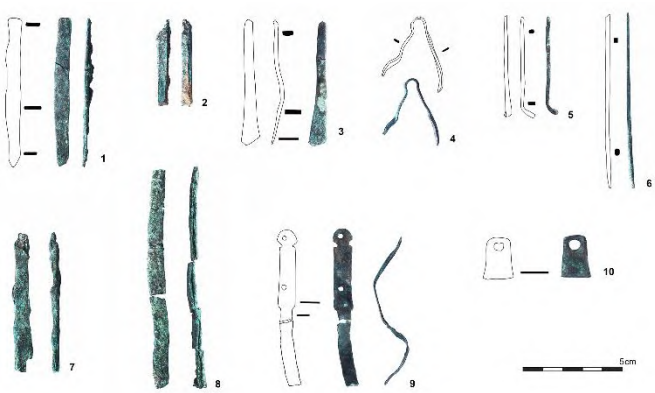

Figure 29

Other artefacts

Few other artefacts found in the layers of the workshop are to be added, though their reference to the brooches production process is uncertain.

A piece of a ceramic round object, found in the production residue layers, is similar to a small ledge and is probably a kind of the so-called portable hearths popular during the Bronze and the Iron Age (Fig. 27: 8). Its surface is heavily burnt which refers to its function as part of a firing process and was probably facilitating the work of melting the bronze. It is made of clay with the same characteristics as the one used for the crucibles. It is smaller than a typical portable hearth, with a diameter of 13 cm and a height of 4,6 cm. Still, the preserved fragment is very small and does not allow a reconstruction of its original form and thus suggesting its function.

Two round ceramic items similar to weights but very massive come from the latest floor level (Fig. 31: 1-2). Their cross-section is asymmetrical – rounded upper part and flat lower one. One of them is very much similar to a lid, but with its large measures, a diameter of 16 cm and a height of 3 cm, it cannot be recognized as a cover for any of the workshop items. Furthermore, the other nearly identical such artefact, with a diameter of 10,6 cm and a height of 3,4 cm, has a hole in the middle with a diameter of 1 cm. The hole is specifically made, with a recessed on one side for wedging a handle. The function, if it is the same for the two items, remains unclear.

Figure 30

Pottery

The pottery found in the layers of the workshop includes domestic vessels of types that are typical for the late 1st and 2nd century (Fig. 32). Nearly all of the sherds have traces of secondary burning. Two pieces of *pitoi* with stamps on the rim are also included in the assemblage (Fig. 31: 3).

Two thin-walled imported cups are decisive for the date of the complex. One of the rim-sherds belongs to the so-called Kalathos cups (Harizanov, 2020a:83, fig.5). The clay has beige color; the surface is covered with red gloss slip. The cup has a vertical rim and bell-shaped body (Fig. 32: 3). This form is very similar to Italian *sigillata* form Consp. 17. Such cups were produced in Eastern *sigillata* during the second half of the 1st century until the first quarter of 2nd century (Harizanov, 2020a: 83). The form is reproduced in *Pontic sigillata* too, dated in the last quarter of the 1st to 2nd century (Журавлев, 2010: 59, pl. 27, cat. No 193). Two sherds of "Kalathos" cups are found during rescue excavation in Plovdiv, 20 m south of the workshop presented here. They are found in a context dated in the *Flavian* time (Славкова, 2015: 137, fig. 1.5-6). A cup with a hemispherical shape of the body and with a short foot is found in the workshop too (Fig. 32: 4). Its form is similar to the Consp. 36 form, produced in North Italian workshops during the 1st century. The clay is beige in color. Its surface is partly covered with red gloss slip. A similar cup from Pre-Roman *Dacia* is dated in the middle/end of the 2nd century BC – end of the 1st century (Popescu,

2013: 120, pl. 9. 147, cat. No 147).

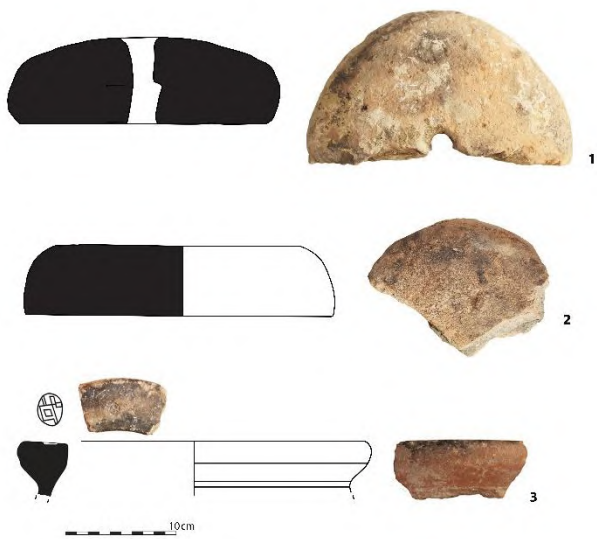

Figure 31

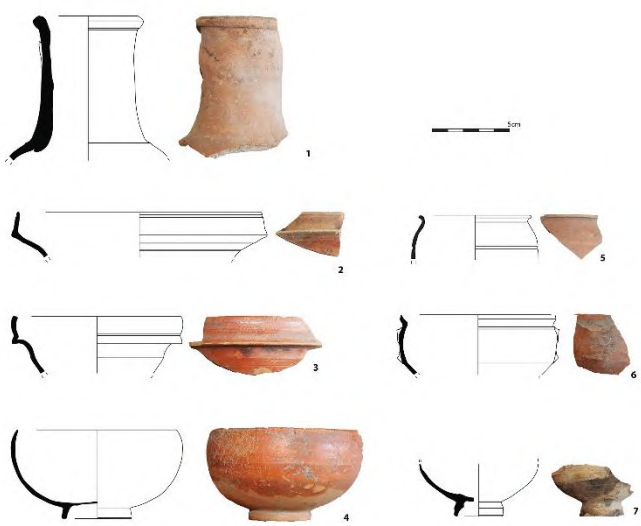

Figure 32

Coins[11]

Two coins are found among the uppermost floor levels.

The first coin is an imitation of an Emperor Octavian Augustus' as with a countermark (Fig. 33: 1). The original coin (the prototype of imitation) is an as of *Sextus Nonius Quinctilianus* the *Triumvir monetalis*, with obverse: CAESAR.AVGVSTPONTMAXTRIBVNICPOT, head to the right; and reverse: SEXNONIVSQVINCTILIAN-IIIVIRAAAFF, sign around SC (RIC I, 76, № 439, Roma, 6 AD.). The original coin is not a widespread type.

The imitation is with obverse: [CAESARAV]GVSTPONTMAXTRIB-[VNICPOT], head to the right; and reverse: NIVSQVINCTIIIAN-[IIIVI]RIIIANIII, sign around SC. It is a well preserved specimen that had been in circulation. The countermark is on the reverse, a Pannonian type – AVG in *ligatura* and a mirror-image. The countermarking of this type was made during Emperor *Claudius* I, most probably after 45-46 AD and before 54-60 AD. The countermarked coins were withdrawn from circulation during the reign of Emperor Vespasian, 69-79 AD (Martini, Paunov 2004).

The second coin is a *dupondius* of Emperor Vespasian, 76 AD (Fig. 33: 2). The coin is well preserved and it has not been in circulation for a long time. On the obverse: TCAESARIMPCOSV, head with sun crown to the right; the reverse: FELICITA/S-/PVBLICA, *Felicitas* straight to the left, holding a caduceus in the right hand and with a *cornucopia* in the left one (RIC II/I^2, 124, № 909, Roma, 76 AD)

The two coins most probably reflect the coin circulation in *Philippopolis* during the last quarter of the 1st century.

Chronology

The thickness of the workshop's layers is about 80 cm, which, together with the repairs of the floor, the reorganisation of the area and the reconstruction of the equipment refers to a relatively long period of the workshop's functioning, which could be determined between one and few decades. The stratigraphic position of the building with the workshop, together with the date of the chronologically sensitive artefacts as the two coins and part of the ceramic vessels, allows us to date the functioning of the workshop between the last decades of the 1st century and the beginning of the 2nd century.

Reconstruction of the production process

The general archaeological situation, with repeatable features and the artefacts allows reconstructing the workshop area arrangement and individual stages in the process on producing *fibulae* (Fig. 34).

In the two distinguished building phases, inner walls divide the area and the production process is concentrated in a part of the room.

Metal ingots are molted in already available crucibles produced elsewhere. The process of smelting is done in small pits (H and I) where the crucibles are placed in together with hot charcoals taken from a furnace (F and L). The molten metal is poured into the moulds over specially arranged platform, a working pad (D). A hearth next to it (E) served probably to keep the metal in molted condition by placing the full crucibles over hot charcoals while working with consecutive moulds. While during the earlier phase these two facilities, the hearth and the working pad, are clearly distinguished (D and E), they seem to be combined in one structure (J) in the later period. It is to be noted that during the second phase, small pits are lacking and thus the metal is probably melted in this same hearth. A shovel is helping to pour the molten metal into the moulds, while a furnace fake is used to scrape the spilled material from the working pad.

After the metal has cooled, the mould is broken and its pieces are thrown away at a particular place. A separated area is used for keeping the waste during the second phase while the location of the garbage place is unknown for the earlier period.

The semi-finished products are finished on a tabletop (G), using a fixed anvil. Excessed parts are taken out with the help of a small hammer and the file. Springs and pins are additionally added. Some of the ingots (Fig. 29: 5-6) suggest they are also made here and therefore the *fibulae* are completed at the place.

The point about the production of the moulds is open for now. They could have been produced in the furnace (F and L) and thus these features have to be recognized as kilns. Still they could have both functions, for producing charcoals needed for the metal

[11]The coins analysis is made by Dr. Varbin Varbanov.

melting process. A pit in the northern part of the room (O) could have served for keeping the clay for the moulds if not elsewhere outside the room.

Thus, the proposed reconstruction of the production process in the workshop is hypothetical and should be considered that part of the facilities and the tools could have had different functions and/or use in more than one activity.

Figure 33

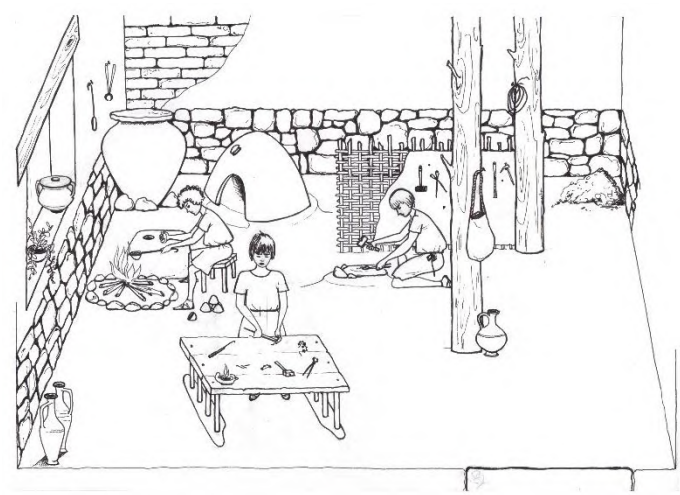

Figure 34

2. Conclusion

Unlike other provinces such as *Pannonia* and *Dacia*, where a large number of fibula-making workshops are found (Sey, 3013: 251-258, Cociș, 2019), so far we have no such data for the Province of Thrace. The workshop studied in *Philippopolis* is the first one found in this part of the Roman Empire. The chance of being well preserved with number of production facilities, repeatability of the features in consecutive construction phases and large number of artefacts that refer to the production process as scrapped products, tools, moulds, crucibles, ingots, smelts and dross, the brooch workshop from *Philippopolis* contributes for the knowledge of making *fibulae* during the Roman period in the Province of Thrace and beyond.

The *Philippopolis* workshop contributes also for the chronological distribution of the Almgren 84 Type derivative *fibulae* in the Province of Thrace. With the beginning of its recognition here this type is dated from the middle of the 2nd until the beginning of the 3rdcentury. Considered as chronologically sensitive artefacts, the *fibulae* are further used to date the complexes they are found in when no other finds with precise date are available. The archaeological situation in Plovdiv allows specifying an occurrence date for the type in this region of the Roman Empire. The large amount of moulds found in the workshop is evidence for the popularity of the Almgren 84 Type in *Philippopolis* during the last decades in the1st century already. Being the largest city in the province, it played the role of a distributor of trends and fashions at least to its vicinity but most probably even further beyond it.

Résumé - Un atelier de broches de l'époque romaine de Philippopolis : Un atelier de broches fortement profilées a été découvert dans la partie orientale de l'ancienne ville de Philippopolis (la ville moderne de Plovdiv, Bulgarie). L'atelier était situé dans un bâtiment de plan rectangulaire et des murs en pierre et en briques crues. A l'intérieur de la salle des fours, un plan de travail, un plan de travail, des petites fosses, des emplacements de stockage des cendres chaudes et une enclume ont été identifiées. Dans la partie sud-est de la salle, des couches de déchets contenant environ 1 500 fragments de moules en argile, 150 fragments de creusets, déversements de bronze et résidus ont été étudiés. Des outils en fer (une enclume, une pelle, un marteau, un couteau et probablement une lime), des objets défectueux et des lingots de bronze ont également été retrouvés à l'intérieur de la pièce. Le type fibulae est un dérivé du type Almgren 84. Les variations des moules et les articles défectueux définissent que plusieurs variantes de ce type ont été réalisées en atelier. Un exemplaire tout entier se trouve dans la zone proche du chambre. Selon la position stratigraphique de l'atelier, ainsi que les objets qui y sont trouvés, y compris deux pièces de monnaie en bronze (une imitation d'un empereur Octave Auguste avec une contremarque et un dupondius d'Empereur Vespasien), la fabrication des broches remonte aux dernières décennies du 1er siècle. L'atelier péroné fouillé à Philippopolis est le seul trouvé dans la ville et sur le territoire de la Bulgarie daté de l'époque romaine période et fournit des informations importantes sur l'organisation de la fabrication des broches.

Mots-clés : *fibules, atelier, Philippopolis, broches à profil fort, fonte du bronze.*

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Determining the Use-Life of Gold Fibulae: Mission (Im)Possible?

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Abstract
Fibulae are often used as reliable chronological markers in archaeology. Their use-life could vary greatly depending on their shape, size and the material they were made of. Gold fibulae were extremely rare, although they were a sign of authority and wealth. Two miniature Early La Tène type of fibulae from the Early Hellenistic period and four massive Roman crossbow fibulae, all from the collection of the National Archaeological Institute with Museum in Sofia were examined by a non-destructive XRF analysis and microscopic traceological observation. The aim of the present research is to investigate the possibilities to determine if and how long these artefacts were used before their deposition and what happened to them after their discovery.
Keywords: *gold, Early La Tène bilateral fibulae, crossbow fibulae, artefact`s life-cycle (use-life), XRF analysis, optical microscope, traceology, (use-)wear analysis, National Archaeological Institute with Museum in Sofia, Bulgaria*

1. Introduction

Material objects have always been central to archaeological research, as scholars tended to focus on their typology, chronology and deposition, where purely archaeological narratives are prevalent. In recent years, however, the focus has shifted toward the dynamic relationship between artefacts and humans. Each object possesses a distinct history and life-cycle that encompasses its production, exchange, use, and eventual deposition. Nevertheless, reconstructing the full life-cycle of an artefact is often challenging due to the fragmented nature of archaeological evidence.

Fibulae, as functional objects primarily designed to fasten clothing, provide an ideal case for exploring such life-cycles. Their nature bridges two key research perspectives. Firstly, fibulae are invaluable chronological markers. Alongside coins and certain ceramics, they are among the most reliable artefacts for establishing timelines, with their dates often reflecting either the period of manufacture or the end of their use. However, a critical question remains: how much can we rely on their dating, given that fibulae could be deposited at various stages of their "lives"? Secondly, fibulae prompt inquiries about their functional role, enabling the examination of surface wear patterns to estimate their period of use. The challenge in front of us is to adjudge how far such kind of research can reach and how reliable the drawn conclusions would be.

To address these questions, the life-cycle of six gold fibulae from the permanent exhibition in the Treasury Hall of the National Archaeological Institute with Museum at the Bulgarian Academy of Sciences (NAIM–BAS) in Sofia was investigated, beginning with information of their discovery and concluding with interdisciplinary methods of analysis. These fibulae are characterized by different sizes and shapes. Gold was intentionally selected for this study because of its suitability for such analysis; unlike copper alloys, gold resists oxidation and corrosion. In addition, the selected fibulae show distinct cases of varying use-life, providing valuable insights.

Research methods and equipment

The six selected fibulae were examined using two different non-invasive methods – traceological analysis and XRF (X-ray fluorescence). Traceological analysis (Sáez and Lerma, 2015), also known as *use-wear analysis* (Sych, Nowak et al., 2020) or *metalwork wear analysis* (Dolfini and Crellin, 2016), provides essential clues to determine the duration, type and intensity of use by invasively examining traces on the surface of the metal artefacts through an optical microscope. These traces can reflect the actions performed on the object during its production, use and deposition, as well as during the post-depositional processes and conservation. The traceological study of metal artefacts were developed much later than that of lithic microwear research which has been extensively studied over the last 40 years (see Hayden 1979). The reasons for this delay are various and include the possible corrosion processes, recycling, traces from the conservation, etc. (Dolfini and Crellin, 2016: 79). In this sense, the great challenge facing this type of study is to link the observed macroscopic and microscopic traces on the metal surface to a proper action such as manufacture, use or post-deposition.

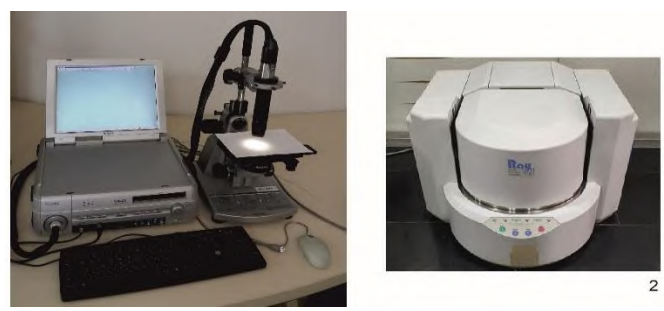

Figure 1. The equipment used for the study: 1. Optical microscope Keyence VHX-100; 2. X-ray fluorescence spectrometer Shimadzu EDX-720. Photos M. Stamberova

The traceological observations were made using a Keyence VHX-100 digital microscope with a magnification range between x25 and x175 (fig. 1.1). In addition, the selected fibulae were examined using an X-ray fluorescence spectrometer model EDX-720 of Shimadzu, Atmosphere: Air; Collimator: 10 mm at the Laboratory of Analyses, Conservation and Restoration of the National Archaeological Institute with Museum at Sofia (fig. 1.2). The used calculation method was Quan-FP (fundamental parameters) with a detection limit of 0.01%.

Archaeological Material

I. Bilateral La Tène fibulae

The first group of the studied artefacts was represented by a pair of double spring (bilateral) fibulae, referred to in this paper as Seuth 1 and Seuth 2 (fig. 2.3; fig. 3). They were discovered in 1949 in a brick grave 2 in Tumulus 2 near the Thracian city of Seuthopolis in south-central Bulgaria (fig. 2.1–2).

