

Mapping Metal Rich Roman Cyprus The Case for Object-Centred Approaches

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Abstract: This paper makes the case for developing ongoing research on Roman Cyprus's metal profile by integrating object-centred approaches. It does so by focusing on the British Museum's Cypriot collection as it contains a significant number of metal artefacts. The paper opens with a brief overview of key ancient evidence and the impact of recent, multidisciplinary approaches before introducing the collection and the data assembled for this case study. Assessment of this body of evidence highlights the benefits of undertaking systematic study of metalware related to Cyprus. A museological approach that focuses on the materiality of objects will also demonstrate how lines of enquiry can be developed to enhance current investigations of mining, metallurgy, and metal consumption across the island as well as shed further light on the role and cultural value of metals. This has huge implications for the study of Roman Cyprus and the wider Roman Mediterranean.

Keywords: metals, mining, metallurgy, material culture, Roman period Cyprus, British Museum

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Understanding of the role of metals in their social, cultural, and economic contextual dynamics, both local and regional, particularly the relationship between the production and consumption of metals and the articulation of cultural identity, is evolving. Over recent decades there has been a rise in sustained, multidisciplinary investigations of sites across Cyprus and these have advanced understanding of the island's mining history and identity considerably. For example, radiocarbon dating of wooden supports at Skouriotissa (notable as the last operating copper mine on the island) confirms that this mining hub was active from the ninth century BC. Recent systematic study of its ancient slag heaps

¹ Kassianidou, Agapiou, Manning 2021: 986–987 presents an overview of key works and trends in scholarly focus.

² Kassianidou, Agapiou, Manning 2021: 991.

using this application has also demonstrated that the most intense mining activity took place during the late Roman and early Byzantine periods (i.e. fourth–seventh centuries AD).³ Mining at this site during the first century BC (sometime between 73–26 BC) also appears to have been profound.⁴ While a powerful indication of ancient Cyprus's industrial landscape, modern exploitation of copper has significantly damaged evidence relating to ancient mining processes and so it remains challenging to build a complete picture within this context.⁵ For this reason, multidisciplinary scientific and non-scientific approaches must be embraced to continue discussion, even if it is not always possible to reach firm conclusions. To demonstrate how current understanding of Roman Cyprus's metal profile can be significantly enhanced through the study of museum collections, this piece will:

- direct the reader to the key literary references concerning the primacy of copper as a source in Roman Cyprus;
- identify significant, ongoing lines of enquiry about mining, metallurgy and metal usage during this period;
- explore ways to complement and develop current studies that are driven by multidisciplinary exploration of the landscape.

Analysis of the collection of Cypriot artefacts held by the British Museum will serve as a case study. The methodology underpinning the research using the museum's catalogue has been limited by restrictions brought about because of COVID-19 (understandably the research had to be conducted remotely and was reliant on the museum's online catalogue) and so conclusions drawn are far from definitive. Instead, observations made should be considered as a starting point to renew conversation around Roman Cyprus's status and identity in relation to the extraction, production, and use of metals. Ultimately, this paper aims to highlight that analysis of metal artefacts held in museum collections will open new and enrich existing dialogues on social, economic, cultural, and political trends and behaviours across periods and sites. Doing so presents further opportunities to explore new approaches to investigations of the island's metal profile that will lead to more nuanced interpretation of mining, metallurgy, and metal usage. It will also encourage broader discussion concerning the ways in which evidence relating to Roman Cyprus can contribute to wider investigation of metals and their significance in the Roman Empire.⁶

³ Kassianidou, Agapiou, Manning 2021: 997. Note also: Socratous, Kassianidou, Pasquale 2015 for further insight into the contribution that study of slag heaps has made to the picture of ancient Cyprus's industrial landscape.

⁴ Kassianidou, Agapiou, Manning 2021: 999, 1002.

⁵ Kassianidou, Agapiou, Manning 2021: 987.

⁶ For example, Kurke 1999 on the 'language of metals'. See also: Crisà, Gkikaki, Rowan 2019, one of many recent outputs of the 'Token Communities in the Ancient Mediterranean' project.

EVIDENCE FOR MINING AND THE CULTURAL SIGNIFICANCE OF METALS IN ROMAN CYPRUS

Ancient Cyprus's identity as a copper producing powerhouse in the Eastern Mediterranean is undeniable and has long been commented on. Natural deposits of copper were discovered during the fourth millennium BC and archaeological surveys of the Troodos Ophiolite have established that communities developed competencies in mining and metal work by the Late Bronze Age - by which time the island was one of the region's main suppliers of the metal.⁷ It is no surprise that narratives about the island as a landscape synonymous with copper and metalwork emerged early on in the literary tradition and were widespread.⁸ It is widely accepted that the island's natural resources rendered it an attractive, profitable prospect and that by the time it was under Ptolemaic control it brought in considerable revenue. 9 According to some, this reality, combined with its advantageous position in the Eastern Mediterranean, the expansion of Roman territories in the region, and the failing thalassocracy of the Ptolemies, meant that Cyprus's annexation by Rome in 58 BC was inevitable. 10 Despite their clear importance and profitability, few references exist regarding the operation of the mines during the Roman period. The first significant piece of information concerns their organisation under the Emperor Augustus. Josephus, writing in the first century AD, recounts that the mines were once leased to Herod the Great by Augustus for three hundred talents in around 12 BC. 11 For overseeing their management Herod was able to keep half of the profits but it appears that following his death in 6 BC, the mines were controlled exclusively by Rome. ¹² Galen's first-hand account of his visit to the island in AD 166 provides the next source of information. He wrote that he was given a personal tour of the mines of Soloi by the procurator of the mines, a friend of his, and that he was able to collect samples for medicinal and experimental use. 13 The first point regarding the administration of the mines in this context is significant: the position of procurator of the mines was appointed by the Emperor distinguishing the mines as imperial

⁷ Kassianidou 2013: 36. For the geological profile of the island see in particular: Constantinou 2007; 2010; 2012. See also: Hussein 2021: 3–5.

⁸ For example, see: Knapp 2008 and Franklin 2016. The former explores the development of communities in prehistoric and protohistoric Cyprus of which the production and trade of metals plays a crucial role. Kassianidou, Knapp 2005 also sheds light on this matter. The latter explores the history and impact of the mythological priest-king Kinyras who was synonymous with the island and copper.

⁹ Hill 1940: 174–175; Mehl 1995a: 117; 1995b: 31; Cayla, Hermary 2003: 254. See also: Hussein 2021: 24–26. As noted above, see: Kassianidou, Agapiou, Manning 2021: 999, 1002.

¹⁰ For full analysis of the annexation and early administration of Cyprus by Rome, see: Calvelli 2020; Hussein 2021: 23–56.

 $^{^{\}rm II}$ Joseph., A.J. 16.4.5; Kassianidou 2000: 751–752; Hauben 2005. See also: IGRR III: 938 which has been interpreted as a monument set up to commemorate Herod.

¹² Kassianidou 2000: 752.

¹³ Gal., *Ant.* 2.1.2; Kassianidou 2000: 747–748, 752–753; Michaelides 2011: 94; Hirt 2010: 248. Another fragmentary monument from the environs of Soloi could refer to the activity of these mines during the second century AD. See: SEG XXX: 1658; Mitford 1980: 1327.

property and under specific management.¹⁴ On the second point, the uses of copper and its by-products for medicinal purposes, further insight can be gained from study of Pliny the Elder's *Natural History* which underscores the renown of Cypriot copper.¹⁵ Ultimately, Galen's observations offer an enduring glimpse of the working conditions. His description of slaves running naked through the mines thick with sulphur highlight the unfortunate and horrendous plight of those sent to work there and undertake the most dangerous tasks.¹⁶ During the fourth century AD, the introduction of the law *damnatio ad metalla* saw the punishment of criminals and martyrs to work in mines across the Roman Empire and according to Eusebius this was the fate of many Christian martyrs.¹⁷ Traditionally, it was thought that by the time of Galen's visit to Cyprus, the extraction of copper from the mines had dwindled, instead they were plundered for their salt reserves, and that by the fourth century mining has ceased altogether in Cyprus.¹⁸ Assessment of slag heaps and pottery finds in mining contexts across the island has enabled this to be contested as it is clear that mining operations continued at least until the twelfth century AD.¹⁹

More generally, literary texts from many genres acknowledge the cultural importance of copper to the island and highlight Cyprus's abundant resources that not only facilitated the production of metals but also trade and exchange. During the Roman period, the island was particularly praised for its ability to be self-sufficient because it produced timber and flax – materials crucial for metalworking (namely wood for fuel) and building ships for war and trade (both timber and flax for sails).²⁰ Although some accounts are now understood to be hyperbolic and more representative of the authors' world views and philosophical tendencies, the few, brief references to the island's geography and other natural reserves reflect Cyprus's paradoxical nature as an island. It was considered both isolated and self-sufficient, a landscape on the edge and not quite part of the Greek and Roman Mediterranean because of its location, but also able to maintain connectivity with other key landscapes through trade.²¹ The already mentioned challenges of reconstructing Cyprus's ancient mining landscape are compounded by the vagaries of ancient literary texts.

¹⁴ Key reading on the mines includes: Davies 1930; Bruce 1937; Hill 1940: 238; Mitford 1980: 1297–1298, 1327, 1347; Potter 2000: 802, 845–847. For the administration of mines in general during the Roman Empire see: Hirt 2010.

¹⁵ E.g. Plin., Nat. Hist. Book 34 in general, but also 34.2.2 and 34.32.126; Kassianidou 2000: 752.