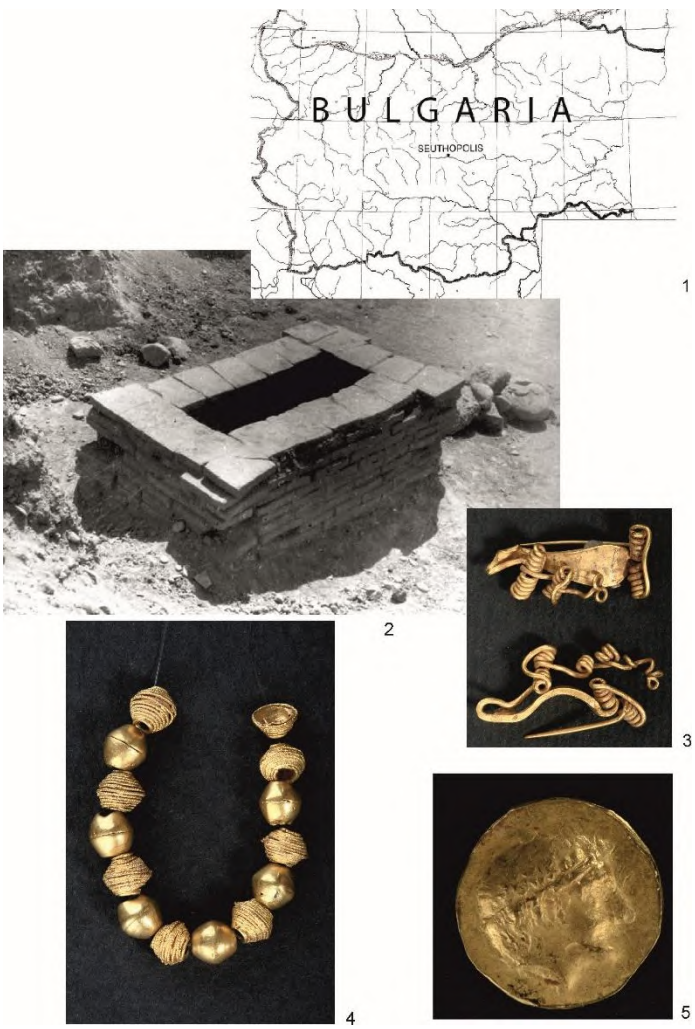

Figure 2. 1. Map of Bulgaria with the location of the Thracian city of Seuthopolis, close to present-day town Kazanlak (after Nankov, 2008: 17, fig. 2); 2. The brick grave 2 in Tumulus 2 (after Чичикова, Димитров 2016: 188, fig. 108); 3–5. Inventory from grave 2: 3. Gold bilateral fibulae; 4. Gold necklace; 5. Gold medallion. Photos NAIM–BAS

The burial rite was inhumation of a young girl[1]. According to the researchers, the grave contained a gold necklace (fig. 2.4), a gold medallion (fig. 2.5), two silver Thracian type fibulae, silver and two iron bilateral fibulae, an iron ring, clay unguentaria and alabastron (Dimirov and Čičikova, 1978:54). Unfortunately, not all objects were published.

Both bilateral fibulae (fig. 3) are extremely small in size – they are 1.7 cm long. They were made from a gold bar shaped into a flat, leaf-shaped plate at the bow and hammered into wire form at the ends. The bilateral spring has ten coils and an external chord. The upper part of the foot consists of two parallel non-functional bilateral springs and an external chord as well. Its end is shaped as a decorative number eight. They are dated to the first quarter – the beginning of the second quarter of the 3rd century BC (Stamberova, 2023: 289–290; 455, cat. Nos LT 44–45).

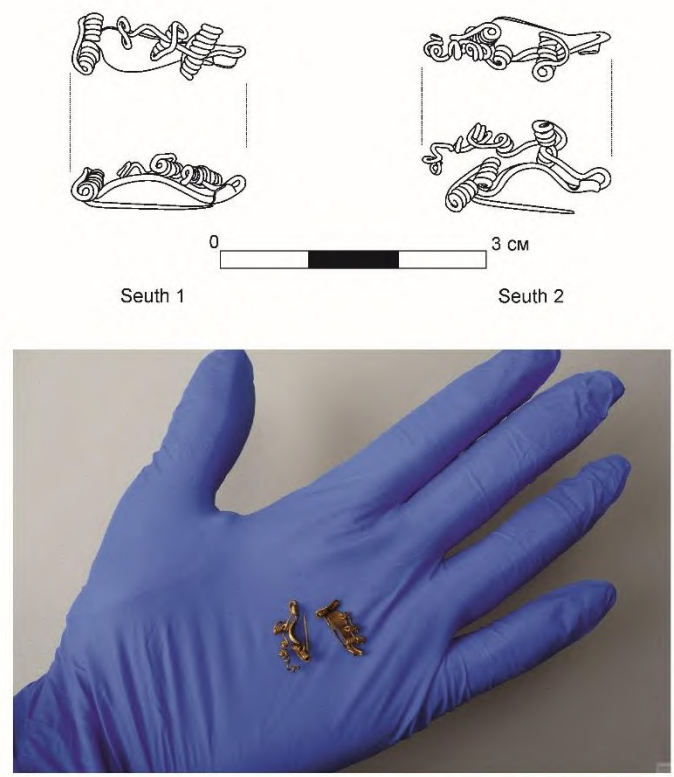

Figure 3. Gold bilateral fibulae with a non-functional spring at the end of the foot from grave 2 in Tumulus 2 next to the city of Seuthopolis, inv. No 7856 (NAIM–BAS). Design and photo M. Stamberova

The bilateral fibulae with a non-functional spring at the end of the foot are the most popular Early La Tène type brooches in Ancient Thrace (Stamberova, 2023: 301). Some scholars have defined them as "Pestrup" type because of the parallels among the specimens found in the basins of the rivers Weser (Germany), Marne and Moselle (France), in the Hungarian Plain and in Moravia (Czech Republic and Slovakia) from the LT B2 period (Anastassov, 2006: 16; 2011: 229). However, they show a great variety in size, shape and cross-section of the bow, which suggests their local development and production in Thrace (Stamberova, 2023: 276).

The XRF analysis of the two fibulae determined concentrations

[1] Anthropological analysis was not performed. Gender determination had been conditionally based on the gracile bones and the grave goods.

of gold, silver and copper (table 1). The concentration of gold is identical – 91.8% and 91.6%. The amount of silver is also almost the same as well – 6.8% and 7.2%. The copper content is 1.4% and 1.1%. Copper in amounts of up to 2% or 3% is considered the maximum limit for natural impurities (Ogden, 1992: 262), so it can be assumed that the gold was natural. Early Hellenistic metalwork usually contains between about 90% and 99% gold and has a copper content bellow about 2.7% (Ogden, 1993: 44).

Based on the very close results, we can conclude that both fibulae were made in one workshop from the same natural source of gold, without the deliberate addition of silver or copper.

Table 1. Results of the XRF analysis of both La Tène fibulae conducted by P. Penkova

Sample	Au (gold)	Ag (silver)	Cu (copper)
Fibula Seuth 1	91.8%	6.8%	1.4%
Fibula Seuth 2	91.6%	7.2%	1.1%

Both bilateral fibulae were also examined using a digital optical microscope. Fibula Seuth 1 showed no signs of wear on the inner part of the catch-plate (fig. 4.1). Surprisingly deep and dense lines were visible on the edge of the inner surface of the catch-plate of the fibula Seuth 2 (fig. 4.2). They can be interpreted as marks from the catching of the end of the pin. The presence of these fresh traces can be linked to a later deformation that occurred under unclear circumstances. In the first publication (Dimitrov and Čičikova, 1978: fig. 91) it is visible that this fibula had a pin attached to the catch-plate and was not deformed. At present it has deformed functional and non-functional springs and decorative element in the shape of number "eight".

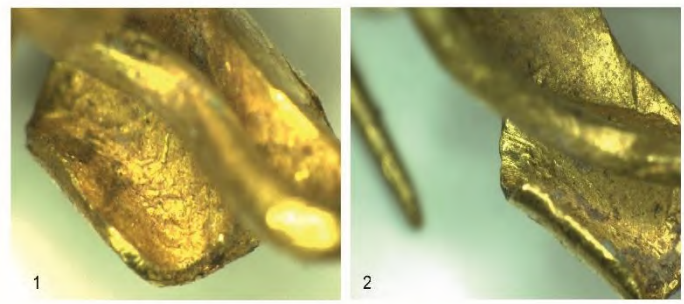

Figure 4. Microphotograph of the inner part of the catch-plate of fibula Seuth 1 (x100 magnification); 2. Microphotograph of the inner part of the catch-plate of fibula Seuth 2 (x75 magnification). Photos M. Stamberova

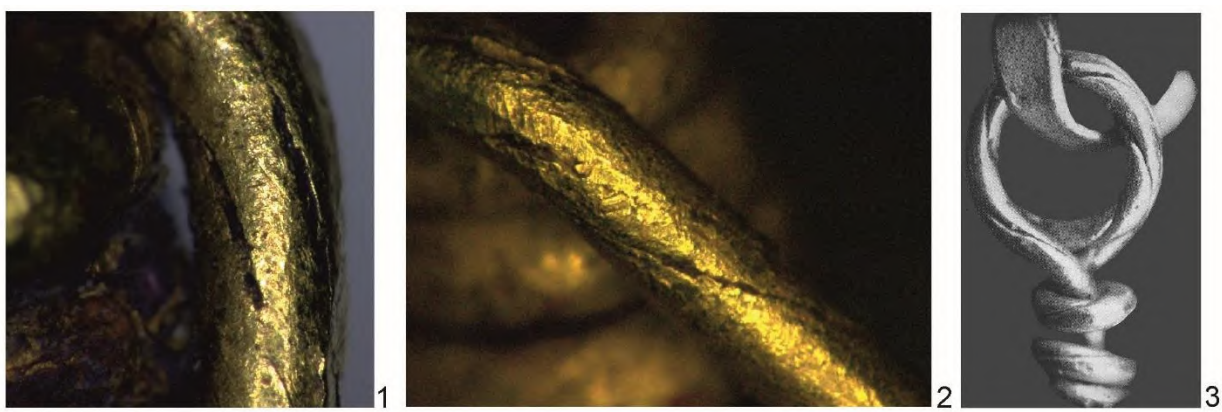

Figure 5. 1–2. Microphotographs of the chords of fibulae Seuth 1 and Seuth 2 with spiral seams that testify using of the strip-twisting technique (x175 magnification); 3. Loop of a Roman earring (about x20 magnification) (after Ogden, 1991: 95, fig. 1)

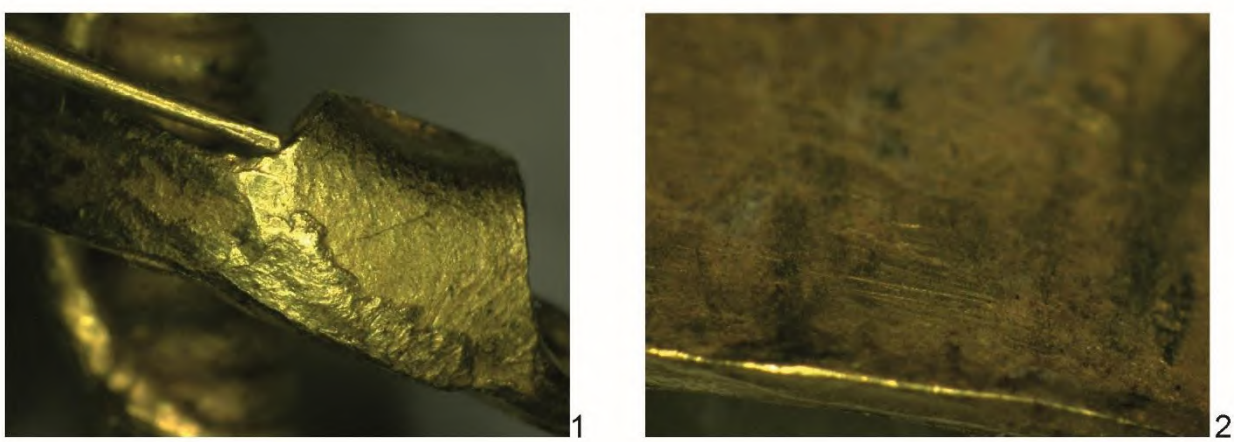

Figure 6. 1. Results of the production process on the lower part of the catch-plate of fibula Seuth 1 (x60 magnification); 2. Result of a contemporary (?) intervention on the lower part of the bow of fibula Seuth 1 (x175 magnification). Photos M. Stamberova

Most of the visible marks on the surface of both fibulae could be related to the manufacturing process. The chords show spiral lines along the length of the wire (fig. 5.1–2). They attest to the use of the strip-twisting technique (fig. 5.3), which was the very common in antiquity, in contrast to the wire-drawing technique that was widespread in the early Middle ages. The wire was made from narrow strips cut from a sheet of gold, twisted into a round shape and then twisted between two flat surfaces (Ogden, 1991: 95–100).

A dense layer of excess gold was visible on the lower part of the catch-plate of fibula Seuth 1 (fig. 6.1). This was probably added during production to support the drawn pin holder. Only some traces of a contemporary (?) intervention can be seen on the upper surface of the bow – they are dense, bright and appear fresh (fig. 6.2).

Although the two miniature fibulae from Seuthopolis could have been used to pin thin fabrics or two edges together, the observations made provide clear evidence that there are no signs of their intensive use. This conclusion is also supported by the small size of the specimens. All this leads to the conclusion that these miniature brooches were made specifically for the burial and were not used in the real life. Therefore, the use-life of the fibulae was very short only during the funeral and their date can be linked to the date of their deposition in the grave. However, this does not exclude the possibility that they may have been made earlier and kept as a family treasure for some time.

II. Crossbow fibulae

The second group of fibulae examined is represented by four gold crossbow fibulae (fig. 7). They entered the collection of the National Archaeological Museum in the first third of the 20th century as stray finds and purchases of unknown provenance[2]. At present, a large number of bronze, silver and gilt-bronze fibulae are known from the territory of present-day Bulgaria (Gencheva, 2004: 61–65), while the brooches presented in this work are the only gold ones known so far. They remained unpublished, as only recently the smallest one was included in the Catalogue of the Museum (Boyadzhiev et. al, 2023: 110, Cat. No 61).

Figure 7. Four gold crossbow fibulae from the collection of the National Archaeological Museum at Sofia. Photo NAIM–BAS

The existence of the early crossbow brooch can be reliably confirmed in the second half of the 3rd century, with secure contexts placing these initial brooches between AD 250 and 280, though they may have appeared somewhat earlier (Van Thienen, 2017: 117–118). The gold crossbow fibulae were in fashion between the 4th and the 6th century AD and were highly valued for their splendour and decorative techniques. Scholars conclude that these brooches were worn exclusively by men—military officers, members of the imperial army, and officials within the administration – or by those destined for such roles (Van Thienen, 2017: 101). In some cases, even 12-year-old boys wore them, as evidenced by an early Christian inscription from Aquileia (Beschi, 1980: 419). The brooches were part of the chlamys attire, typically fastened to the right shoulder with the foot pointing upward (Van Thienen, 2017: 101).

The smallest crossbow gold fibula (fig. 8.1) was found in the region of Sofia and is distinguished by its size of 5 cm length and 19.32 g weight. It features arched bow with quadrangular cross-section, a short foot, a hexagonal transverse bar with two ovoid and one pointed central knob. The crest of the bow was decorated with a linear pattern with inlay of black paste (*niello*) and six deep transverse grooves were carved at both ends of the foot. The pin was not preserved.

The XRF analysis displays chemical composition with amounts of 84.8% gold, 13.9% silver and 1.3% copper (table 2).

Table 2. Results of the XRF analysis of the smallest crossbow fibula found in Sofia region conducted by P. Penkova

Sample	Au (Gold)	Ag (Silver)	Cu (Copper)
Sofia region	84.8%	13.9%	1.3%

This fibula does not find identical parallel but it is similar to a specimen found in a brick grave at Romuliana (present-day Gamzigrad, eastern Serbia) dated to the end of the 3rd – the beginning of the 4th century AD (Živić, 2009: 278, 294, pl. IIa-4, cat. no. 4; Petković, 2010: 278, cat. no. 1367, T. LIV, 2; Sl. 80–82). The earlier date of the fibula from Sofia is supported by the smaller size, the geometric ornaments and the combination of two ovoid and one pointed knob (cf. Deppert-Lippitz, 2000: 44). According to the inventory record, the other three massive crossbow fibulae originate from Archar, Vidin region (fig. 8.2), Malko Gradishte[3], Haskovo region (fig. 8.3) and Laka, Burgas region[4] (fig. 8.4). They are similar, as the length is respectively 7.8 cm, 7.2 cm and 7.7 cm, and the weight is 28.88 g, 62.56 g and 51.59 g. They were pre-manufactured from different gold parts and assembled together (see Deppert-Lippitz, 2000: 41). The bow is massive, trapezoidal in cross section and it was probably cast in multiple-use stone mould or by the lost-wax process. The crossbar is a hexagonal and hollow, its upper surface is completely covered by elaborate moulded appliqués. Three hammered bulbous knobs, smooth or faceted, were attached to each end and to the centre of the faceted crossbar. The places of joining of the foot and the three bulbous knobs were fitted with a decorative collar with small granules-like elements. The three specimens feature decorations along the edges of the foot – incised lunulas, arranged in pairs, and volutes. Solely the crest of the bow and the centre of the foot of the fibula with unknown provenance are covered with elaborately engraved decoration of repeating circles separated by lines inlaid with *niello*. The pin was attached by a hinge to a thin bronze rod inserted through the crossbar. It was the weakest point on brooches so only the pin of the fibula from Archar has been completely preserved and those of the others only partially. They were all made of bronze.

[2] Only one of the specimens is known to have been discovered by chance in a grave, with no other details.

[3] The former name of the village was Alvandere. With this provenance indication the fibula was entered in the museum's inventory book in 1903.

[4] The previous name of the village was Eski Pasli.

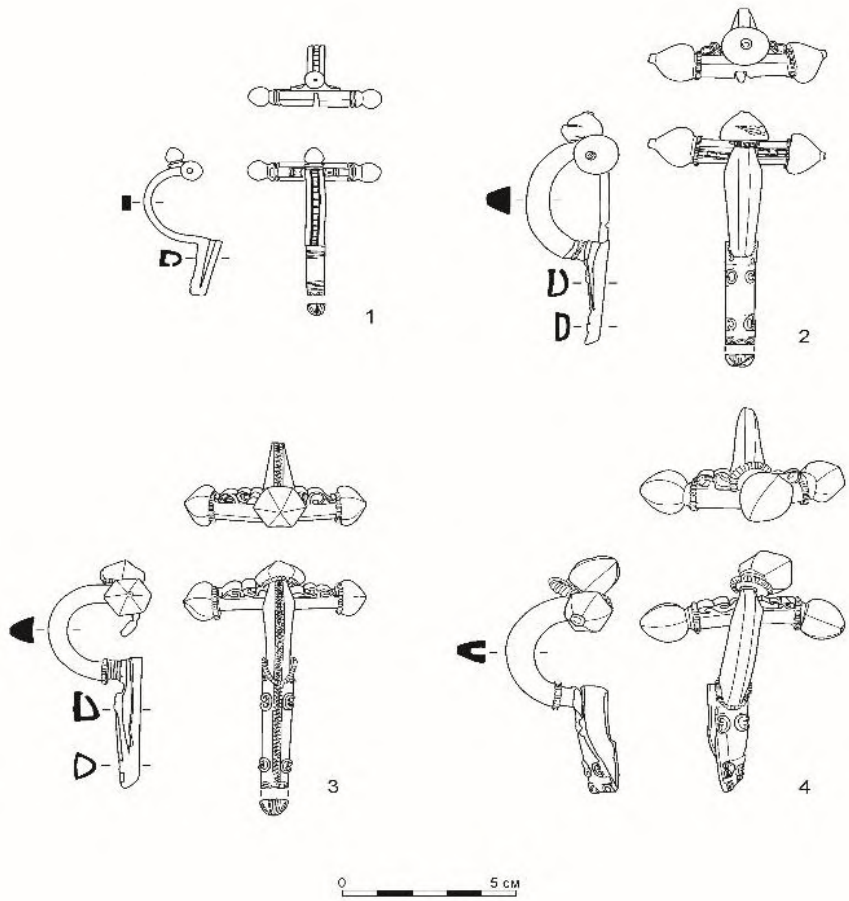

Figure 8. Gold crossbow fibulae from the National Archaeological Museum: 1. Fibula from Sofia region, inv. No 6185; 2. Fibula from Archar, Vidin region, inv. No 4590; 3. Fibula from Laka, Burgas region, inv. No 6649; 4. Fibula from Malko Gradishte, Haskovo region, inv. No 3226; Drawing M. Stamberova

As expected, the fibulae from Archar and Malko Gradishte, which have very similar decoration display very close chemical compositions with 96.9% and 96.2% gold and 3.1% and 3.8% silver respectively. The composition of the third fibula from Laka with *niello* inlay is slightly different with 87.3% gold and 12.7% silver (table 3). These results correspond to the recorded variation of gold in Roman jewellery between 80% and 97% (Ogden, 1993: 45).