¹⁶ Cf. Diod. Sic. 5.38.1 and Strab., *Geog.* 12.3.40 c.562 on working conditions of mines elsewhere that rendered slaves ill and unprofitable.

¹⁷ Euseb., *Palestinian Martyrs*; Hill 1940: 238; Kassianidou 2000: 753; Hirt 2010: 223–225, 333. See also: Gustafson 1994.

¹⁸ Kassianidou 2000: 753.

¹⁹ Kassianidou 2000: 753-754.

²⁰ E.g. see: Strab., *Geog.* 14.6.5 c.684 on the economic excellence of the island.

²¹ A summary of the key sources from the Roman period can be found in: Hussein 2021: 5–19. The sources in question include: Strab., *Geog.* 14.6.1 c.681–14.6.6 c.685; Amm. Marc. 14.8.14–15. See also: Kearns 2018 and Gordon 2018 for further insight.

INTERDISCIPLINARY INROADS: LANDSCAPE AND OBJECT-CENTRED APPROACHES

Vasiliki Kassianidou has been a leading voice in demonstrating the importance of continued systematic exploration of the island's ancient industrial landscape to develop understanding of its internal socio-economic dynamics as well as its regional impact.²² As hinted above, multidisciplinary studies have predominantly focused on prehistoric and protohistoric periods of Cyprus's history. Light has been shed on the extent of mining in the Roman period as well as technologies utilised to facilitate this. Furthermore, significant gains regarding the economic and social history of Roman Cyprus can be made from continued interdisciplinary collaboration. On a micro level this could concern the development and connectivity of specific key sites and on a macro level data from across the island has the potential to contribute to broader understanding of settlement patterns, the development of mining technologies, internal and external connectivity and so on.²³ At present, what is clear is that under Roman rule Cyprus produced copper on an industrial scale.²⁴ Specific details about key issues raised above (i.e. the location of workshops, the administration and operation of mines, and mining technologies within the Roman Cypriot context) is scant and very localised.²⁵

Studies that collate assemblages of artefacts according to site, object type, or museum collection complement the emerging picture of Roman Cyprus's metal profile. Diject-centred explorations of socio-cultural trends tell us something of social practice, values, and identity when focused on artefacts grouped by type. Similarly, when objects by site or museum are assembled and assessed new conclusions could be achieved about patterns of manufacture, use, and collecting and preservation. This is possible because of the ways in which studying artefacts in isolation or as part of an assemblage re-centres focus on the materiality of objects.

With this in mind, the importance of maintaining existing lines of enquiry and asking new questions to continue discussion is made clear. Some queries that arise from the survey, so far, of Roman Cyprus include: If the island continued to extract and smelt copper on an industrial scale during the Roman period, what was the copper used for and where did the metal and its by-products go? What technologies were developed and employed during the Roman period to facilitate this? What other materials, if any, were imported to facilitate the production and circulation of goods? What impact did the mining and production of metal objects have on the *poleis* and *chora* of the island? What other metals and materials featured in the island's history as a prolific producer of goods? Have other metals

²² Kassianidou 2000: 745.

²³ For example, see: Graham, Winther Jacobsen, Kassianidou 2006.

²⁴ Kassianidou 2004: 99; 2013: 43.

²⁵ For discussion of mining technologies in the Cypriot context during the Hellenistic and Roman periods, see: Kassianidou 2000: 747–749. For the organisation of the mines during the Roman period, see also: Kassianidou 2000: 751–753.

²⁶ E.g. Knapp, Kassianidou, Donnelly 2001; Kassianidou, Charalambous 2019a; 2019b.

²⁷ E.g. Michaelides 1984; 2011; Zachariou-Kaila 2009.

²⁸ E.g. Kassianidou 2018a; 2018b; Wacławik 2020.

or materials been overshadowed by the island's historic association with copper? If so, did a 'hierarchy of materials' exist? What can these alternative materials tell us of trade, connectivity, insularity, and cultural identity?