Table 3. Results of the XRF analysis of the three crossbow fibulae of large dimensions conducted by P. Penkova

Sample	Au (Gold)	Ag (Silver)
Archar	96.9%	3.1%
Malko Gradishte	96.2%	3.8%
Laka	87.3%	12.7%

Determining the accurate date of the artefacts is difficult when the depositional context is lost. In such cases, we turn to their morphological and decorative features as well as to the iconographic sources and close parallels from well-dated burials. From the 4th century AD onwards, crossbow fibulae appeared in a wide range of artworks, such as sculptures, mosaics and frescoes (Van Thienen, 2017: 104). Compared to the already discussed crossbow fibula from the Sofia region, these three are distinguished by several significant features. These are the greater length and massiveness, the larger bulbous knobs, the longer foot, and stepped appliqués along the crossbar instead of small supports. These changes took place during the three decades of the Tetrarchy between 293 and 324 AD (Deppert-Lippitz, 2000: 46).

The presented crossbow fibulae could be defined as unique finds. They do not find exact parallels among the known specimens of the ancient world. Nevertheless, some similarities can be noted. For example, the fibulae from Archar and Malko Gradishte are comparable to two fibulae found in a wooden coffin at Carsium (modern-day Hirsova, Romania), which have been dated to ca. 318–320 AD (Deppert-Lippitz, 2000: 52–53, fig. 13). Remarkably, the bronze and gilt bronze parallels of our fibulae bear the later date of the midd – second half of the 4th century AD (Riha, 1990: 169, Taf. 55:1485; Buora, 1992: 11, n. 546, tav. II:1; Gencheva, 2004: 64). The fibula from Laka finds a good parallel with the gold brooches with *niello* inlay and pseudofiligree on the base of the bow discovered in a grave at Taraneš near Debar, Republic of North Macedonia, dated to ca. 317–324 AD (Deppert-Lippitz, 2000: 51, fig. 12). Such *niello* decoration, but with no lunulas, has the fibula from Turin with an inscription from the period 306–307 AD (Deppert-Lippitz, 2000: 48–49, fig. 10). Based on this data, the three crossbow fibulae kept in the National Archaeological Museum in Sofia can be dated to the first quarter of the 4th century AD.

The context of discovery of the four crossbow fibulae is disputable. In the first half of the 4th century AD, fibulae were increasingly deposited in graves rather than being recycled or

passed on to another owner (Van Thienen, 2017: 118). This suggests a funerary context of provenance for all specimens. In this sense, we are also unable to determine the possible workshops of manufacture of these brooches, which show individualism under a certain standardization. We can assume some imperial workshops located in Lower Danubian centres or some regional production centre in the Roman province of Thrace.

The microscopic examination of the presented four crossbow fibulae shows different traces on the surface. Most of them could be connected to the production process (fig. 9). The inner part of the bow of the fibula from Malko Gradishte is rough, probably due to the chisel used (fig. 9.1). In the surface of the grooves of the fibula from Sofia region deep parallel lines are visible, left by the tool used to make them (fig. 9.2). On the lunula of the fibula from Archar and Malko Gradishte, several small and shallow triangular traces can be seen. Some of these may be the result of line slippage (fig. 9.3) and others probably indicate where the decoration was to be applied (fig. 9.4–5). Traces of a rasp (fig. 9.6) and a dapping punch tool (fig. 9.7) are visible between some of the ornaments of the fibula from Archar. Shallow parallel dense lines, the result of the mechanical polishing at the end of the production process, are visible on the upper part of its foot (fig. 9.8). On the fibula from Archar, a small gold plates were put on a crack on the place of soldering of the knob (fig. 9.9–10) and on the edge of the opening of the transverse bar for the pin (fig. 9.11) forming a sort of patches. Unfortunately, it is not possible to determine whether these are the result of changes made during the production or some kind of subsequent correction.

The microscopic observation allowed us to study in detail the beaded circles around the base of the bow and the base of each bulbous knob of the three massive crossbow fibulae (fig. 9.12–13) and to connect them to the so-called beaded wire (Williams and Ogden, 1994: 23–24, fig. 20). It was manufactured from a plain wire, which was pressed with a double-edged tool to produce a series of grooves (fig. 9.14). These beaded wires covered and reinforced the joints between the various elements of the fibula.

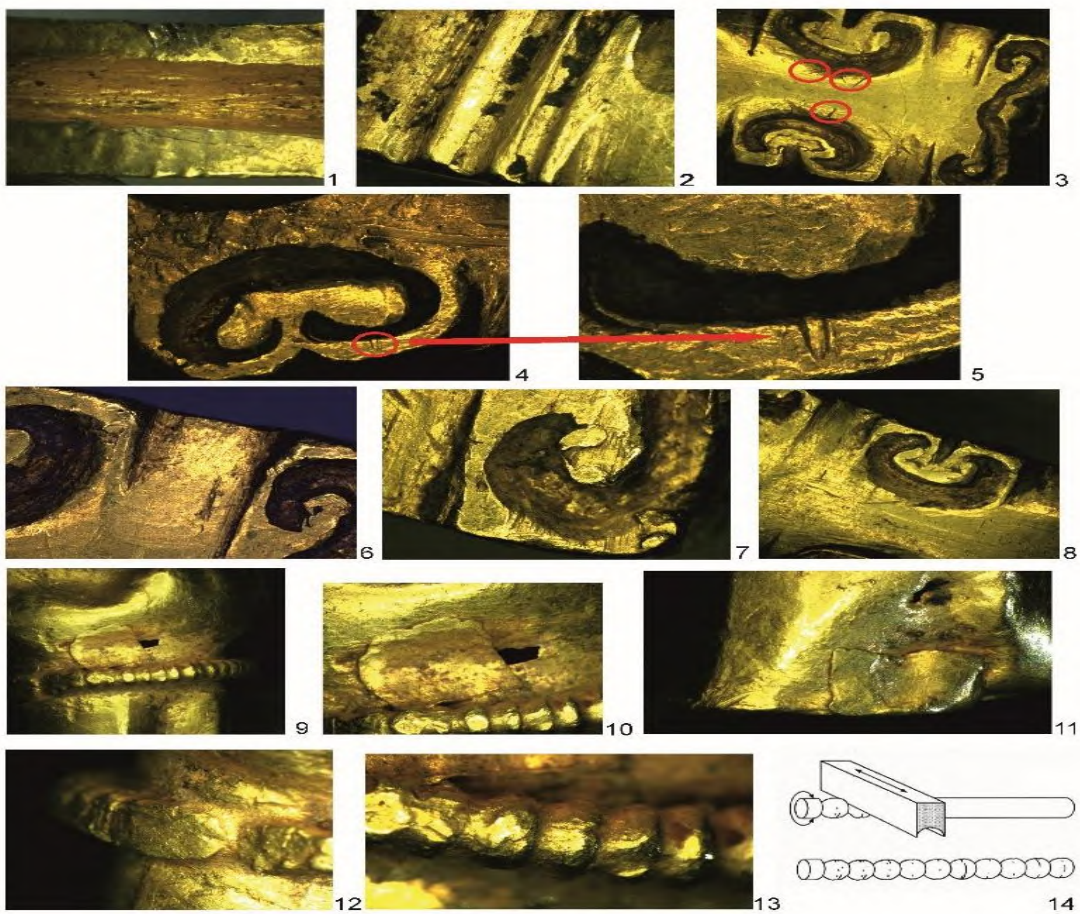

Figure 9. Microphotographs of traces associated to the production processes: 1. The inner part of the bow the fibula from Malko Gradishte (x25 magnification); 2. The surface of the grooves of the fibula from Sofia region (x50 magnification); 3. Small and shallow lines originate from the lunulas of the fibula from Archar (x25 magnification); 4–5. Sign for the places of the decoration of the fibula from Malko Gradishte (x50 magnification and x175 magnification); 6. Traces of a rasp on the foot of the fibula from Archar (x75 magnification); 7. Traces of dapping punch tool on the foot of the fibula from Archar (x100 magnification); 8. Dense lines resulting from the mechanical polishing at the end of the production process on the upper part of the foot (x30 magnification); 9–10. A small gold plate put on the place of soldering of the knob of the fibula from Archar (x25 magnification and x75 magnification); 11. A small gold plate put on the edge of the opening of the transverse bar of the fibula from Archar (x50 magnification); 12–13. Beaded circles around the base of the bulbous knob of the fibulae from Archar (x75 and x100 magnification). Photos M. Stamberova; 14. Reconstruction of the production of beaded wire (after Williams, Ogden, 1994: 23–24, fig. 20)

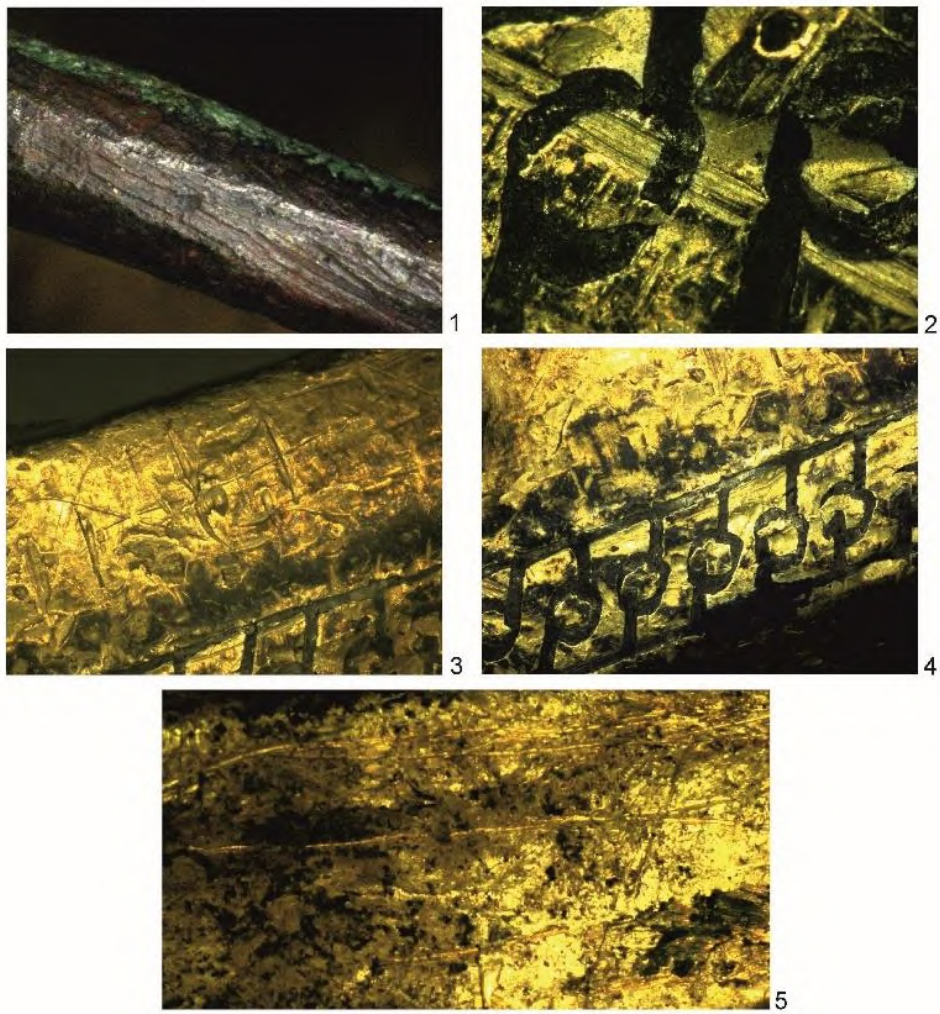

Figure 10. Microphotographs of traces associated with use, post-depositional processes and contemporary intervention: 1. Bronze pin of the fibula from Archar (x50 magnification); 2. Scratches that pass over the niello lines on the fibula from Laka (x175 magnification); 3–4. Rough surface and circles copied in a row over those with niello decoration on the foot of the fibula from Laka (x50 magnification); 5. Fresh scratches in the inner part of the catch-plate of the fibula from Malko Gradishte (x70 magnification). Photos M. Stamberova

Some traces associated with the use can also be established. The bronze pins of two of the fibulae are clear signs of the intensive use. Bellow the patina on the bronze pin of the fibula from Archar, long scratches were visible (fig. 10.1). It is also interesting to note some scratches across the niello lines on the fibula from Laka (fig. 10.2), which may also be further evidence of ancient use.

The rough surface (fig. 10.3) and the circles copied in a row over those with *niello* decoration (fig. 10.4) on the foot of the fibula from Laka could be related to the post-depositional processes, possibly due to prolonged contact with organic matter at high temperatures. Several fresh scratches on the inner part of the catch-plate of the fibula from Malko Gradishte (fig. 10.5) could be interpreted as a result of a contemporary cleaning from the soil.

2. Conclusion

The results of microscopic analysis presented here, in combination with other interdisciplinary methods, represent a modest attempt by the authors of this study to look beyond the standard archaeological approach. Sometimes long use is obvious from the condition of the artefact, but the examination under a microscope provides more detailed information that may be missed such as repairs, modern alterations, etc. The presented two different cases of fibulae use-life demonstrate the challenges in front of such a study. In the first case, the fine bilateral gold fibulae were specifically made for the deceased female, most probably immediately before her burial. In the second case, there is evidence of prolonged use, as evidenced by the size and importance of the crossbow fibulae. At present, we are unable to determine how long these artefacts have been in use and whether their condition is indicative of intensive and/or prolonged use. We hope that further experimental studies will shed more light on this question.

Acknowledgements

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Résumé - Détermination de la durée de vie des fibules en or mission (im)possible ? : Les fibules sont souvent utilisées comme marqueurs chronologiques fiables en archéologie. Leur durée de vie peut varier considérablement en fonction sur leur forme, leur taille et le matériau dont ils sont faits. Les fibules en or étaient extrêmement rares, même si elles constituaient un
signe d'autorité et de richesse. Deux fibules miniatures de type La Tène précoce de la période hellénistique primitive et quatre fibules d'arbalète romaines massives, toutes provenant de la collection de l'Institut archéologique national avec musée à Sofia ont été examinés par analyse XRF non destructive et observation traceologique microscopique. Le but de la présente recherche vise à étudier les possibilités de déterminer si et pendant combien de temps ces artefacts ont été utilisés avant leur déposition et ce qui leur est arrivé après leur découverte.
Mots-clés : *or, fibules bilatérales de La Tène ancienne, fibules d'arbalète, cycle de vie de l'artefact (durée de vie), analyse XRF, microscope optique, traçabilité, analyse de l'usure, Institut archéologique national avec musée à Sofia, Bulgarie.*

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Fatimid- and Crusader-Period Pithoi in Palestine: New Insights on Their Typo-Chronology, Production Techniques and Provenance

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Abstract
This article examines the large ceramic storage vessels known as pithoi, used in the Islamic and Medieval periods in the Southern Levant. It focuses on pithoi from five excavation sites dated to the Fatimid period and the early Crusader period (11th–12th centuries). The research analyses the morphological, technological, and contextual features of these vessels, evaluates their origins through petrographic analysis, and discusses their typology, usage, and reuse practices from an economic perspective.
Keywords: *Fatimid and Crusader periods, Palestine, pithoi, typo-chronology, production techniques, petrographic analysis, provenance, function*

1. Introduction

The archaeological evidence from the southern Levant[1] indicates that the use of large-sized stationary ceramic storage containers (commonly termed pithoi; sing. pithos) in that region began in the Pottery Neolithic and early Chalcolithic periods (6th-5th millennia BCE; Garfinkel, 1999: 37, 127) and continued until the late 20th century CE (e.g., Dalman, 1935: 251, figs. 75, 77; Hirschfeld, 1995: 141-142, figs. 90, 131). These pithoi varied in size but were always at least two times larger than the regular and usually portable storage jars used in each period or region. Pithoi were produced locally during virtually every period, but in certain periods imported pithoi from neighboring or overseas regions were also used and sometimes even exceeded local pithoi due to their higher quality and/or larger size. Also, the extent of pithoi use was uneven from temporal and geographical perspectives, with pithoi being used during a given period more frequently in certain regions (or sub-regions) than in others.

As demonstrated below, these patterns also characterized material culture and daily life in the Islamic and medieval periods, on which the present study focuses. More specifically, this study discusses a group of pithoi dated to the 11th and 12th centuries or to the main part of the Fatimid period and the early part of the Crusader period from five excavated sites in central and southern Israel. In the following sections, the morphological, technological and contextual aspects of these pithoi, including the results of their petrographic analysis and provenance implications, are presented in detail, followed by a concluding discussion on their typo-chronology, use and re-use practices and economic aspects. As such, this study contributes to the knowledge about Islamic-/medieval-period pottery (and related aspects) in the southern Levant, particularly regarding the hitherto lesser-studied subject of pithoi.

1.1 The Terminology of Pithos-Type Jars in the Medieval Islamic Near East

Before describing the case study pithoi, the important issue of terminology should be briefly discussed.

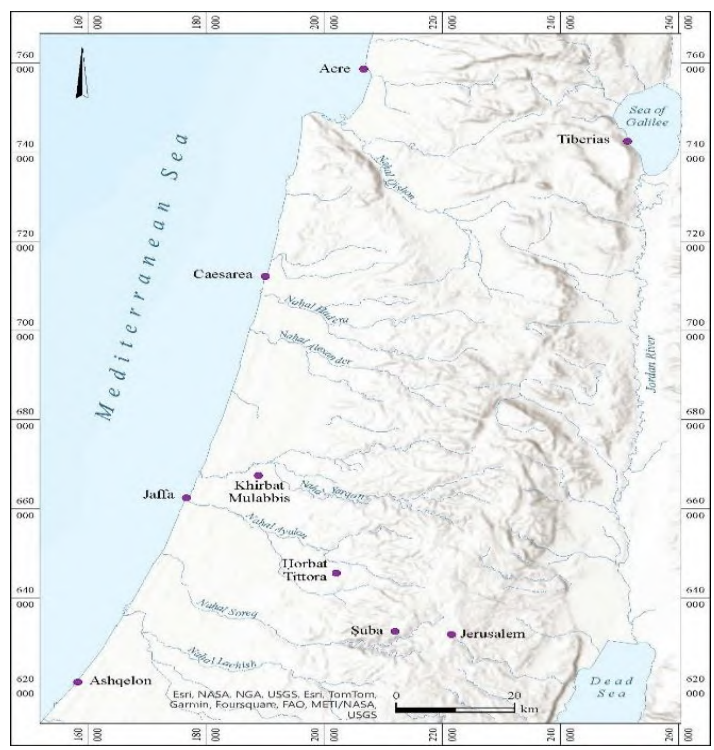

Figure 1. Location map.