BUILDING UPON EXISTING OBJECT-LED APPROACHES: CYPRIOT ARTEFACTS IN THE BRITISH MUSEUM

To demonstrate the research potential of taking an object-centred approach, this section will focus on the collection of Cypriot artefacts held in the British Museum. Around 10,000 objects comprise the Cypriot collection but determining the exact number relating to Cyprus remains problematic: basic catalogue searches that focus on findspots and places of production include objects assumed to be from the island as well as those from elsewhere. Equally problematic is the reality that the online catalogue does not allow results over 10,000 to be downloaded as an Excel Spreadsheet. Using the keywords 'Roman Cyprus', the catalogue yields 9,406 results.²⁹ A number of erroneous or dubious entries required removal and so the total number of artefacts for this case study stands at 9,205.30 Of this data, 2,419 artefacts are made of, or contain traces of, metal. It is hardly surprising that such a significant proportion of the collection is comprised of objects made of or containing traces of gold, silver, and bronze. Equally predictable are the object groupings that rank highest in number. Earrings appear the most with 542 entries recorded, diadems 257 times, and finger rings are 151 in number. Many of the finds are from burial contexts, the hunting ground of some of the earliest investigations across the island. These factors account for the expected high numbers of dazzling artefacts such as jewellery as well as other smaller finds such as coins as artefacts made of metals were prestigious and sought after by amateur and early archaeologists. What does stand out is the range of objects that are traditionally less distinguished and less frequent in number, such as keys (3 pcs in number), locks (2 pcs), nails (16 pcs), fishhooks (2 pcs), and lamps/lamp stands (at least 27 pcs), as these reflect different aspects of daily life.

Organising this data coherently by date is difficult as many artefacts have been recorded as potentially belonging to different periods. A rudimentary search of the 2,419 artefacts using the term 'Roman' in the column entitled 'culture', highlights 333 entries.³¹ A breakdown of this data by object type and metals detected is presented in **Table 1**. Again, predictably, combinations of gold, silver, and bronze finds appear most frequently as well as familiar object types, such as coins and jewellery (specifically finger-rings and earrings).

²⁹ See the British Museum webpage (*BritishMuseum*).

³⁰ This data includes 201 entries that require removal, such as forgeries and objects that are not from the ancient world or from Cyprus. E.g. museum no.: 1935,0611.14 (a forgery); 1853,0307.630; 2016,5005.7; 2012,5001.330 (drawing/sketch book); 2013,3020.1 (a label); 1872,0620.23 (an arrowhead: 'Made in: Greece', 'Excavated/Findspot: Ialysus'). Objects cautiously assumed to have been produced or found in Cyprus have not been deleted. Though rudimentary in approach there is ample, varied data to work with to demonstrate the opportunities presented by taking an object-centred and museological approach.

³¹ This is inclusive of entries that are labelled as 'Hellenistic; Roman' or are suggestive of other time periods.

Table 1. Artefacts identified as belonging to the Roman period (in alphabetical order and using descriptors as recorded in the British Museum's database)

Artefact type	Gold	Silver	Bronze	Gold, silver and bronze	Gold and lead	Silver and bronze	Silver and copper	Bronze and iron	Bronze and lead	Iron	Lead	Copper alloy	Alloy	Total
Amulet; pendant	1													1
Artefact			1								1			2
Base			1											1
Bead	2	2												4
Boss									1					1
Box								1			1			2
Bracelet		1												1
Coin		20	1									27	39	87
Cosmetic applicator			3											3
Curse											37			37
Dagger										1				1
Diadem	2													2
Disk	2		2											4
Drinking-cup											1			1
Earring	44	1												45
Figure/figurine			5											5
Finger-ring	26	4	3	1										34
Fishhook			1											1
Handle			1											1
Jewellery	3													3
Key			2											2
Knife								1		2				3
Lamp; ladle			3											3
Lock										1				1
Mirror/mirror case			13			2								15

Artefact type	Gold	Silver	Bronze	Gold, silver and bronze	Gold and lead	Silver and bronze	Silver and copper	Bronze and iron	Bronze and lead	Iron	Lead	Copper alloy	Alloy	Total
Nail/handle			10							2				12
Necklace	4													4
Ornament	1													1
Pan			1											1
Pendant			6								1			7
Pin		1	1			1								3
Plate			2											2
Pot											1			1
Ring	1		2											3
Scroll; curse											2			2
Seal-box			1											1
Socket			1											1
Spatula			7											7
Spearhead			2											2
Spindle		1												1
Spoon		1					1							2
Statue/statuette			2											2
Strigil			3							6				9
Temple-key; model		1												1
Token											1			1
Tweezers			1											1
Vessel			2									3		5
Weight			2											2
Wreath	1				1									2
Total	87	32	79	1	1	3	1	2	1	12	45	30	39	333

The number of coins recorded (87 in total) is unremarkable as they are of low value (with the majority being of copper alloy) and were widely used internally and in some instances beyond the island.³² Likewise, that much of this collection is comprised of jewellery is to be expected as these were prestige items (44 of the 45 earrings are of gold as are 26 of the 34 finger-rings listed) often deposited as grave goods and discovered in funerary contexts. The 39 curse tablets of lead listed (a combination of curse tablets and scroll curse tablets) are noteworthy as they represent a social and cultural phenomenon specific to Amathus during the second to third centuries AD.³³ A number of these curse tablets, which are legal in nature, are also carved into selenite and also held by the British Museum.³⁴

General conclusions can also be drawn about the use of metals for certain object types. For example, gold, a metal of high aesthetic as well as intrinsic value, was used for the manufacture of jewellery.³⁵ Likewise lead is highly malleable and so an appropriate material for creating and depositing curse tablets as they could be incised, rolled up, and pierced with ease. Other metals such as silver and bronze, not only valued for their lustre, appearance, shine and intrinsic worth, are used accordingly – for example, for mirrors which could be polished to become reflective.³⁶ In comparison to the malleability of thin, delicate lead sheets, metals of hard-wearing compositions were used for everyday objects such as knives, keys, locks and nails.³⁷

A variety of metallurgical manufacturing techniques can also be noted within this collection as several artefacts have been cast, hammered, perforated, gilded, riveted, ribbed, granulated, lead-glazed, incised, moulded, silver-plated, polished, engraved, soldered, and twisted.³⁸ Observing the materiality of metal artefacts in this manner also has the potential to highlight the social importance of metals and metalware across Cyprus and the landscapes associated with it through evidence of common and specialised modes of production. We can turn to artefacts made of other materials within the Cypriot collection to explore the cultural significance and consumption of metals further, particularly discussions about the imitation of metals. For example, some pottery within this collection, dated to the Roman period, is recorded as containing various levels of mica – a mineral of varying colours that can create a shiny appearance.³⁹ Similarly, artefacts either wholly

³² RPC I: 576 summarises the history of the mints in Cyprus. Note: Plin., *Nat. Hist.* 34.2.4 on the use of locally extracted copper for the production of coins.

³³ In general, see: Hussein 2021: 36–38; Wilburn 2013.

³⁴ For example, included in the database (see footnote 29): museum no. 1891,0418.5. The remainder of the curse tablets from this site are held in The Bibliothèque nationale de France.

³⁵ Plin., *Nat. Hist.* 33.19.60–61 notes that gold is so valued because it does not tarnish like other metals.

³⁶ For example, the following mirrors, museum nos: 1881,0824.148 and 1881,0824.149.

³⁷ For example, a lock made of iron, museum no.: 1881,0824.178; a knife made of iron, museum no.: 1887,0801.71; and a key made of bronze, museum no.: 1894,1101.590.

³⁸ For example, included in the database (see footnote 29) the following: a gold amulet, museum no.: 1895,1025.4, hammered; a (part) silver bead, museum no.: 1966,1101.1, pierced and polished; a lead curse tablet, museum no.: 1891,0418.32, folded and pierced (incised?); a gold earring, museum no.: 1894,1101.317, twisted, granulated, soldered; a bronze mirror case, museum no.: 1896,0201.323, cast and polished.

³⁹ For an introduction to mica see: Aston, Harrell, Shaw 2000: 45.

or partly made of haematite, another stone notable for its metallic lustre (often a distinctive metallic grey-black colour), are listed.⁴⁰ Equally worthy of further consideration are the small number of artefacts noted for features thought to imitate metalworking. For instance, the shape of a pot dated to the first and second centuries AD is thought to have been derived from a metal prototype.⁴¹ This cursory overview of the materiality of the metalware and their associated artefacts should not be underestimated.

It is clear that further analysis of the data relating to Roman Cyprus requires careful organisation of the finds by site to allow for comparisons of social, cultural and economic behaviours across the island and beyond. This could also consider similarities and differences in trends and practices across different periods of the island's history. An object-centred study could involve assessment of manufacturing techniques, economic and cultural exchanges and links between internal and external settlements. Simple analysis of the 9,205 artefacts by find spot using the search terms 'Amathus', 'Kition', 'Kouklia', 'Kourion' and 'Salamis' (well-documented, multiperiod sites) yields the results presented in **Table 2** and highlights the potential to uncover the role of metals across the island. Immediately, Amathus stands out as only 50% of metal artefacts discovered within this context are dated to the Roman period. In comparison almost 100% of metal finds from the other locations listed are recorded as belonging to the same period. Why might this be? Examining the division of finds across these sites (and others) would be one useful way in which to determine any unique social and cultural behaviours within these contexts can be observed. Study of finds connected with comparable landscapes is also essential. For instance, data gathered from a preliminary search of artefacts from Syria within the British Museum's collection shows promise. 42 Similar study of this collection would highlight affinities and discrepancies between these landscapes within the same period.

It goes without saying that comparative investigations of Cypriot artefacts held in other museums and with other landscapes is also necessary to appreciate fully the role and materiality of metals. Though a significant undertaking this would help confirm local and regional trends concerning, say, the production, trade, and use of metals and metalware. It would also assist in the identification of anomalies or phenomena in consumption specific to the landscapes under review. Additionally, further investigation could ideally involve scientific analysis of metal artefacts produced and used in Cyprus to develop understanding of their manufacture and materiality. For example, the application of a range of techniques could help determine the alloys present in artefacts and from this it would be possible to identify the provenance of metals, manufacture and assembly techniques, and the products

⁴⁰ For an introduction to haematite see: Aston, Harrell, Shaw 2000: 38. For an example listed in the Cypriot collection see the British Museum's online catalogue (see footnote 29): a cylinder seal, museum no.: 1900,0521.1.