[1] Refers here primarily to the area of historical Palestine/modern-day Israel.

Figure 2. Jerusalem, Terra Santa compound: pithos A in situ (courtesy IAA and Zubair 'Adawi; photography: Shai Halevi [IAA]).

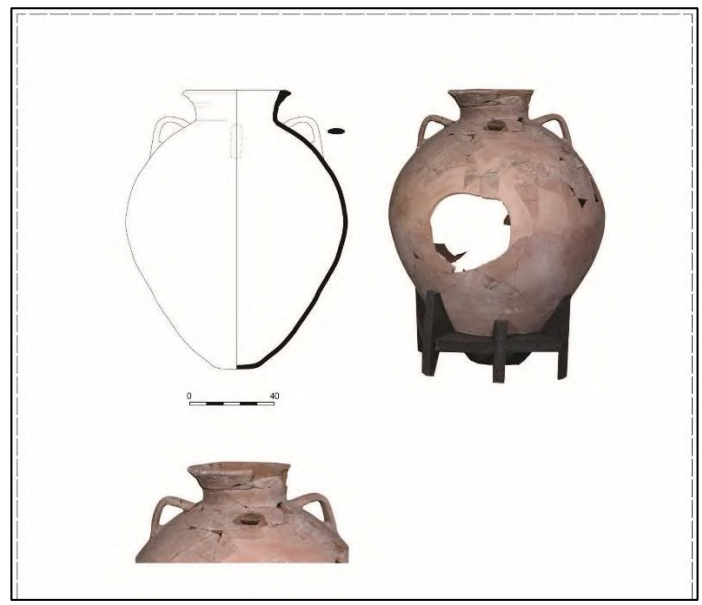

Figure 3. Jerusalem, Terra Santa compound: pithos A (courtesy IAA and Zubair 'Adawi; 3D scanning: Avshalom Karasik and Argita Gyermen-Levanon [IAA]; photography: Dafna Gazit [IAA]).

Although this study deals with a time-period when Arabic was the *lingua franca* among most of the country's population (including the non-Muslims), we prefer to consistently use the Greek term pithos/pithoi for two main reasons. First, it seems that the term pithos, and/or versions of pithos, continued to be in use by the local Aramaic/Hebrew-speaking Jewish population and perhaps also by local Greek- or Syriac-speaking Christians during at least part of the Early Islamic period. The term *pyts*/*pytws* (**פיתוס/פיתס**) was used by the Jews of Palestine in Roman and Byzantine times (Taxel, 2018: 17, n. 3, 59, with references) and even by the Jews of Iraq in the 'Abbasid period (Rice, 1958: 26, n. 4). Second, we do not know for sure what the equivalent local Arabic term (or terms) in the Early Islamic and Crusader periods was, although there is great plausibility that one of the most common terms was *zīr* (زِير; pl. *azyār*). The latter is known not only from ethnographic studies of 19th- and 20th-century Palestine and Egypt (e.g., Dalman, 1935: 251; Henein, 1997: 114, 157, 159; Vorderstrasse, 2015: 209), but also from Fatimid- (or earlier?) to Mamluk-period sources which relate to Egypt and North Africa (Milwright, 1999: 509; Shaddoud, 2016: 212; Vorderstrasse, 2015: 220). The term *zīr* most probably has antecedent late antique versions in Hebrew/Aramaic (*zyr*/**זיר**; Taxel, 2018: 17, n. 3) and probably also in Coptic (ⲥⲓⲣ; Vorderstrasse, 2015: 220), which suggest that the Arabic word developed not long after the Muslim conquest in Palestine and elsewhere. Yet, other Arabic terms might also have been used in early and later medieval Islamic Palestine and the Levant to define specific categories of pithos-type jars, among them *dinn/dann* (دَنّ; pl. *dinān*), which was probably designated to hold wine (Rice, 1958; Shaddoud, 2016: 210-211) and *ḥubb* (حُبّ; pl. *ḥubban*), which was probably more multifunctional in terms of its potential contents, similar to the *zīr* (Shaddoud, 2016: 211). It can also be assumed that in certain places or time-periods some terms were used interchangeably for the same jar types (cf. Lancaster and Lancaster, 2010: 220, who noted that in a certain location in contemporaneous Oman two different terms – *khars* and *ḥabiya* – were apparently used for the same kind of local pithos-type jar).

1.2. The Case Study Pithoi

The pithoi discussed in this study were retrieved from excavations conducted by the Israel Antiquities Authority (IAA) at five inland and coastal sites: Jerusalem, Khirbat Mulabbis, Ḥorbat Tittora, Ashqelon (two excavations) and Caesarea (Fig. 1).

Jerusalem

Excavations carried out in 2018-2020 at the Terra Santa compound within the Old City's Christian Quarter revealed architectural remains dated from the Early Roman to the Ottoman periods.[2] The main and better-preserved architectural phase represented the Mamluk period, though the large number of Early Islamic—mainly 'Abbasid- and Fatimid-period—finds at the site indicated rather intensive contemporaneous activity during this phase as well. One of the associated remains was a beaten earth floor found under the foundation level of two Mamluk walls that formed a corner. A large pithos had been partially sunken into the floor, with its upper half protruding from the floor (hereafter pithos A; Fig. 2); actually, this part of the vessel was probably intentionally

[2] The excavations (permit Nos. A-8381, A-8483, A-8657) were directed by Zubair 'Adawi and the pottery was studied by Itamar Taxel.

broken at some later stage and most of the fragments were found tossed inside the remaining lower half. Interestingly, together with the fragments of the *in situ* pithos, a few sherds were found (including the neck and rim) belonging to another pithos of a different type (hereafter pithos B). The earth accumulation that sealed the sunken pithos and its surroundings contained pottery sherds dated to as late as the 11th century, while the pottery found in a testing trench dug through the earth floor seems to date not later than the 10th century. It is unknown whether pithos A, upon being sunken into a floor, fulfilled its primary use as a storage container for water or foodstuff or some reuse practice (see further below).

The near-complete pithos A (Fig. 3) is ca. 1.3 m height and 1 m maximal diameter. It is made of a coarse but high-temperature fired reddish-brown fabric that contains many tiny to large white, reddish-brown and black inclusions and negatives of organic tempers. The vessel's body was handmade, apparently using the coil technique with the neck produced separately on a wheel. The attachment of the neck to the body is clearly discernable on the interior, where the potter made no special effort to smooth the join (as opposed to the same area on the vessel's exterior). The pithos has an oval body with 2 cm-thick walls, a flattened base (ca. 0.18 m in diameter) and a tall, wide neck with an outfolded, flattened triangular-sectioned rim (ca. 0.4 m cm inner diameter). The pithos originally had four large handles (ca. 0.3 m length, 10 cm width) with an oval cross-section and slightly ridged surface set on the shoulder; two handles were fully preserved; the third handle's lower part is broken; and the fourth handle is missing. Crude hand-made smoothing marks (including fingerprints) are seen on the inner surface of the vessel's walls and on the lower part of the interior (but not on the bottom); there are numerous small cavities, likely wear resulted from contact with some substance. The inner surface of the jar's base and the wall slightly above the base have a dark gray color, perhaps due to the absorption of the jar's contents into the clay. The jar's maximal estimated volume (up to the rim level) – based on its 3D scanning – is 598.7 liters, although in reality it was probably filled up to its neck base level at most.[3]

Pithos B (Fig. 4) is made of a coarse but high-temperature fired orange-brown fabric that was fired to yellowish-brown and contains many tiny to large white inclusions. Its illustrated preserved fragment belongs to a short, vertical neck with a thickened, square-sectioned rim (ca. 0.2 m inner diameter); hence, it can be assumed that its size was about half that of pithos A. As we shall see, this assumption is reinforced by the near-complete pithos from Ḥorbat Tittora, which belongs to the same type as the Jerusalem pithos B.

Figure 4. Jerusalem, Terra Santa compound: pithos B (courtesy IAA and Zubair 'Adawi; photography: Itamar Taxel).

Khirbat Mulabbis

Khirbat Mulabbis is a multi-period site situated at the southeastern fringes of the Sharon (central coast) plain, nowadays on the outskirts of the city of Petaḥ Tiqwa. Excavations carried out at the site in 2006-2007 revealed remains dated to Byzantine until the Ottoman period, with the most extensive ones dated to the Crusader period (12th and 13th centuries) and associated with a historically-documented Frankish settlement (for a preliminary report, see Haddad, 2015).[4] The Crusader-period stratum included a beaten earth floor into which two halves of a pithos had been embedded upright (ca. 0.5 m apart), with the jar's upper half placed upside down (Fig. 5). When unearthed *in situ*, it was noticed that the pithos parts were covered from the interior with a layer of soot. The earth walls of the pit into which the lower pithos half was sunk was also blackened from soot. After the pithos parts were removed, washed and restored (Fig. 6), it was found that the pithos' lower half bore a thin layer of whitish mortar/plaster on the base and on the wall up to a height of about 0.3 m above the base with occasional mortar/plaster patches on upper parts of the wall as well. In addition, it was found that the pithos' lower half was covered with soot not only from the interior but also throughout the exterior, a detail which must have some link to the blackened pit that held the pithos. As to the pithos' upper half, it lacked any mortar or plaster and its external sooting was confined to a narrow strip along its breakage line; namely, when embedded upside down in the earth floor, the external soot lined its upper fringes.

Figure 5. Khirbat Mulabbis: the pithos halves in situ (courtesy IAA and Ellie Haddad; photography: Tsila Sagiv [IAA]).

The fabric, production technology, dimensions (ca. 1.36 m high, 0.95 m maximal diameter, 0.4 m inner rim diameter) and morphology of the Khirbat Mulabbis pithos are virtually identical to those of the Jerusalem pithos A (the pithos' rim is partially broken; hence its originally triangular section was not preserved). The 3D digital scanning of the pithos showed that its body was somewhat deformed; namely, it had a somewhat oval rather than round

[3] The 3D scanning of the pithos was performed by Avshalom Karasik and Argita Gyermen-Levanon (IAA), and its volume's calculation was made by the Computational Archaeology Laboratory at the Hebrew University of Jerusalem.

[4] The excavations (permit Nos. A-4935/2006, A- 5131/2007) were directed by Elie Haddad; the pottery was studied by Smadar Gabrieli and the discussed pithos was studied by Itamar Taxel.

perimeter.[5]

The context of the pithos halves and the soot marks they bear suggest that they were reused as ovens or hearths, a practice documented archaeologically in Byzantine and Early Islamic Palestine (where regular storage jars were also used for this purpose; Taxel, 2018: 92) and during ethnographic studies in Greece (Vroom, 2003: 284), Cyprus (London, 2020: 50, fig. 6.5) and Oman (Lancaster and Lancaster, 2010: 218, fig. 23). The mortar/plaster traces on the pithos' lower part suggest that it had once been embedded in a built floor or installation, perhaps while fulfilling its prime use designation as a storage container (for an ethnographic parallel from Oman, see Lancaster and Lancaster, 2010: 217, figs. 19-21). However, at a certain stage and for a reason unknown, the pithos was broken into two parts; its neck and handles were partially removed (or accidently broken) and the two halves were converted into sunken ovens or installations associated with fire (cf. Lancaster and Lancaster, 2010: 218, figs. 23-25).

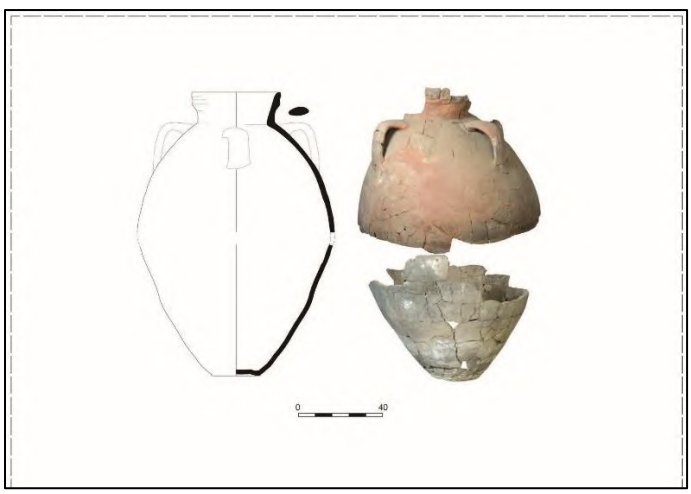

Figure 6. Khirbat Mulabbis: the pithos (courtesy IAA and Ellie Haddad; 3D scanning: Avshalom Karasik and Argita Gyermen-Levanon [IAA]; photography: Clara Amit [IAA]).

Ḥorbat Tittora

Ḥorbat Tittora is a large, multi-period site located on the western fringes of the transition area between the Judea and Samaria Hills. Excavations carried out here in 2017 and 2023 around a Crusader-period Frankish fortified tower revealed remains dated from the Roman to British Mandate periods.[6] Outside the tower, part of a medieval building which included a small, plastered room was unearthed. The room contained at least one, near-complete pithos (and presumably fragments of additional pithoi). The room was adjacent to a plaster floor where Mamluk-period pottery was found above and below, though the building had at least one earlier phase as indicated by a cistern that had been sealed by the Mamluk stratum and contained Ayyubid-period pottery. The near-complete pithos was made of a coarse though high-temperature fired grayish-brown fabric that was fired to yellowish containing many tiny to large white and reddish-brown inclusions. It is uncertain whether this pithos was wheel-made or handmade, though the former possibility cannot not be ruled out due to the vessel's relatively modest dimensions (below); at any rate, its neck and rim were fashioned on a wheel.

The pithos (Fig. 7) has an oval body (ca. 0.75 m height and 0.52 m maximal diameter) with 1.5 cm-thick walls, a flattened base (ca. 0.17 m in diameter) and a short, vertical neck with a thickened, square-sectioned rim (ca. 0.2 m inner diameter). Originally it had four oval-sectioned handles (only two were preserved) with deep thumb impressions at their bases. Hand-smoothing marks are seen on the exterior wall, mainly the upper part, in addition to a shallow, vertical wavy incision on the shoulder – perhaps reflecting a spontaneous desire of the potter to decorate this otherwise plain vessel. The jar's maximal estimated volume (up to the rim level) – based on its 3D scanning – was 78.8 liters, although in reality it was probably filled up to its neck base level at most.[7] The jar's exterior, from rim to base (including the handles), bears remains of a thin layer of whitish, fine plaster; numerous pottery grits (2-5 mm large) had been embedded into at least some of the plaster. It is unknown whether this plaster layer was related to the plaster floor into which the pithos was sunk or represents a coating of the jar, perhaps in order to prevent evaporation or leaking of its (liquid) contents.

The Ḥorbat Tittora pithos is related, in terms of neck-rim profile, rim diameter and fabric, to the Jerusalem pithos B. Therefore, regarding the assumed 11th, or at the latest, early 12th-century date of the Jerusalem pithos B, the Ḥorbat Tittora pithos may be of a similar date or slightly later dated, but probably not from the Mamluk period. If the architectural context of this pithos is indeed of a Mamluk-period date, it is possible that the pithos was an older vessel in secondary use.

Figure 7. Ḥorbat Tittora: pithos (courtesy IAA and Avraham Tendler; 3D scanning: Argita Gyermen-Levanon [IAA]; photography: Itamar Taxel).

[5] Although the two pithos parts shown in Fig. 6 appear as if they do not join, in reality there is no gap between them. The gap reflects the inability of the 3D digital scanning to document the lower 5 cm or so of the jar's upper section due to technical problems. However, the overall height of the jar was reconstructed based on manual measurements and photographs.

[6] The excavations (permit Nos. A-7949/2017, Z-55/2023) were directed by Avraham S. Tendler and the pottery was studied by Itamar Taxel. For a preliminary report on the 2017 excavation, see Tendler, 2021.

[7] See above, n. 3.

Ashqelon

Ashqelon (Greek: Ascalon/Arabic: ʻAsqālan) was one of the major harbor cities on the southern Mediterranean coast of historical Palestine. The site of the ancient city (Tel Ashqelon) and its vicinity have been extensively excavated since the early 20th century. In at least two of these excavations fragments of pithoi dated to the Fatimid and/or Crusader period were found. The first excavation, carried out within the Barzilay Hospital (in the modern city of Ashqelon), ca. 0.5 km east of Tel Ashqelon, revealed the remains of a circular, plastered built pit, perhaps a silo. The pit contained pottery sherds dated primarily to the 11th and 12th centuries, as well as a coin of the Persian ruler Nur al-Din Muhammad (1164-1174 CE) (Kogan-Zehavi, 2007). Among the ceramics were neck-rim and handle fragments of a pithos (ibid.: fig. 8: 9, 10) whose morphology and fabric are identical to those of the Jerusalem pithos A and Khirbat Mulabbis pithos (Fig. 8: 1, 2).

In the second excavation project, conducted in 2016, 2018 and 2021 at the Roman basilica in Tel Ashqelon,[8] fragments of two pithoi were found in a refuse deposit dated to the 11th-12th centuries. The pithoi, both presumably handmade with the rim/neck fashioned on a wheel, are made of a coarse though high-temperature fired orange-brown fabric that contains tiny to large white, reddish-brown (basalt?), gray (shell?) and sparkling (mica?) inclusions. The first pithos has a very short, vertical neck with an everted, triangular rim (ca. 0.3 m inner diameter) decorated with very shallow wavy combing on its external upper surface (Fig. 8: 3). The second pithos is neckless, with a very thick, externally ridged rim (ca. 0.32 m inner diameter) that has a shallow groove on its upper surface (Fig. 8: 4). Both jars are covered from the exterior and on the inner side of the neck/rim with a lightly burnished reddish-brown slip.

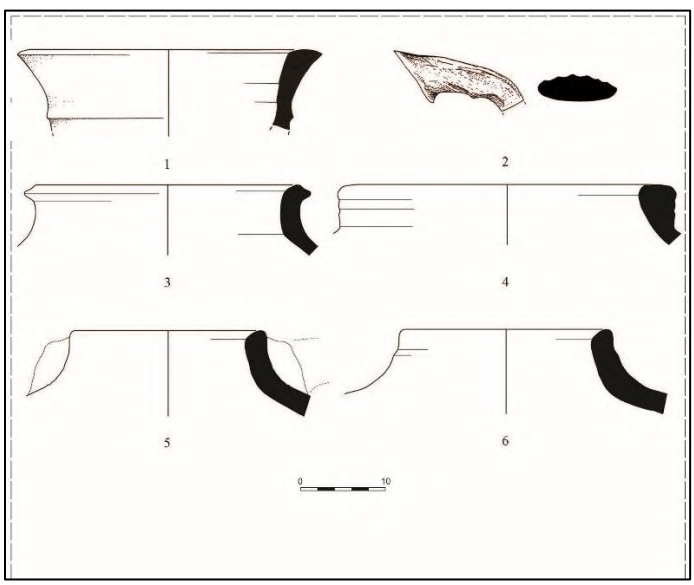

Figure 8. 1, 2) pithos fragments from Ashqelon Barzilay Hospital (courtesy IAA; drawing: Alina Pikovsky [IAA]); 3, 4) pithoi from Tel Ashqelon (courtesy IAA, Saʻar Ganor and Rachel Bar-Nathan; 3D scanning: Avshalom Karasik and Argita Gyermen-Levanon [IAA]); 5, 6) pithoi from Caesarea (Itamar Taxel; 3D scanning: Avshalom Karasik and Argita Gyermen-Levanon [IAA]).

Caesarea

Caesarea Maritima (Arabic: Qaysāriyah), the Roman- and Byzantine-period provincial capital of historical Palestine and one the country's major harbor cities, was still an important town in the Early Islamic and Crusader periods. Numerous excavations have been carried out in and around the city since the mid-20th century. In 2020-2022, excavations were conducted within an extensive Early Islamic-period agricultural system of sunken plots in the dunefield south of Caesarea as part of multidisciplinary research directed by one of the present authors (Itamar Taxel) and Joel Roskin. The plots and the berms which delimit them were stabilized and fertilized by a huge amount of domestic refuse transported from the town of Caesarea. The preserved components of this refuse were dominated by pottery sherds, the latest of which are dated to the 11th to early 12th century. One of the excavation areas yielded two pithos fragments (for a preliminary publication, see Taxel and Roskin, 2023: 725, fig. 5: 13, 14); both are made of a coarse reddish-brown fabric that contains many tiny to large white and reddish-brown inclusions and fine mica and are unevenly covered from the exterior with cream-colored wash. The jars have a very short, in-turned neck with a plain rim (ca. 0.2-0.23 m inner diameter) and thick handles attached to the neck (Fig. 8: 5, 6).

1.3. Petrographic Analysis

Samples taken from the nine discussed pithoi were cut to standard (30 μm) thin sections and petrographically analyzed under a polarized light microscope.[9] This led to a classification of the samples into four petrographic groups (A-D) according to the characteristics of their raw materials.

Group A

Three pithoi belong to this group (Jerusalem pithos A, Khirbat Mulabbis and Ashqelon Barzilay Hospital). These pithoi are characterized by a ferruginous, argillaceous, optically active matrix. The paste contains numerous opaque, ferruginous and/or optically active, argillaceous shale fragments, ranging from 0.5 to 0.8 mm in size. The sand-sized non-plastic components comprise 20% of the paste and contain abundant discrete early-Eocene to early Oligocene foraminifera *(Acarinina spp.* and *Subbotina spp* foraminifera are identified).[10] Serpentine fragments, altered to a dark reddish-brown during firing, are accompanied by clinopyroxene, mica, and less commonly, chert, radiolarian chert, chalk siltstone, fine igneous rock (possibly dolerite), calcite fragments and feldspar grains (Fig. 9). Elongated voids, likely left by decomposed straw, are prominent in the Jerusalem pithos A sample. The composition of these pithoi suggests that the raw material originated from a geological setting distinct from the studied sites and from Israel as a whole. The composition indicates that the material was likely sourced from an area adjacent to both ophiolite units and sedimentary basins. Ophiolites, representing oceanic crust thrust onto continental crust, often include a thin upper layer of oceanic sediment (such as oceanic clay and radiolarian chert) overlying pillow lava, which is itself overlaid on a sheeted dolerite complex. Ophiolite units are found in several Mediterranean regions, including northwestern Syria, Türkiye, Cyprus and Greece in the eastern Mediterranean, and Albania, Italy, Corsica and Spain

[8] The excavations (permit Nos. A-7684, A-8349, A-9110) were directed by Saʻar Ganor and Rachel Bar-Nathan, and the pottery was studied by Itamar Taxel.

[9] For more details on the method of petrographic sampling, see, e.g., Whitbread, 1995; Vaughan, 1999; Quinn, 2022.

[10] The foraminifera were identified by Lidia Grossowicz and Irit Gefen (Geological Survey of Israel).

in the central and western Mediterranean. The combination of Paleogene calcareous and ophiolite derived rocks typically indicates areas where sedimentary rocks are exposed alongside ophiolites. These sedimentary sequences usually overlie the ophiolites and are consequently found in close proximity to them. Examples include regions such as Ras al-Basit in Syria and the circum-Troodos or Kyrenia ranges in Cyprus, where the Paleogene Lefkara Formation, known for its marl suitable for ceramic production, is exposed. These are just a few examples among other possible cases (Constantinou, 1995; Gass et al., 1994: Map Sheet 2; Kahler, 1994; Pantazis, 1978: Map).

Group B

Three pithoi belong to this group (one of the Ashqelon basilica pithoi [above, Fig. 8: 3] and the two Caesarea pithoi). These pithoi are characterized by ferruginous matrix rich in fine calcareous fragments. The sand-sized non-plastic components comprise 20% of the paste and contain shale fragments, poorly preserved early-Eocene to early-Oligocene foraminifera such as *Acarinina spp.*, coarse rounded chalk fragments and coarse quartz grains of up to. 1.5 mm. Less common are basalt fragments, radiolarian chert and serpentine (Fig. 10). The composition indicates that, similar to Group A, the material for Group B was sourced from an area near both ophiolite units and sedimentary basins. Though the pithoi of Group B exhibit slight compositional differences from Group A, including the addition of quartz grains, they too were likely imported from a distant source.

Group C

This group is represented by the other pithos from the Ashqelon basilica (above, Fig. 8: 4). This pithos is characterized by ferruginous, micaceous matrix (Fig. 11). The sand-sized non-plastic components comprise ~10% of the paste and include coarse (≤2 mm) decomposed calcareous rocks and siltstone fragments. Mica laths are common in igneous and metamorphic rocks and are occasionally found as small flakes in sedimentary rocks. The potential origins of vessels with a micaceous matrix are varied, and in the absence of additional evidence, it is not possible to pinpoint a specific source. Nonetheless, it can be affirmed that the pithos was not locally produced in Israel.

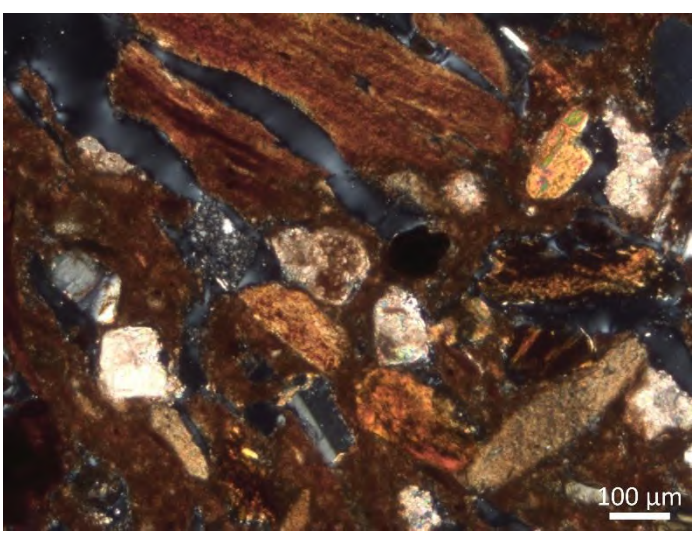

Figure 9. Photomicrograph of the Jerusalem pithos A (Group A): argillaceous shales, serpentinized rock fragments, foraminifer and chert (?) embedded in ferruginous matrix. xpl.

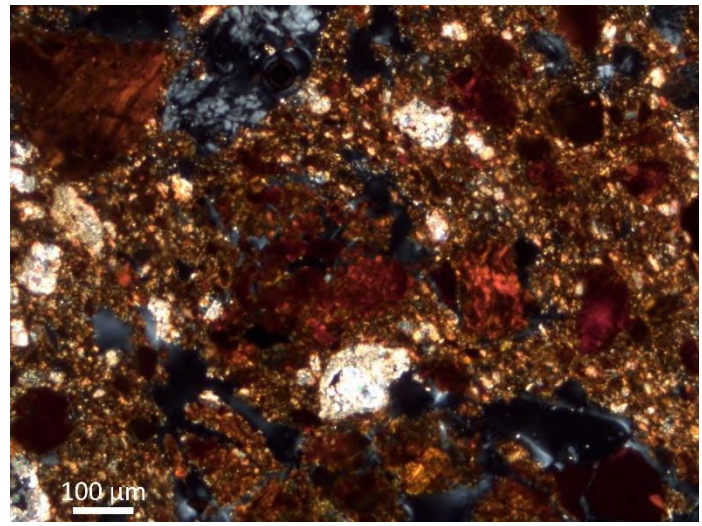

Figure 10. Photomicrograph of one of the Caesarea pithoi (Fig. 8: 6; Group B): serpentinized rock fragments embedded in matrix. xpl.

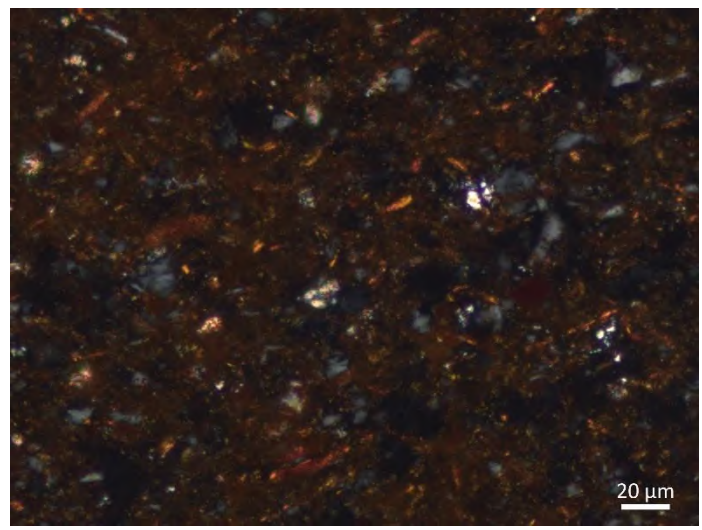

Figure 11. Photomicrograph of one of the Ashqelon basilica pithoi (Fig. 8: 4; Group C): micaceous matrix. xpl.

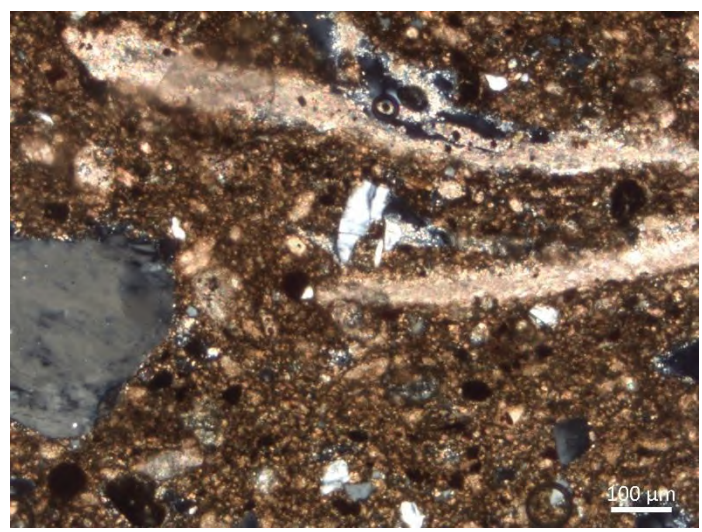

Figure 12. Photomicrograph of the Jerusalem pithos B (Group D): mollusk shell fragments and quartz grains embedded in matrix. xpl.

Group D

Two pithoi belong to this group (the Jerusalem pithos B and the pithos from Ḥorbat Tittora). This group is characterized by ferruginous matrix rich in fine silt-sized calcareous components. The sand-sized non-plastic components comprise 15% of the paste and contain abundant mollusk shell fragments with some ferruginous infilling. Rounded coarse (≤600µm) quartz grains and dolostone appear in fewer numbers and, on occasion, feldspar or heavy minerals (Fig. 12). This group is possibly derived from the Moza Formation. The Moza Formation is widely exposed across the Judea and Samaria Hill country (Sneh et al., 1998; Sneh and Avni, 2011) and was used extensively in antiquity for pottery production (e.g., Goren, Finkelstein and Na'aman, 2004). The abundant mollusk fragments presumably originated from the Moza Formation or the overlying fossiliferous Aminadav Formation (Arkin, Braun and Starinsky, 1965; Sass and Oppenheim, 1965; Scarpa, 1990; Braun and Hirsch, 1994). The quartz grains may have derived from the coastal dunes and were intentionally mixed within the clay. These two pithoi were possibly produced at a site within the Judea or Samaria Hills or in their immediate vicinity.

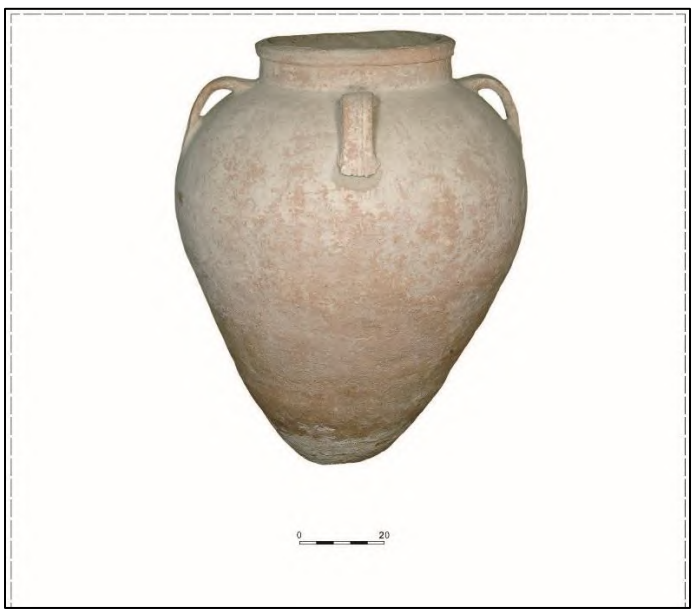

Figure 13. Tiberias: one of the Fatimid metal hoard pithoi (courtesy IAA and Oren Gutfeld [Hebrew University of Jerusalem]).

Figure 14. A 19th-century local handmade geometrically painted pithos at Nabi 'Uzeir/Tomb of Eleazar in the village of 'Awarta, Samaria Hills (after Wilson, 1884: image on p. 4).

2. Discussion

Equivalents and Chronology

As can be seen, the discussed pithoi belong to four or five morphologically discerned types (the Ashqelon basilica pithoi may represent variants of the same type) and divide into four petrographic groups which fit the typological seriation. The Jerusalem A, Khirbat Mulabbis and Ashqelon Barzilay Hospital pithoi, which represent the seemingly largest pithos type, have several published and unpublished parallels (all are represented by rim-neck fragments) from excavated sites in Israel. A pithos found at Ṣuba (in the Judean Hills), the site of the crusader castle of Belmont, is described as made of pink fabric with reddish-yellow surfaces, a gray core and inclusions of sand, grog and black grits. It was found in a British Mandate-period context located within the Crusader fortress (Grey, 2000: 90, fig. 6.2: 44) and is most probably of a Crusader-period date given the site's history; a pithos found in a Crusader-period context at the harbor town of Acre/'Akko is made of a yellowish-brown fabric with gray core, much sand, some limestone inclusions, some voids and mica (Stern, 2012: 48-49, fig. 4.25: 4, Type VL.PL.2). According to Stern (2012: 49), a molasses jar from Acre whose fabric is similar to that of the discussed pithos was petrographically examined and found to have originated in northern Israel, though the origin of the pithos itself remains unknown, albeit still considered to be local. A pithos found in a Crusader-period context at the harbor town of Jaffa is made of a coarse reddish-brown fabric that contains numerous tiny to medium-sized white inclusions, some mica and numerous tiny to large voids. Some of the latter are narrow and elongated, like regular chopped straw voids, but most of the voids are rounded, as if they had originally contained grain fragments.[11]

Interestingly, although the petrographic analysis indicates that these pithoi (petrographic Group A) originated from a distant ophiolite environment source, no secure parallels to similar pithoi have been identified by us in publications of Early Islamic and medieval pottery from northwestern Syria, Türkiye, Cyprus or Greece, which seem to be better candidates as the pithoi source regions than western Mediterranean regions given the characteristics of the country's economic contacts in Fatimid and Crusader times (see below). A pithos with a somewhat reminiscent rim-neck profile was published from a 13th-14th-century context at Marqab, slightly east of the Syrian coast (Shaddoud, 2014: 42-43, pl. 14: 1). It is made of a fine and hard brick-red fabric with black core

[11] The Jaffa pithos was found in excavations directed by Alexander Fantalkin on behalf of Tel Aviv University in 2000 and 2001 and the Roman to Islamic pottery was studied by Itamar Taxel.

and white and black inclusions, and according to Shaddoud it was probably produced in Massyaf, ca. 37 km inland east of Marqab. Yet, the rim of this pithos has no broad external fold as in the pithoi found in Israel, but a deep groove that divides the rim and the neck.

Given these data, it seems that the discussed pithos type was common mainly in the 12th and perhaps 13th century, though the complete, in situ example from Jerusalem suggests that it had appeared already in the 11th century. As to the volume of the Jerusalem A pithos (and apparently also that of Khirbat Mulabbis pithos, given its virtually identical dimensions) – nearly 0.6 m^3, it is similar to that of a more or less contemporaneous pithos unearthed in Athens (ca. 0.64 m^3; Vroom and Boswinkel, 2016: 105, 107, Table 3).

The Ashqelon Basilica and Caesarea pithoi (ascribed to petrographic Groups B and C) are dated to the 11th to early/mid-12th century, but they have no clear parallels among materials published from local sites as well as from their associated regions of origin (from a distant ophiolite environment source).[12]

The Jerusalem B and Ḥorbat Tittora pithoi, which may represent local production from the Moza Formation (petrographic Group D), have a possible parallel – in the form of a rim-neck fragment – from an Ayyubid- and Mamluk-period (late 12th to early 16th-century) context at Ṣuba, which is made of a white fabric with buff surfaces (Grey, 2000: 90, fig. 6.2: 43). If this jar indeed belongs to the same type as the Jerusalem B and Ḥorbat Tittora pithoi, it may be not later than the 12th century. It perhaps constitutes a residual in the context in which it was found. At any rate, the near-complete example from Ḥorbat Tittora indicates that this was a relatively small-sized pithos with a volume of less than 0.08 m^3, which although being considerably taller than that of the average contemporaneous regular (portable) storage jar, is still much lower than that of the Jerusalem A, Khirbat Mulabbis and other associated pithoi.

Figure 15 Palestinian peasant women making handmade zīr-type jars, ca. 1920-1933 (photo from the Matson Collection, Library of Congress, Prints & Photographs Division, LC-DIG-matpc-15632).

The Broader Cultural Context

As noted in the introduction to this study, the discussed Fatimid- and Crusader-period pithoi constitute yet another stage in millennia-old Levantine tradition of using pithos-type jars. In the centuries which preceded the time-period under discussion, namely from the time of the Muslim conquest until about the late 'Abbasid or early Fatimid period (i.e., from the 630s to the 10th century), a few locally produced, region-specific pithos types were in use, which sometimes reflect earlier, Byzantine-period ceramic traditions. These included the largest variant of the Jerusalem-region bag-shaped, double-handled and comb-decorated jar (ca. 0.6-0.7 m height, 0.5-0.6 m in diameter; Magness, 1993: 227-230, Form 6), whose distribution was mostly confined to the central hill country, the northern Negev and parts of the coastal region (e.g., Arnon, 2008: 39, 161-165, Type 921; Gadot and Taxel, 2016: 54, fig. 5.13: 2), and neckless, four-handled handmade jars (ca. 0.5-0.9 m height, 0.4-0.7 m in diameter) with combed, impressed and/or plastic decoration which were produced in northern Palestine and/or Transjordan and appear almost exclusively in the country's northern regions (e.g., Loffreda, 2008: 145; Stacey, 2004: 127, 129, fig. 5.36). Apparently, almost no imported pithoi are known from this time-period. The only possible exceptions are the latest specimens of a north Syrian and/or Cypriot handmade pithos type with a globular, neckless body (ca. 0.7-1 m height and diameter) and two handles, which was common mainly during the Byzantine period and perhaps continued until the late 7th or early 8th century (Reynolds, 2003: 544). However, it is unknown whether such pithoi which have been found in contexts dated to the beginning of the Early Islamic period represent contemporaneous imports or older, continuously used or reused vessels (for the potentially prolonged use-life of pithoi in the Mediterranean region and the Middle East in Roman and early modern times, see, e.g., François, 2016; Lancaster and Lancaster, 2010: 217-218; London, 2020: 48-49, 90, 177; Peña, 2007: 210-226).