⁴¹ Museum no.: 1876,0909.49. This piece (Eastern Sigillata A. type series: Hayes Form 116) is thought to have been made in Syria or Cyprus. For the imitation of metalware more generally, see: Vickers, Gill 1994.

⁴² See the British Museum webpage (*BritishMuseum*) and search the catalogue using the key words: Roman Syria. This yields 2560 finds that can be downloaded as an Excel Spreadsheet.

Settlement	All finds (out of 9,205)	Artefacts made of / containing traces of metals					
	(out of 9,205)	All periods	Roman period				
Amathus	1233	276	124				
Kition	83	10	8				
Kouklia	106	3	3				
Kourion	645	23	23				
Salamis	1078	45	41				

Table 2. The division of artefacts by key sites mentioned

of corrosion – all of which could build a detailed picture of trade, exchange, and connectivity concerning the production and use of metal objects. ⁴³ Portable XRF (X-ray fluorescence) has proven a popular method of assessment because it is non-invasive, yields fast results, and is small and portable. ⁴⁴ Although widely-used, analysis using portable XRF is not without its limitations, but it remains accurate enough to assist in understanding the materiality of metal artefacts and how they were manufactured in antiquity. ⁴⁵

CONCLUSIONS

Object-centred investigations focused on museum collections will complement ongoing study of Cyprus's metal profile. Opportunities to develop understanding of Roman Cyprus's history as a mining landscape and metal production, exchange, and usage more generally will be particularly welcome. Assessment of metal artefacts collated using the British Museum's catalogue that relate to ancient Cyprus yields data, that upon further study (i.e. inspection of artefacts and their archival records as well as comparison with other collections) demonstrates how enquiries into Roman Cyprus's culture and society can be enhanced. While it is clear that copper is of prime cultural significance across this landscape – as emphasised by literary discourse and evidenced by Cyprus's landscape – this initial survey stands as a reminder that study of all metals and object types, notably their materiality, is necessary to realise the nuances regarding a number of topics including: the hierarchy of metals; the contexts in which they were used, imitated and valued; economic and social dynamics of the island driven by trade and exchange. This will ultimately enable evidence from Roman Cyprus to contribute to broader discussion of metals and their uses across the Mediterranean and beyond. This piece joins others in highlighting the utility of revisiting and reassessing the materiality of museum collections and hopes to act as

⁴³ Ogden 2000: 172. See also: Maddin, Stech Wheeler, Muhly 1980; Hauptmann, Begemann, Schmitt-Strecker 1999; Pollard, Bray 2014; Düring *et al.* 2018; Pollard *et al.* 2018.

⁴⁴ See: Orfanou, Rehren 2015; Vianello, Tykot 2017; Kassianidou, Charalambous 2019a; 2019b.

⁴⁵ In particular, see: Düring et al. 2018: 19.

a springboard for future study and collaboration to develop current understanding of Roman Cyprus's island identity.

Acknowledgements

I would like to thank Thomas Kiely, a curator of the Department of Greece and Rome at the British Museum, for his advice regarding the history and composition of the Cypriot collection. I must stress that any errors regarding the collation and interpretation of the data we discussed are my own.

References

- Aston, B.G., Harrell, J.A., Shaw, I. 2000: Stone, [in:] Nicholson, P.T., Shaw, I. (Eds), Ancient Egyptian Materials and Technology, Cambridge, 5–77
- BritishMuseum: https://www.britishmuseum.org/collection (accessed August 24, 2021)
- Bruce, J.L. 1937: Appendix V. Antiquities in the mines of Cyprus, [in:] Gjerstad, E., Lindros, J., Sjöqvist, E., Westholm, A. (Eds), The Swedish Cyprus Expedition. Finds and Results of the Excavations in Cyprus 1927–1931, vol. III, Text, Stockholm, 639–671
- Calvelli, L. 2020: Il tesoro di Cipro. Clodio, Catone e la conquista romana dell'isola, Venezia Cayla, J.-B., Hermary, A. 2003: Chypre à l'époque hellénistique, [*in*:] Le Dinahet, M.-T. (Ed.), L'orient méditerranéen de la mort d'Alexandre au I^{er} siècle avant notre ère: Anatolie, Chypre, Égypte, Syrie, Nantes, 232–256
- Constantinou, G. 2007: Contribution of the Geology to the Early Exploitation of the Cupriferous Sulphide Deposits of the Skouriotissa Mining District, [in:] Kling, B., Muhly, J.D. (Eds), Joan du Plat Taylor's Excavations at the Late Bronze Age Mining Settlement at Apliki Karamallos, Cyprus, SMA 134/1, Sävedalen, 337–345
- Constantinou, G. 2010: The Birth of an Island, [in:] Hadjisavvas, S. (Ed.), Cyprus: Crossroads of Civilizations, Nicosia, 21–27
- Constantinou, G. 2012: Late Bronze Age copper production in Cyprus from a mining geologists perspective, [*in*:] Kassianidou, V., Papasavvas, G. (Eds), Eastern Mediterranean Metallurgy and Metallwork in the Second Millennium BC. A conference in honour of James D. Muhly, Nicosia, 10th–11th October 2009, Oxford, 4–13
- Crisà, A., Gkikaki, M., Rowan, C. (Eds) 2019: Tokens: Culture, Connections, Communities, *The Royal Numismatic Society Special Publication* 57, London
- Davies, O. 1930: The Copper Mines of Cyprus, ABSA 30, 74–85
- Düring, B.S., Klinkenberg, V., Paraskeva, C., Kassianidou, V., Souter, E., Croft, P., Charalambous, A. 2018: Metal artefacts in Chalcolithic Cyprus: New Data from Western Cyprus, *MAA* 18/1, 11–25
- Franklin, J.C. 2016: Kinyras: The Divine Lyre, Hellenic Studies 70, Washington, D.C.
- Gordon, J.M. 2018: Insularity and Identity in Roman Cyprus: Connectivity, Complexity, and Cultural Change, [in:] Kouremenos, A. (Ed.), Insularity and Identity in the Roman Mediterranean, Oxford, 4–40

- Graham, A., Winther Jacobsen, K., Kassianidou, V. 2006: Agia Marina-*Mavrovouni*. Preliminary report on the Roman settlement and smelting workshop in the central northern foothills of the Troodos Mountains, Cyprus, *RDAC* 2006, 345–367
- Gustafson, M. 1994: Condemnation to the Mines in the Later Roman Empire, *HTR* 87/4, 421–433
- Hauben, H. 2005: Herod the Great and the Copper Mines of Cyprus, *AncSoc* 35, 175–195 Hauptmann, A., Begemann, F., Schmitt-Strecker, S. 1999: Copper Objects from Arad Their Composition and Provenance, *BASOR* 314, 1–17
- Hill, G.F. 1940: A History of Cyprus, vol. 1: To the Conquest by Richard Lion Heart, Cambridge
- Hirt, A.M. 2010: Imperial Mines and Quarries in the Roman World. Organizational Aspects 27 BC-AD 325, Oxford-New York
- Hussein, E. 2021: Revaluing Roman Cyprus: Local identity of an Island in Antiquity, Oxford Kassianidou, V. 2000: Hellenistic and Roman Mining in Cyprus, [*in*:] Ioannides, G.K., Hadjistyllis, S.A. (Eds), Acts of the Third International Congress of Cypriot Studies (Nicosia, 16–20 April 1996), vol. A: Ancient Section, Nicosia, 745–756
- Kassianidou, V. 2004: Recording Cyprus's mining history through archaeological survey, *British School at Athens Studies* 11, 95–104
- Kassianidou, V. 2013: Mining Landscapes of Prehistoric Cyprus, Metalla 20/2, 36-45
- Kassianidou, V. 2018a: Ancient copper mining, oxhide ingots and a hoard new data on Mathiatis from the State Archives of Cyprus, [in:] Giumlia-Mair, A., Lo Schiavo, F. (Eds), Bronze Age Metallurgy on Mediterranean Islands: In Honour of Robert Maddin and Vassos Karageorgis, MonInstr 56, Drémil-Lafage, 578–598
- Kassianidou, V. 2018b: Late Bronze Age Cypriot hoards and modern collections, [in:] Hulin, L., Crewe, L., Webb, J.M. (Eds), Structures of Inequality on Bronze Age Cyprus: Studies in Honour of Alison K. South, SIMAP 187, Nicosia, 211–226
- Kassianidou, V., Agapiou, A., Manning, S.W. 2021: Reconstructing an ancient mining landscape: a multidisciplinary approach to copper mining at Skouriotissa, Cyprus, *Antiquity* 95/382, 986–1004
- Kassianidou, V., Charalambous, A. 2019a: Analysis of the Copper Alloy Artefacts from the Necropolis of Salamis, [in:] Rogge, S., Ioannou, Ch., Mavrojannis, Th. (Eds), Salamis of Cyprus. History and Archaeology from the Earliest Times to Late Antiquity. Conference in Nicosia, 21–23 May 2015, Schriften des Instituts für Interdisziplinäre Zypern-Studien 13, Münster, 228–245
- Kassianidou, V., Charalambous, A. 2019b: Chemical analyses of copper objects and faience beads using portable X-Ray Fluorescence, [in:] Peltenburg, E., Bolger, D., Crewe, L. (Eds), Figurine Makers of Prehistoric Cyprus: Settlement and Cemeteries at Souskiou, Oxford-Philadelphia, 279–286
- Kassianidou, V., Knapp, A.B. 2005: Archaeometallurgy in the Mediterranean: The Social Context of Mining, Technology, and Trade, [in:] Blake, E., Knapp, A.B. (Eds), The Archaeology of Mediterranean Prehistory, Oxford, 215–251