In the 11th century, alongside the latest variants of local pithoi such as those that originated in the Jerusalem area and the country's northern regions, a few imported pithos types appeared, some continuing in use into the 12th (and perhaps 13th) century; namely, they bridged the political transition from Fatimid to Crusader/Frankish rule in the Levant. The case study pithoi that constitute the focus of this study and their close equivalents, which were described in detail above, are among the representative of this group. Other published contemporaneous pithoi from the region are rather scarce. The most prominent examples are three pithoi excavated in Tiberias (on the western shore of the Sea of Galilee) in a Fatimid-period dwelling where they were reused as containers for hoarding valuable bronze objects and coins (Hirschfeld and Gutfeld, 2008).

All three Tiberias pithoi are described as being made of a pale brown fabric with white and black inclusions and light yellowish-brown surfaces, though they differ in morphology. The first pithos has a flattened base, an oval body (ca. 1.08 m height, 0.88 m in diameter), four handles and a short, vertical neck with a thickened, outfolded rim (ca. 38 cm inner diameter) (Fig. 13). The second pithos has a pointed base, an oval body (ca. 0.8 m in diameter) decorated with incised zigzag incisions on the shoulder and two

[12] Noteworthy regarding the period and region under discussion are two yet unpublished identical pithoi (one complete and one fragmentary) that were found in the 11th-century Serçe Limanı shipwreck off the southern Turkish coast. Based on information and line drawing of the complete pithos kindly provided by Paul Reynolds (University of Barcelona), who is studying the pottery from the wreck, the pithoi are ca. 0.74 m high and 0.57 m in diameter and have a flattened base, an oval body with two handles, a slightly in-turned neck and a square-sectioned rim (ca. 0.27 m inner diameter) with pie-crust decoration on its lower face. The pithoi are made of a dense and granular black fabric, probably quartz-rich with a few gray (fossil shell?) inclusions. According to Reynolds, these fabric characteristics may indicate that the pithoi originated in northern Lebanon, perhaps in Tripoli. Unfortunately, none of the pithoi discussed in this study has a rim-neck profile similar to that of the Serçe Limanı pithoi, though the rim diameter of the latter is between the rim diameter of the Caesarea and Ashqelon basilica pithoi, which suggests that these vessels were more or less of the same size as the Serçe Limanı examples.

double-strand handles. Its neck/rim was purposely detached in order to enlarge its opening; hence, its preserved height is ca. 1.06 m.[13] The third pithos is much smaller than the first two; it has a flattened base, an oval body (ca. 0.55 m height, 0.48 m in diameter) decorated on its middle part with wavy incisions, two handles and a very short neck with a thickened rim (ca. 0.15 m inner diameter) (Vincenz, 2008: 160, 163, pl. 4.40). The morphology of the first pithos is generally reminiscent of the Jerusalem A and Khirbat Mulabbis pithoi (and their fragmentary counterparts, such as the Ashqelon Barzilay Hospital pithos), although the Tiberias pithos is more than 0.2 m shorter and has a different rim-neck profile. The third (smallest) Tiberias pithos can be generally paralleled to the Ḥorbat Tittora pithos (and its fragmentary, Jerusalem B equivalent), though here too the Tiberias vessel is smaller and has a different neck. The second Tiberias pithos is the most exceptional compared to the pithoi discussed here and seems to be rather endemic to northern Palestine and central and northern Transjordan. At any rate, the Tiberias pithoi were not petrographically analyzed; hence, their provenance, especially that of the first and third jars – whether local/regional or foreign – cannot be determined.

As noted above, pithos-type storage jars continued to be used in Palestine throughout medieval and post-medieval times in certain locations until the late 20th century. Regarding the latest documented locally produced examples from the 19th and 20th centuries, these pithoi were either handmade or wheel-made, handled or handleless and unglazed. They were used to hold water for drinking and other daily needs at indoor and outdoor contexts (Hirschfeld, 1995: 141-142; Figs. 14, 15), olive oil (Dalman, 1935: 251; al-Hroub 2015: 83, fig. 125) and likely other foodstuffs (such as pickled olives, dried fruits, etc.) at indoor, mainly domestic contexts (cf. the multifunctional use of equivalent *khars*-type jars in contemporaneous Oman; Lancaster and Lancaster, 2010).[14] These containers were supplemented by imported, internally-glazed, handleless jars which were produced at the village of Biot in southern France and shipped from Marseilles (François, 2013: 281-282, fig. 3: 3). In local contexts they were probably used primarily for olive oil storage, but on a rather low scale and mainly in urban settings, monasteries and a few villages (see Avitsur, 1994: 131, fig. 131, who noted that these jars were nicknamed in Arabic *ḥabiya fransawi* or *ḥabiya franji*, meaning "French barrel/jar").

Functional and Economic Aspects

The exact primary function of the Fatimid- and Crusader-period pithoi discussed in this study is unknown, including in the case of the two *in situ* examples of Jerusalem A and Ḥorbat Tittora. It can, however, be assumed, based on studies on earlier contemporaneous and later pithoi in the Mediterranean region and the Middle East, that the original designation of these pithoi was to hold water and other liquid and solid/dry foodstuffs. The thick-walled, stationary pithoi, which were often sunk into floors or embedded into walls with plaster – practices that can also be identified regarding some of the above-discussed pithoi – provided a dry, cool and protected environment for their contents (see Lancaster and Lancaster, 2010; London, 2020; Shaddoud, 2016; Vroom, 2020: 287-289; Vroom and Boswinkel, 2016: 107-108). Nevertheless, it is uncertain whether wine was also regularly stored in pithoi in Fatimid- and Crusader-period Palestine, as was contemporaneously common, for instance, in (predominantly Christian) Byzantium and Cyprus. Still, the pithoi found in presumably Crusader-period Frankish contexts, such as those from Khirbat Mulabbis and Ḥorbat Tittora, may have contained wine at a certain stage of their usage. Nevertheless, it should be remembered that wooden barrels, introduced to the Levant and the Eastern Mediterranean by the Crusaders, probably gradually replaced pithoi as the most common type of large, stationary or semi-stationary wine storage container, at least in contexts associated with the Frankish population (Bronstein, Yehuda and Stern, 2020: 69-70).

Most of the case study pithoi discussed above – seven out of nine (Jerusalem A, Khirbat Mulabbis, Ashqelon Barzilay Hospital, Tel Ashqelon and Caesarea) – are of foreign origin, most likely from the northeastern Mediterranean, with the remaining two (Jerusalem B and Ḥorbat Tittora) being probably of local (Judean hill country?) production. Although this ratio should be treated with caution, as no comprehensive typological and petrographic study of Fatimid- and Crusader-period pithoi across the country has been made, the relative quantity and diversity of imported pithoi is rather telling. Namely, the requirement of local urban and rural populations for pithoi of various dimensions was fulfilled not only by the products of Palestinian (or Transjordanian) potters, but also – and perhaps even mainly – by (higher quality?) pithoi which were produced in regions further afield in the northeastern Mediterranean.

The imported pithoi were most probably transported to Palestine by sea, apparently as new vessels designated for sale in (harbor town?) markets or as special orders made by individuals or institutions.[15] Although the petrographic analysis of the pithoi included in this study was unable to pinpoint the regions of manufacture of the imported pithoi, the findings point to potential origins in Greece, Türkiye, Cyprus or northwestern Syria (regions further to the west seem less plausible). Additionally, the apparent lack of published parallels for similar pithoi from these regions makes it difficult to place them within a more specific geographic context. Historical testimonies and archaeological finds indicate that the Fatimids maintained constant commercial contacts – notably during the 11th century – not only with Muslim-ruled territories in the Levant and North Africa but also with the Byzantine mainland and islands and with Italy (see Wickham, 2023; Vroom, 2022). Of course, following the establishment of the Crusader states of the Levant from ca. 1100 CE onwards the entire northeastern Mediterranean came under Christian control, which resulted in the intensification of (mainly maritime) trade throughout the region (Stern, 2012: 139-159; Wickham, 2023). Consequently, the imported pithoi under discussion could equally have arrived – both in Fatimid and Crusader times – from regions ruled either by Muslims or Christians.

It should however be emphasized that the overall number of archaeologically documented pithoi in Fatimid- and Crusader-period Palestine is rather modest, with usually no more than two or three specimens retrieved in a given excavation of contemporaneous context and more often with no representation of such vessels at all. Following Athanasios Vionis' (2012: 204) discussion on pithoi in the Middle and Late Byzantine Cyclades, the local relative scarcity of pithoi has two main explanations. The first is the potentially high production (and transportation) cost of these containers, which made them – specifically the largest and/or imported ones – affordable to a relatively limited number of relatively well-to-do households or individuals (cf. Sanders, 2016:

[13] It is possible that this pithos was neckless, with a broad, flattened rim.

[14] In the Ottoman period, at least in the 18th-century Red Sea region, pithoi were also used as merchandise containers on merchant ships (see Raban, 1972-1975a; Sharma, 2003: 44-45, figs. 5-8)

[15] It therefore seems less likely that these pithoi arrived in Palestine as used vessels, e.g. as water containers on ships, also because both Byzantine (or otherwise Western) and Muslim ships of the discussed time-period used amphorae, skins and barrels for their onboard water supply (Pryor, 1988: 81-83).

10-11, 16, table 1, for the example of medieval to early modern Greece). The second explanation for the rarity of pithoi relates to the very justification of the use of such large containers, since many, if not most households were characterized by a direct and seasonal consumption of foodstuffs and the quantities of their surplus agricultural products did not require pithos-sized storage containers. Thus, the requirements of most rural and urban households, in Greece and the Levant alike, regarding foodstuff storage could be fulfilled by regular-sized storage jars and various types of built or rock-cut storage installations.

The fate of pithoi after the termination of their primary use, which could have lasted for many years if not decades or more, depended on the context in which they were placed, on the needs of the people who used the pithoi, and on the history of their associated place of use. Namely, it seems that pithoi which were sunk into floors were rarely, if at all, removed after they ceased to function and were left in place even after the structure to which they belonged had been abandoned (see Vionis, 2012: 203; Vroom, 2020: 290-291; Vroom and Boswinkel, 2016). However, if a building was still active, such sunken pithoi could be reused for hoarding valuables or as (provisional?) refuse receptacles. On the other hand, freestanding pithoi could be removed to another place, be it a refuse dump or a new activity area, and be reused in a more or less complete state – sometimes after repairing or strengthening – or after being broken or detached, e.g. in order to be reused as ovens/hearths, vessel stands, etc.

3. Conclusion

This study focuses on a class of ceramic vessels – pithoi – that has thus far been little studied regarding the Islamic- and medieval-period southern Levant. Nine complete and fragmentary pithoi from Fatimid- and Crusader-period contexts in five excavated coastal and inland sites in Israel were examined, including by petrographic analysis. The results show that most of these pithoi, represented by three or four types, were imported from locations elsewhere in the northeastern Mediterranean, while another pithos type is probably of local production. These pithoi, notably the imported ones, seemingly have few to no published equivalents, including in their potential regions of origin. The chronology of these vessels indicates that at least two of the types (the one represented by the Jerusalem A, Khirbat Mulabbis and Ashqelon Barzilay Hospital pithoi, and the one represented by the Jerusalem B and Ḥorbat Tittora pithoi) apparently appeared in the 11th century and continued into the 12th or 13th century, namely in local chronological terms they bridge the (late?) Fatimid and Crusader periods. In other words, these specific pithos types demonstrate the continuity of economic systems of production, and in the case of the first type also of international trade, regardless of geopolitical regime changes in Palestine and other regions (cf. Jacoby, 2007: 169, 190). The discussed pithoi functioned in domestic contexts for the sake of foodstuff storage, and were sometimes reused for other purposes following their retirement from prime use. It is our hope that this study will assist scholars working in the Levant and other Mediterranean regions to identify and date similar, and different, Islamic- and medieval-period pithoi, and that it will contribute to a better comprehension of pithoi with respect to the material culture, daily life and economic structures of contemporaneous Mediterranean and Near Eastern societies.

Résumé - Pithoi de période fatimide et croisée en Palestine : Nouveau Aperçus sur leur typo-chronologie, production, techniques et provenance : Cet article examine les grands récipients de stockage en céramique connus sous le nom de pithoi, utilisés aux périodes islamique et médiévale au Levant Sud. Il se concentre sur les pithoi provenant de cinq sites de fouilles datés de la période fatimide et du début période croisée (XIe-XIIe siècles). La recherche analyse les aspects morphologiques, technologiques et contextuels caractéristiques de ces navires, évalue leurs origines par analyse pétrographique et discute de leur typologie, pratiques d'utilisation et de réutilisation d'un point de vue économique.
Mots-clés: *périodes fatimide et croisée, Palestine, pithoi, typo-chronologie, techniques de production, pétrographique analyse, provenance, fonction.*

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LIST OF FIGURES

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Seal Impressions of 'Prophylactic' Symbolism on Pithoi from the Fortress of Boukelon Near Adrianopolis

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Abstract
The subject of this study are two seal impressions on fragments of pithoi (fig. 1). The artefacts have an irregular, slightly concave shape. The authentic edges are missing. The outer surface of the fragments is pinkish brown after firing, while their inner surface is light gray; they are made of evenly fired sandy clay containing many small pebbles. There is a relief decoration on the outer surface, immediately below the mouth rim, featuring a wide horizontal strip with uniform punctures, probably imitating a rope. Below the strip, two impressions of a circular relief shape were stamped with a seal before firing. A plastic equal-armed (Greek) cross with expanding edges and one relief bud in the inter-arms is impressed in the centre of the field. The composition is inscribed in a round frame of plastically arranged trapezoidal motifs, imitating rays (?). The impressions are partially preserved – one lacks part of the frame, while about half of the second has survived. Dimensions: 16x12.5x4 cm; 16.8x13.9x4 cm. Restored dimensions of the seal: 6.00 x 6.00 cm.
Keywords: *Boukelon fortress, Late Antiquity, Early Byzantine period, pithoi, western Black Sea coast, early Christian symbolism, 'radiant cross', prophylactic stamps and inscriptions*

1. Introduction

The fragments were discovered in 2022 during the planned archaeological excavations of the *Boukelon* fortress near the village of Matochina, Svilengrad region, Southeastern Bulgaria[1]. The fortification is located on a high, steep-sided plateau (fig. 2), the latter being situated between the south-eastern slopes of the Sakar Mountain and more precisely between the Dervent Heights and the valley of the Tundzha River (ancient name *Tonsus*). The flat area of the plateau has approximate dimensions of 150 m in length and 65 m in width.

In the 3rd–6th century period the fortress fell into the immediate hinterland of *Hadrianopolis* (present-day Edirne in Eastern Thrace, Türkiye) and together with the fortresses *Probaton* (present-day Sinanköy village, Türkiye) and *Skutarion* near the village of Shtit, Svilengrad region, Southeastern Bulgaria, were part of the protected zone of the capital of the province of *Haemimontus*. The fortress is off the *Via Diagonalis* road, but falls along the route of the meridional road already mentioned in the *Itinerarium Antonini Aaugusti*[2], which connected the provinces of *Moesia Inferior* (later *Moesia Secunda*) and *Haemimontus* in the Diocese of Thracia with the city of *Byzantion* (later the imperial capital of Constantinople), and during the Middle Ages – the Bulgarian State and the Byzantine Empire (fig. 3) (Wendel, 2005: 191–193, Karte 13 f; Tapkova-Zaimova, 1958: 66–67; Tapkova-Zaimova, 1979: 167–168; Ayanov, 1946: 96–97, Fig. 38; Beševliev, 1971: 125–129; Gagova, 1983: 89–100; Gagova, 2002: 105–107; Dintchev, 2018: 36–37, fig. 1–2; Spiesler, 1992 : 27, fig. 2).

The brothers Karel and Hermann Škorpil (Bratya Shkorpilovi, 1888: 75–76) and Konstantin Jireček (Irechek, 1974: 659) were the first to identify the fortification with the name of the fortress, inscribed on a column – *Βουκέλ[ου]* (Beshevliev 1979: 146, Cat. No. 28). The column itself, today housed in the Regional Museum of History in Shumen, Northeastern Bulgaria, evidences the conquest of the fortress in 813 by the Bulgarian ruler Khan Krum (803–814). Historical sources testify that in the 9th and in the 15th centuries Boukelon was the seat of a bishop.

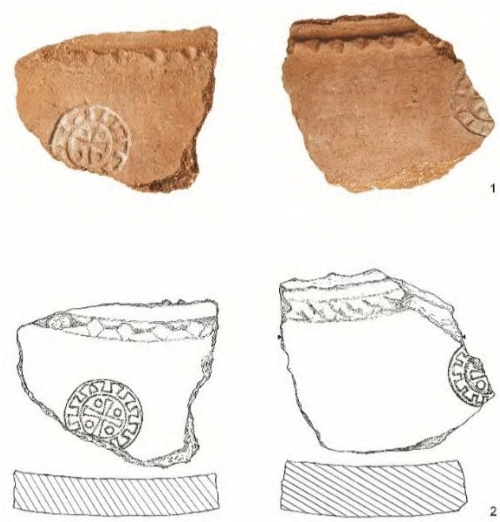

Figure 1 Stamps on pithos fragments from the excavations at the Boukelon fortress, Southeast Bulgaria (Photo: T. Dimitrov, NMH; Drawing: S. Todorov).

[1] Field specimen number 648. They are now kept in the National Museum of History, Sofia, under inventory no. НИМ 67794 in Boukelon collection.

[2] *Itinerarium Antonini Augusti* (Cuntz), 175, 1–5 (Cuntz, 1929: 23; Tapkova-Zaimova, Velkov, 1958: 30).

Figure 2 The plateau with the remains of the Boukelon fortress near the village of Matochina, Svilengrad region, Southeast Bulgaria (Photo: S. Aleksandrova, M. Inkova).

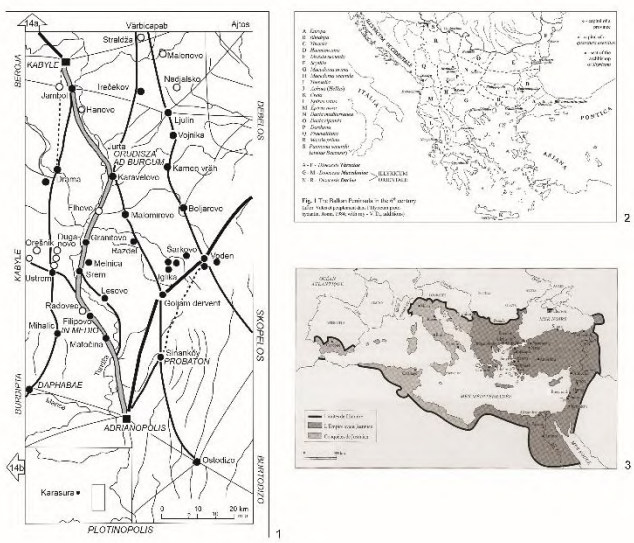

Figure 3 Maps showing the location of the Boukelon fortress (1. after Wendel, 2005: Karte 13 f; 2. after Dinchev, 2021: 37, Fig. 2; 3. after Spiesler, 1992: 27, fig. 2).

From the *Notitiae Episcopatuum Ecclesiae Constantinopolitanae* it is known that in the 10th–12th centuries, the diocese of Boukelon belonged to the metropolis in Adrianople (Darrouzès 1989: 209–237). The *town of Voukelon* is mentioned several times in the *Historia* of John Kantakouzenus on the occasion of the Bulgarian-Byzantine relations and the participation of the Bulgarian Tsar *Mikhail* III Shishman (1323–1330) in the civil war between Andronicus III Palaeologus and Andronicus II Palaeologus in 1324 and 1328.[3] (Gagova, 2002: 67; Voeva, 2015: 607–621). The same chronicler mentions *Voukelon* again in 1344 as the temporary seat of the governor of Adrianople, Manuel Apokaukos.

It is assumed that after Adrianople was conquered, the fortresses of Boukelon and Probaton fell under Ottoman rule in the late 60s or early 70s of 14th century. During the Ottoman period, the settlement was renamed *Fikle* and included in the Ottoman military-administrative system (Dimitrov 2020: 305–306). Under this name it is recorded in the first studied Ottoman register from 1485 as the centre of an eponymous *nahiye*; it belonged to the endowment (*waqf*) of Sultan Mehmed II's *imaret* in Istanbul. In 1519, a change in the status of the settlement took place – this time the registers mention it only as the village of Fikle. In 1530–1570, it belonged to the *kaza* of Edirne. Ottoman registers note an increase in the number of both Muslim and Christian families, which is explained by the *waqf* tax reliefs. An interesting fact is that the heads of some of the Muslim households are recorded as 'sons of Abdullah', i.e. Christians who converted to Islam. One of the last written mentions is a note in the diaries of Sultan Mehmed IV (1648–1687) from 1664, saying that he spent time hunting in the Fikle area (Voeva, 2015: 607–621).

Figure 4 Floor level of a room of a building (dated to the 6th c.) adjacent to the late antique fortress wall, where the pithos fragments were discovered in 2022 (Photo: M. Inkova).

It seems that the fortress of Boukelon has remained out of the sight of the Bulgarian medieval archaeology for many years as a monument belonging to the cultural heritage of the Byzantine Empire. The studies of the site were limited to fieldwork (Bratya Shkorpilovi, 1888: 75–76; Irechek, 1974: 659; Velkov, 1933: 185–187; Boyadzhiev, 1965: 2–8; Boyadzhiev, 2005: 91–103; Aladzhov, 1997: 153–155, Table LXXIII, Fig. 51; Aladzhov, 2001: 107–111; Voeva, 2015: 607–621). Regular archaeological excavations were undertaken as late as 2017. Within 5 years, the stratigraphy of the cultural layers was established (Inkova, Antonov, 2018: 503–506; Inkova, Antonov, Sengalevich, Yordanova, 2019: 529–531; Inkova, Antonov, Velkovski, Tzankov, 2021:189-217; Inkova, Antonov, Sengalevich, Ruseva, 2020; Inkova, Antonov, Sengalevich, Ruseva

[3] Ioannis Cantacuzeni, *Historia*, II, 3 (Jonćev, 1980: 259–262).

(in print). The earliest traces of life date back to the Early Iron Age, Hellenistic and Roman periods. The fortress wall was probably built in the 4th–5th centuries and repaired in the 6th century. Clay-bound repairs carried out in the Middle Ages have also been recorded. When the cultural contexts in two test trenches were exhausted, two late antique buildings were uncovered. The one, whose construction we attribute to the 4th–5th centuries, was built in the *opus mixtum* technique. Immediately below their floor levels, in the levelling layer above the bedrock, fragmented Late Roman kitchen and red-slipped ware from the 3rd–4th centuries prevailed, as well as burnt coins from the second half of the 3rd century. The numismatic material indicates almost uninterrupted habitation of the terrain from the Hellenistic to the Ottoman period. The importance of the fortress during the Middle Ages is also confirmed by several *molybdobullae* from the 11th–13th centuries, including an anonymous seal, probably belonging to Avrampaks, a person of Seljuk origin, who converted to Christianity and at the end of the 13th century was appointed to Byzantine service as the chief falconer of the Byzantine emperor (Yordanov, Inkova, 2020: 253–271).

Figure 5 Images of crosses decorated with dots on bread stamps (prosphorai): 1. Horbat Ma'on, Palestine; 2. Chersonesus, Crimea; 3. Kerch Peninsula, Crimea; 4. Eski-Kermen, Crimea; 5. Aluston, Crimea (1. after Di Segni, 2014: 32, fig. 1; 2.–5. after Mayko, 2021: 25, fig. 1:7, 10, 13; 26, fig. 2:15).

The fragments commented on here were discovered in 2022 in the fill of one of the rooms of a building adjacent to the late antique fortress wall (fig. 4). In the course of digging, two floor levels were identified, which we attributed as broadly ranging from the 4th to the 6th century (Inkova, Antonov, Sengalevich, Ruseva (in print).

The same provenience of the artefacts, the identical composition of the clay with a lot of coarse sand admixtures, the same thickness of the walls, the characteristic of the colour indicating the same firing conditions, the identical horizontal relief line applied below the mouth rim on both fragments, suggest that both of them belonged most likely to the same pithos. It can be assumed that the seals were applied at equal distances from each other.

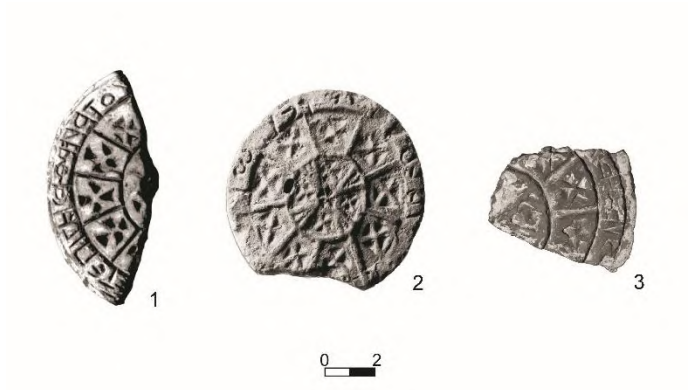

Figure 6 Bread stamps with frames with relief trapezoidal ornaments: 1.–2. Chersonesus, Crimea; 3. Belinskoye, Crimea (1.–3. after Mayko, 2021: 25, fig. 1:9, 12; 26, fig. 2:1).

2. Discussion

The iconography of the design in the central field – an equal-armed cross with dots, one between each of the arms of the cross – was widespread since Late Antiquity and throughout the Middle Ages. We find it in a variety of alternative forms on stone sculpture: a 5th–6th century relief from Corinth (Scranton, 1957: 104–105, Pl. XIX, 11; Pl. XX, 6), a relief from Athens from the 12th century (Grabar, 1976: Pl LXXX, d), on tableware from the 5th–6th centuries (Hristov, 2024: 246, Fig. IV.5, Fig 33:4), on amulets, bread stamps (Mayko, 2021: 19), etc. It is mostly inscribed in a circle. A bread stamp from Horbat Ma'on, Palestine, bearing the Greek inscription +*ECVTEFAN (E[ύλογία] Σπεφάν[ου])*, translated as '*Blessing of (Saint?) Stephen*', depicts a cross on one side, framed by two rows of dots in the space between its arms (fig. 5: 1a–1b). The interpretation is in the spirit of Jewish-Christian theology concerning the supernatural light sparkling around the cross (Di Segni, 2014: 31–32, Fig. 1). The dots may represent '*Christ, as the greatest of the seven archangels, surrounded by the six companion archangels*', as is told in Isaiah's prophecy[4]. According to other researchers, the dots on such liturgical objects are an abbreviated formula, schematic representation of IC XC NI KA or of the apocalyptic letters A and Ω. Sometimes, four smaller crosses inscribed in circles are depicted between the arms. A similar composition is known on four prosphora seals from the ancient city of Chersonesus on the Crimean Peninsula (fig. 5:2), and from Kerch Peninsula, Crimea (fig. 5:3), dated to the 6th century, as well as from the towns of Eski-Kermen (fig. 5:4) and Aluston (fig. 5:5) in the south of Crimea, dated to the 10th century (Mayko, 2021: 19, 20, 24, 25, 26, 30, Fig. 1: 7, 10, 13, Fig 2: 15; Galavaris, 1970: 67). According to V. Zaleskaya, they

[4] Isa. 11:1–2.

symbolize the Christian blessing *χριστὸς χριστιανοῖς χαριζεταιχάχαριν*, translated as *Christ bestows grace on Christians* (Zaleskaya, 1988: 206, Note 12). However, in other images, such as in mosaics, fruits (pomegranates) are depicted between the lower arms of the cross and flowers or birds between the upper ones. The common symbolism, according to early Christian interpretations, is the idea of the rebirth of nature, fertility, resurrection and salvation. Most likely, it is this iconography and meaning that generated the schematic image, executed on a limited space.

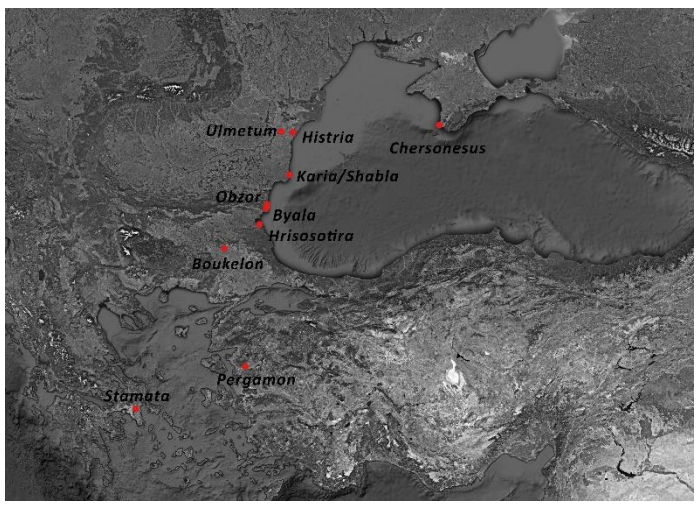

Figure 7 Some of the sites commented in the present article, where pithoi from the 5th–7th c. with stamped and incised decoration and inscriptions with Cristian symbolism were found. From the ancient city of Chersonesus only bread stamps are commented, while from Ulmetum in Northern Dobrudzha region in Romania we point to a lid for a hydria vessel (Map: P. Antonov via Google Earth)

Figure 81. Stamps from Boukelon fortress; 2.–3. Stamps on fragments from a pithos from the Hrisosotira fortress; 4. Floor mosaics from the church in Shavei Tzion, Northern Israel (2.–3. after Hristov, 2024: 242, fig. IV.5.28–IV.5.29; 4. after Belyaev, 2015). No scale.

The composition features a very interesting combination – a round frame with plastic trapezoidal motifs inscribed. The starting point for the interpretation could be the early Christian *prosphorai*, on which a text, most often of a soteriological or blessing meaning is inscribed along the frame. That is, the design of the commented seal stamps from Boukelon represents an imitation of a prototype with a text. This interpretation is possible, but is not sufficiently substantiated. Although of a later dating, three *prosphorai* are worth noting – from Chersonesus, of unknown origin (fig. 6:1), from the reservoir in Chersonesus (fig. 6:2) and from the settlement of Belinskoye, Crimea, dated within the broad range from the 8th to the 9th/10th centuries (fig. 6:3). Here the frame around the central medallion with the cross is divided into identical trapezoidal segments with inscribed crosses. Regarding one of the *prosphorai* from Chersonesus V. Zaleskaya suggests that '*the sectors with crosses could symbolize the twelve apostles*', while the liturgical text around them on one of the seals suggests influence from the Monophysite Church of the East (Mayko, 2021: 23, 25, 26, Fig. 1: 9, 12; Fig. 2: 1; Zaleskaya, 1988: 204–207).

Figure 9 Pithoi with circular stamps from late antique and early byzantine fortresses on the western Black Sea coast in present day Bulgaria: 1. Byala, Varna region; 2. Shabla, Dobrich region (1. after Yotov, Minchev, 2018: 462, fig. A, 2; 2. after Bobcheva, 1974: 69, Cat. No 69). No scale.

The closest parallel to the iconography of the artefacts, and subsequently to the symbolism embedded in it, is found in several seal impressions on fragments of a pithos originating from the late antique and early medieval fortress of *Hrisosotira* (modern Bulgarian town of Chernomorets) on the Western Black Sea coast (fig. 7) (Hristov, 2024: 197, Fig. IV.2.151, 310–311, 242, Fig. IV.5.28–5.29). The impressions are round, featuring relief crosses with expanding arm ends in the central field and triangular motifs in the space between the arms, with a round frame filled with triangular motifs, the only difference being that their vertices point towards the periphery (fig. 8:2–3). Below the mouth, the pithos has an identical decoration of a horizontal relief line, probably imitating a rope. The preserved fragments allow us to reconstruct their place on the pithos – probably they were stamped in the two parallel belts girdling the shoulders of the vessel. They come from Building No. 28, whose habitation is defined by both the discovered coins of the Emperors Justin II (565–574) and Phocas (602–610) and the synchronous household ceramics. The same composition is found on a representative Christian monument dated a century earlier – the floor mosaic from the church in *Shavei Tzion* in northern Israel, dated to the 5th century. It represents a Latin cross with expanded arm ends, inscribed in rows of circles of triangular motifs as a radiant glow, and with pomegranates and flowers depicted in the space between the arms (fig. 8:4) (Belyaev, 2015: 540–558). The first written evidence of such a radiance is found in the work *Vita Constantini* by Eusebius, bishop of Caesarea, from the first half of the 4th century. The historian describes Emperor Constantine's vision – '*up in the sky and resting over the sun, a cross-shaped trophy formed from light, and a text attached to it which said, 'By this conquer'*[5], with the help of which he achieved his victory over Maxentius in 312 in Italy (Belyaev, 2015: 540–558; Popov, 2014: 671–729). The canonical source provides the basis for the widespread distribution of the motif in the early Christian environment – on elite monuments, but also in everyday environment. According to G. Galavaris, the second belt suggests the idea of a wreath reflecting the glow of the radiant cross (Galavaris, 1970: 67). During the early Christian period, the motif of the 'radiant/glowing cross' had different iconographic variaties.

As an illustration of the most common variant, we can point to the mosaic images from Thessaloniki: from the *tribelon* of the Church of Panagia *Acheiropoietos* ('*Not Made by Hands'*) from the second half of the 5th century, the scene with the Theotokos ('*Mother of God'*) and St. Theodore from the church of St. Demetrius dated to the mid-7th century and from the *bema* of the church of St. Sophia, representing a cross with radial rays between the arms. Another variant, close to the motif discussed in the article, are the ornaments on the *chlamys* of St. Sergius from the church of St. Demetrius in Thessaloniki, featuring a radiant cross inscribed in a circle, around which there are quadrangular forms, reminiscent of the ends of the rays. The genesis of the motif should probably be deduced from the syncretic radiant images symbolising the sun god Helios from the formation period of the early Christian iconography. A typical example is one of the mosaic scenes from the Rotunda in Thessaloniki (Bakirtzis, Kourkoutidou-Nikolaidou, Mavropoulou-Tsioumi, 2012: 116, Fig. 73, 163, Fig. 42, 164–165, Fig. 43, 45, 212–213, Fig. 19–22, 249, Fig. 16). In our commentary on the genesis and spread of the motif defined as 'cross inscribed in alternating circular (radial (?) medallions of triangular and trapezoidal motifs', we should point out the relief decoration on a lid of a pithos, again from the early Byzantine fortress of Hrisosotira.

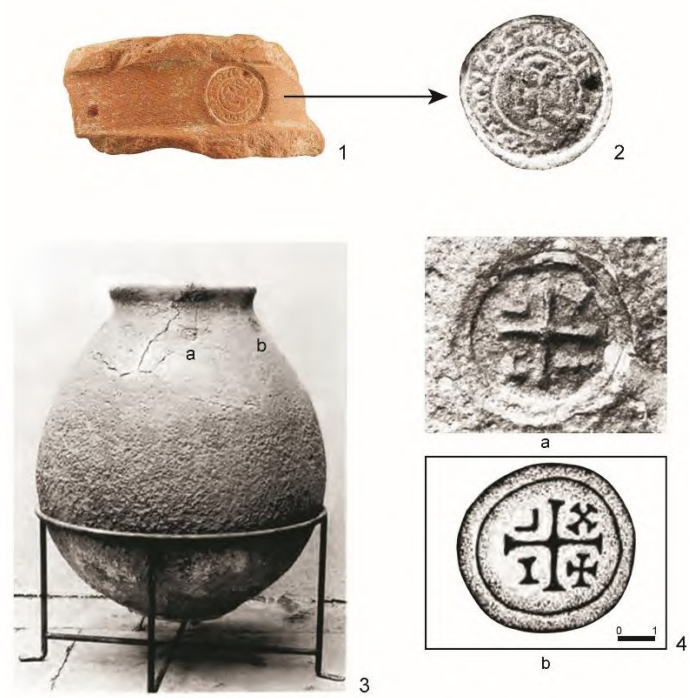

Figure 10. 1.–2. Stamp on the neck of a pithos from the early Cristian Basilica at Stamata, Attica region, Greece; 3.–4. Pithos with stamps from the same site (1.–2. after Ghini-Tsofopoulou, 2002: 352, Cat. No 407; 3.–4. after Ghini-Tsofopoulou, 1995: 73, fig. 3, Pl. 32, δ). No scale.

The pithos is fragmented therefore we are not quite sure about the central image, but from the centre to the periphery it is decorated with two rows of triangular and trapezoidal/quadrilateral patterns (Hristov, 2024: 243, Fig. IV.5.30). Lids with similar decoration are also known from other early Byzantine sites. The examples cited illustrate the widespread distribution of a religious idea in the 5th–6th centuries, both in the elite sacral culture and its transformation through combination of geometric shapes in the mass everyday culture. Judging by the numismatic material, the fragments of the pithoi from Hrisosotira date to the second half of the 6th–7th century. Actually because of their size and method of production (choice of raw materials, need for kilns for firing and the final stages of the technological process such as glazing, burnishing, transportation), pithoi were an impressive investment for their owners (Françoise, 2014: 168). Produced only to order, they were a long-term investment, sometimes being used over centuries. Therefore, we can assume that they were possibly produced earlier. As to the fragments from Boukelon, the stratigraphy, as well as the absence so far of stationary structures and numismatic material allowing to date them to the 7th century, we can assume the 6th century as the upper boundary of their production time.

In addition to the commented fragments, pithoi from today's Bulgarian lands decorated and stamped with seals are known from the early Byzantine fortresses near the modern towns of Byala and Shabla on the west Black Sea coast (fig. 7). The fragment from Byala was found in the two-story building No. 2, which according to V. Yotov can be associated with wine production. A great number of the excavated buildings are determined as having been part of an *ergasterium*, which functioned from the 6th to the beginning of the 7th century, when it was burned down during one of the Avar raids

[5] Eusebius, bishop of Caesarea, *Vita Constantini*, I, 28 (Cameron, Hall, 1999: 80–81).

in 614 (Yotov, 2013: 426–439; Yotov, Minchev, Valeriev, Rusev, Dryanovski, Parushev, 2021: 22–23, 162). The stamped impressions have a round shape, filled with radially arranged relief arcs (fig. 9:1) (Yotov, Minchev, 2018: 461–462, Fig. A,2.; Yotov, Minchev, Valeriev, Rusev, Dryanovski, Parushev, 2021: 22–23, 162). The ornament is typical of the early Byzantine ornamental system, found on stone sculpture from the same period. The seals are applied onto the shoulders, seemingly at an equal distance from each other. On the shoulders of the second pithos, discovered next to the lighthouse near the town of Shabla (northern part of the Western Black Sea coast), round seals were stamped at equal distances (fig. 9:2) (Bobcheva, 1974: 69, 128, Cat. No. 69). We have no specific information about the context and dating of the pithos. Considering the fragments of amphorae found nearby, we date it to the 5th–6th centuries. According to the archaeological research carried out in recent years, the site falls within the area of the Roman and early Byzantine fortress of Karia, evidencing traces of life from the 5th century BC to the 6th century AD (Totev, Dobrev, Varbanov, 2020: 782–784). In this regard, we will also mention one of the pithoi from Pergamon, Türkiye, housed in the city museum. Round impressions bearing a relief image of rosettes are stamped onto its shoulders, in a horizontal line and at a relatively equal distance from each other (Lafli, Buora, 2024: 25–26, Fig. 2a–b).

Figure 11 Crafting wine in pithoi: 1.–2. Mosaics on the ambulatory vault of the Mausoleum of Augusta Constantina/ Church of Santa Costanza, Rome, mid-4th c.; 3. Mosaics from the ancient city of Patras, 3rd c. (1.–2. after Web Gallery of Art, accessed May 18 2024, https://www.wga.hu/support/viewer_m/z.html; 3. after Gantsev, 2022: 159, fig. 4:3).

The third example is a stamped neck of a pithos. The impression has a circular shape, with a relief Latin cross of forked ends set in the centre and under an arch supported by columns. The frame around the motif bears an inscription in Greek '*The blessing of the Lord [be] upon us*' (fig. 10:1–2) (Ghini-Tsofopoulou, 1995: 71–73, Pl. 32 α–β; Ghini-Tsofopoulou, 2002: 352, Cat. No. 407). The impression has identical dimensions to the one from Boukelon – 6 cm in diameter. It was found in a room of economic functions in the early Christian Basilica in Stamata, Attica. H. Ghini-Tsofopoulou dates it to the 6th–7th centuries, noting that two bread seals are identical to it, one kept in the Byzantine Museum in Athens, and the second being of unknown origin. Two other fully preserved pithoi, one of which has six circular seal impressions stamped around the shoulders, come from the same context. In the centre is a relief cross, with the letters *I*, *X*, *A* (?) and a cross between its arms (fig. 10:3–4) (Ghini-Tsofopoulou, 1995: 73, Fig. 3, Pl. 32, δ).

Figure 12. 1.–2. Incised inscription on a pithos from building No 7 from the early byzantine fortress near the town of Byala, Bulgaria; 3.–4. Incised inscription on a pithos from building No 2 from the same site (1.–4. after Yotov, Minchev, 2018: 463, fig. A, 1–2). No scale.

Book VI of the *Geoponika* agricultural encyclopaedia, compiled in the first half of the 10th century, based on earlier treatises, including the treatise by Cassianus Bassus from the 5th or 6th century, describes in detail the technology of producing pithoi intended for storing and fermenting wine (fig. 11:1–3): the selection of proper raw material, the mixing of different clays, the shaping of the body, drying, firing in suitable kilns, coating with pine resin while the vessels are still warm and burnishing the surface. Recommendations are given for the appropriate place for their installation in the cellars, according to the orientation of the room, etc.[6], but there is no information about stamping[7]. The production technique of these large storage vessels is extremely conservative, preserved until the 19th centuries[8]. Ethnographic data from the territory of Cyprus, however, testify that the practice of chiselling and stamping with crosses, writing apotropaic inscriptions for protecting the food stored in the pithoi, is alive (Françoise, 2014: 167). The situation is identical on the island of Chios, one of the Greek centres of the 18th and 19th centuries, known for the production of pithoi. According to the research of Nikos Liaros, the roots of the tradition of their production, stamping and decorating should be sought in the previous centuries. An interesting example is the pithoi with three seals, stamped next to each other, interpreted by the researcher in the spirit of Orthodox religiosity as a symbol of the Holy Trinity (Liaros, 2016: 69). In his opinion, wooden seals specially made for the purpose were used for the stamping.

The inscription on the Stamata seal hints at the function and

[6] A mosaic from Patras, dated to the 3rd century, illustrates the pouring of the primary juice from crushed grapes into pithoi (Gantsev, 2022: 147, 159, рис. 4:3). The mosaic from the Mausoleum of Augusta Constantine in Rome represents the of wine-making process in the mid-4th century: accessed May 7 2024, https://www.wga.hu/support/viewer_m/z.html.

[7] *Geoponika*, VI, 1–19 (Lipshits, 1960: 124–133; Dalby, 2011: 135–144).

[8] On the different techniques for making pithoi, types of decoration, drying, firing, etc. see the book M. Giannopoulou (Giannopoulou, 2010).

symbolism of seals with a cross stamped on the pithos. Even in the early stages of the spread of Christianity, in his homily *On the Cross and the Thief* John Chrysostom postulated the widespread distribution of the cross as a symbol of salvation and a '*trophy' [of victory] against the demons*' (Беляев, 2015: 540–558). The cross is included in the decoration of the temple space, placed most often around the pilasters, '*entrances and exits*', on church plate and on objects of everyday life – '*on the walls of houses, in cities, villages, in abandoned and populated areas*', on building ceramics, vessels and others, emphasizing the rescuing and apotropaic function of the symbols (Belyaev, 2015: 540–558). Commenting on the great popularity and apotropaic meaning of the cross sign in the 5th and 6th centuries Beatrice Caseau draws attention to another important point: the visibility of the cross, as opposed to the amulets with magic spells, which remain hidden (Caseau, 2012: 128). That is, for the mentioned early period in the spread of Christianity, the very representation of the cross also had religious-propaganda and didactic functions, including the crosses depicted on the open, visible part of the pithos, namely on its shoulders, the mouth rim and less often on the neck. We also find the Christian rhetoric about the power of the cross included in one of the catechisms of Cyril of Jerusalem, which is especially relevant for this particular case: '*Be the Cross our seal made with boldness by our fingers on our brow, and on everything; over the bread we eat, and the cups we drink…*'[9] (Belyaev, 2015: 540–558). Several graffiti with divine blessing on storage vessels clearly define the use of the cross sign in this context. On the already commented pithos from the *ergasterium* in the town of Byala a cross was shaped before firing the vessel, flanked by grapes (?), followed by a text in Greek *Κυριε βοηθι*, translated as '*Lord help*' (fig. 12:1–2) (Yotov, Minchev, 2018: 461–462, Fig. A,2.; Yotov, Minchev, Valeriev, Rusev, Dryanovski, Parushev, 2021: 22–23, 162). The same invocation is present on another pithos from Byala, however, scratched after firing and without a cross (fig. 12:3–4) (Yotov, Minchev, 2018: 461–462, Fig. A,1; Yotov, Minchev, Valeriev, Rusev, Dryanovski, Parushev, 2021: 21–22). The extent to which this is a stereotypical practice is confirmed by the rich repertoire of crosses and birds in round medallions, incised by a sure hand on a pithos, discovered in the area of the present-day town of Obzor (fig. 13), again on the Bulgarian Western Black Sea coast[10]. Many examples dated to the 5th–6th centuries and coming from the area of Northern Dobrudzha in modern Romania can also be cited on this point. Pithos bearing graffiti with a cross sign or with a chrism and the letter *H* (Christ), as well as a lid for a pithos with the chrism and the formula *Κυριε βοηθι* have been discovered in the ancient city of *Histria* (fig. 14) (Popescu, 1976: 158–159, no. 126–128; Opait, 2004: 2–3). On a *hydria* lid from *Ulmetum* (present-day village of Pantelimon, Constanţa District) a cross is depicted, accompanied by the apocalyptic letters *A* and *Ω* (Popescu, 1976: 230, no. 219). The examples given imply the apotropaic functions of the cross[11], inlaid or stamped on the pithoi, respectively in relation to the products stored in them – cereals or wine. This tradition is inextricably linked to the production of pithoi from the late periods. Crosses are the most common symbol not only on the pithoi from the island of Chios, but also on their lids. It is worth noting that most, for functional reasons, have an opening in the middle. Almost always cross signs are stamped or incised around the opening, which, according to N. Liaros, are expected to protect the stored produce from '*evil spirits sneaking into the basements of houses*' (Liaros, 2016: 62, 65, 69). Chapter 14 of Book VII of *Geoponika*, however, also points to its other, '*practical',* function. The advice to winemakers is the following: '*An efficacious inscription, that wine may not turn … The wine cannot turn [sour] if you write on the vessel or the pithoi these pious words: 'Taste and you will see that the Lord is good.'*[12] That is, in the minds of the believers the blessing, respectively the cross sign, also has a '*prophylactic'* function in relation to the stored produce.

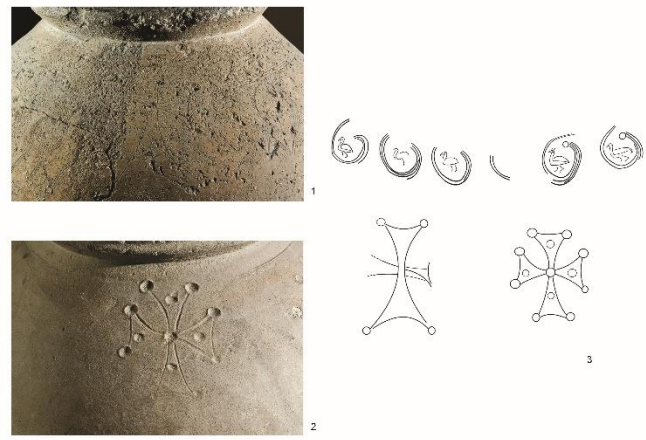

Figure 13. 1.–3. Pithos with incised decoration with crosses and medallions with birds from the early byzantine fortress near the town of Obzor, Bulgaria (Photo and drawing: V. Yotov). No scale.

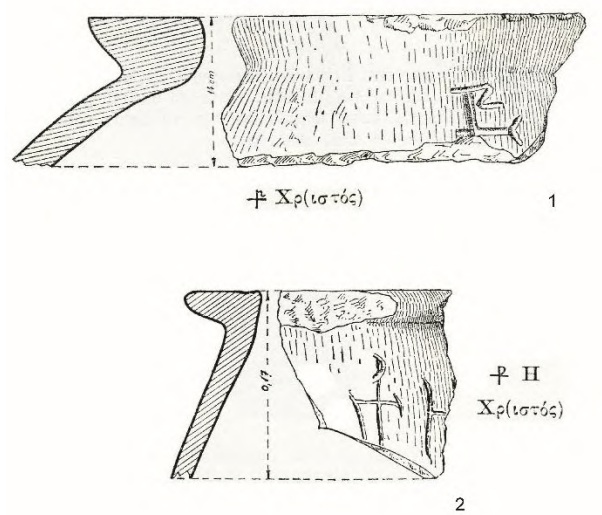

Figure 14. 1.–2. Fragments of pithoi from the ancient city of Histria, North Dobrudzha region, Romania, with incised Christian symbols and inscriptions dated to the 4th–7th c. (after Popescu, 1976: 158, no. 126–127). No scale.

We will also draw attention to another important point related to the production of the seals themselves. H. Ghini-Tsofopoulou mentions two prosphora seal stamps of identical iconography on the neck of a pithos from Stamata. The presence of identical seal impressions on various objects of identical iconography, namely storage vessels and liturgical objects of the Christian cult, suggests

[9] Cyril, archbishop of Jerusalem, *Catechetical Lectures*, XIII, 36 (Gifford, 1894: 92).
[10] We express our gratitude for the information shared by my colleague Valeri Yotov.
[11] For more on the theology of the cross, see Walters, 1997: 213–214.
[12] *Geoponika*, VII, 14 (Lipshits, 1960: 140; Dalby, 2011: 153).

the existence of centralised production, probably at some church centre that handled a certain repertoire of standardised symbols. G. Galavaris also comes to a similar conclusion based on artefacts bearing identical seal impressions, found, however, in different places (Galavaris, 1970: 81).

The author emphasizes one of the functions of the seals – as evidence of the origin, quality or authenticity of the stored foods. They are also a means of control over production or trade by church figures (Grünbart, Lochner-Metaxas, 2004: 177–189). We will note that seal impressions with crosses are known on amphorae from the same period as well. D. Pieri, P. Petridis and E. Parshina also suggest their origin from a production centre associated with a church institution (Pieri, 2007: 612, 619, Fig. 3:1; Petridis, 2012: 88–89; Parshina, Soznik, 2012: 19–20). However, can this be applied to the production of pithoi? Several premises from different periods have been studied near the Early Christian Basilica in Stamata, some of which had economic functions, storing food products, but there is no information about pottery production (Ghini-Tsofopoulou, 1995: 71–75, Σχέδ. 2). The architectural centre in the fortress on Cape St. Athanasius near the town of Byala comprises an Early Christian Basilica, a priest's residence, baptismal font, a holy spring (*aghiasma*), and nearby – *ergasteria*, three wineries, a kiln for ceramic vessels, a public bath, etc. (Yotov, 2013: 426–439; Yotov, Minchev, Valeriev, Rusev, Dryanovski, Parushev, 2021: 92–164). Can it be assumed that for the needs of wine production, the vessels necessary for storing the finished product were also made nearby? At this stage, however, we have no evidence for such a hypothesis. Ivan Hristov, the researcher of the Hrisosotira fortress, suggests that in the eastern part of the peninsula there existed most likely a large monastery complex, of which only the pavement leading to it has been uncovered. It is worth mentioning that the Hrisosotira Peninsula is also known under the name of 'The Monastery', a toponym that is rarely misleading. This information should also include the numerous intact and fragmented pithoi discovered during the excavations of the late antique fortified settlement (Hristov, 2024: 302–303, 317, Fig. VI.25– VI.26, VI.27–VI.29, 317). At this stage of the research, information on the 5th–6th century life and livelihood of the inhabitants in the Boukelon fortress is very scanty[13]. The similar iconography and the rather identical principle of combining the individual motifs of the two seals from Boukelon and Hrisosotira – a Greek cross, inscribed in a frame of geometric motifs, probably an allusion to 'radiant glow', indicate a stylistic similarity. It can be assumed that the two stamping tools were made in different church centres, working with a similar repertoire of Christian symbols. Traceological observations on the relief of the seal impressions indicate that the stamping tools were in negative. Although stamping was carried out before drying and firing of the pithoi, some pressure was required onto the still soft wall of the vessel, due to its thickness, to render the ornament clear. This suggests that the stamping tools were most likely wooden or metal.

Despite the proposed hypotheses, we hope that the two artefacts from Boukelon will expand the empirical base of stamped impressions on pithoi and will in the future suggest answers to the many questions related to their production, transportation, to the livelihood of the population, but also to the believers' mental imagery during Late Antiquity and the early Middle Ages.

[13] Winemaking in the area of the ancient Boukelon is evidenced by a discovered large fragment of a *sharaptash* (a stone chute for draining grape juice), now kept in the Information centre in the village of Matochina.

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FIGURE CAPTIONS&PHOTO CREDITS

Fig. 1. Stamps on pithos fragments from the excavations at the Boukelon fortress, Southeast Bulgaria (Photo: T. Dimitrov, NMH; Drawing: S. Todorov).
Fig. 2. The plateau with the remains of the Boukelon fortress near the village of Matochina, Svilengrad region, Southeast Bulgaria (Photo: S. Aleksandrova, M. Inkova).
Fig. 3. Maps showing the location of the Boukelon fortress (1. after Wendel, 2005: Karte 13 f; 2. after Dinchev, 2021: 37, Fig. 2; 3. after Spiesler, 1992: 27, fig. 2).
Fig. 4. Floor level of a room of a building (dated to the 6th c.) adjacent to the late antique fortress wall, where the pithos fragments were discovered in 2022 (Photo: M. Inkova).
Fig. 5. Images of crosses decorated with dots on bread stamps (prosphorai): 1. Horbat Ma'on, Palestine; 2. Chersonesus, Crimea; 3. Kerch Peninsula, Crimea; 4. Eski-Kermen, Crimea; 5. Aluston, Crimea (1. after Di Segni, 2014: 32, fig. 1; 2.–5. after Mayko, 2021: 25, fig. 1:7, 10, 13; 26, fig. 2:15).
Fig. 6. Bread stamps with frames with relief trapezoidal ornaments: 1.–2. Chersonesus, Crimea; 3. Belinskoye, Crimea (1.–3. after Mayko, 2021: 25, fig. 1:9, 12; 26, fig. 2:1).
Fig. 7. Some of the sites commented in the present article, where pithoi from the 5th–7th c. with stamped and incised decoration and inscriptions with Cristian symbolism were found. From the ancient city of Chersonesus only bread stamps are commented, while from Ulmetum in Northern Dobrudzha

region in Romania we point to a lid for a hydria vessel (Map: P. Antonov via Google Earth).

Fig. 8. 1. Stamps from Boukelon fortress; 2.–3. Stamps on fragments from a pithos from the Hrisosotira fortress; 4. Floor mosaics from the church in Shavei Tzion, Northern Israel (2.–3. after Hristov, 2024: 242, fig. IV.5.28–IV.5.29; 4. after Belyaev, 2015). No scale.

Fig. 9. Pithoi with circular stamps from late antique and early byzantine fortresses on the western Black Sea coast in present day Bulgaria: 1. Byala, Varna region; 2. Shabla, Dobrich region (1. after Yotov, Minchev, 2018: 462, fig. A, 2; 2. after Bobcheva, 1974: 69, Cat. No 69). No scale.

Fig. 10. 1.–2. Stamp on the neck of a pithos from the early Cristian Basilica at Stamata, Attica region, Greece; 3.–4. Pithos with stamps from the same site (1.–2. after Ghini-Tsofopoulou, 2002: 352, Cat. No 407; 3.–4. after Ghini-Tsofopoulou, 1995: 73, fig. 3, Pl. 32, δ). No scale.

Fig. 11. Crafting wine in pithoi: 1.–2. Mosaics on the ambulatory vault of the Mausoleum of Augusta Constantina/ Church of Santa Costanza, Rome, mid-4th c.; 3. Mosaics from the ancient city of Patras, 3rd c. (1.–2. after Web Gallery of Art, accessed May 18 2024, https://www.wga.hu/support/viewer_m/z.html; 3. after Gantsev, 2022: 159, fig. 4:3).

Fig. 12. 1.–2. Incised inscription on a pithos from building No 7 from the early byzantine fortress near the town of Byala, Bulgaria; 3.–4. Incised inscription on a pithos from building No 2 from the same site (1.–4. after Yotov, Minchev, 2018: 463, fig. A, 1–2). No scale.

Fig. 13. 1.–3. Pithos with incised decoration with crosses and medallions with birds from the early byzantine fortress near the town of Obzor, Bulgaria (Photo and drawing: V. Yotov). No scale.

Fig. 14. 1.–2. Fragments of pithoi from the ancient city of Histria, North Dobrudzha region, Romania, with incised Christian symbols and inscriptions dated to the 4th–7th c. (after Popescu, 1976: 158, no. 126–127). No scale.

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Action achieves more than words