- Kearns, C. 2018: Cyprus in the Surging Sea: Spatial Imaginations of the Eastern Mediterranean, *TAPA* 148/1, 45–74
- Knapp, A.B. 2008: Prehistoric and Protohistoric Cyprus: Identity, Insularity, and Connectivity, Oxford
- Knapp, A.B., Kassianidou, V., Donnelly, M. 2001: Copper Smelting in Late Bronze Age Cyprus: The Excavations at Politiko Phorades, *NEA* (ASOR) 64/4, 204–210
- Kurke, L. 1999: Coins, Bodies, Games, and Gold: The Politics of Meaning in Archaic Greece, Princeton, NJ
- Maddin, R., Stech Wheeler, T., Muhly, J.D. 1980: Distinguishing artifacts made of native copper, *JAS* 7/3, 211–225
- Mehl, A. 1995a: Zypern und die grossen Mächte im Hellenismus, AncSoc 26, 93-132
- Mehl, A. 1995b: Zyperns Wirtschaft in hellenistischer Zeit, MBAH 14/2, 27–50
- Michaelides, D. 1984: A Roman Surgeon's Tomb from Nea Paphos, Part 1, *RDAC* 1984, 315–332
- Michaelides, D. 2011: Medicine in Ancient Cyprus, [in:] Rossetto, M., Tsianikas, M., Couvalis, G., Palaktsoglou, M. (Eds), Greek Research in Australia: Proceedings of the Eighth Biennial International Conference of Greek Studies, Flinders University June 2009, Adelaide, 93–106
- Mitford, T.B. 1980: Roman Cyprus, [in:] Temporini, H., Haase, W. (Eds), Aufstieg und Niedergang der Römischen Welt, vol. II.7.2, Berlin-New York, 1285–1384
- Ogden, J. 2000: Metals, [in:] Nicholson, P.T., Shaw, I. (Eds), Ancient Egyptian Materials and Technology, Cambridge, 148–176
- Orfanou, V., Rehren, Th. 2015: A (not so) dangerous method: pXRF vs. EPMA-WDS analyses of copper-based artefacts, *Archaeological and Anthropological Sciences* 7, 387–397
- Pollard, A.M., Bray, P.J. 2014: Chemical and isotopic studies of ancient metals, [in:] Roberts, B.W., Thornton, Ch.P. (Eds), Archaeometallurgy in Global Perspective, Methods and Syntheses, New York, 217–238
- Pollard, A.M., Bray, P., Hommel, P., Liu, R., Pouncett, J., Saunders, M., Howarth, P., Cuénod, A., Hsu, Y.-K., Perucchetti, L. 2018: Beyond Provenance: New Approaches to Interpreting the Chemistry of Archaeological Copper Alloys, *Studies in Archaeological Sciences* 6, Leuven
- Potter, D. 2000: Hē Kupros eparchia tēs Rōmaikēs Autokratorias, [*in*:] Papadopoullos, T. (Ed.), Historia tēs Kuprou, vol. 2, Archaia Kupros, part 2, Nicosia, 763–864
- Socratous, M.A., Kassianidou, V., Di Pasquale, G. 2015: Ancient slag heaps in Cyprus: the contribution of charcoal analysis to the study of the ancient copper industry, [in:] Hauptmann, A., Modarressi-Tehrani, D. (Eds), Archaeometallurgy in Europe III Proceedings of the 3rd International Conference, Deutsches Bergbau-Museum Bochum, June 29–July 1, 2011, *Anschnitt* 26, Bochum, 377–384
- Vianello, A., Tykot, R.H. 2017: Investigating Technological Changes in Copper-Based Metals Using Portable XRF Analysis. A Case Study in Sicily, *Open Archaeology* 3, 392–408

- Vickers, M., Gill, D. 1994: Artful Crafts: Ancient Greek Silverware and Pottery, Oxford Wacławik, M. 2020: Metal Objects (other than coins), [in:] Papuci-Władyka, E. (Ed.), Interdisciplinary Research of the Jagiellonian University in Nea Paphos UNESCO World Heritage Site (2011–2015) First Results, Paphos Agora Project 1, Cracow, 401–405
- Wilburn, A.T. 2013: Materia Magica: The Archaeology of Magic in Roman Egypt, Cyprus, and Spain, Ann Arbor
- Zachariou-Kaila, E. 2009: Personal grooming: Metal objects from Roman Cyprus, *CCEC* 39, 325–346

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ÉTUDES et TRAVAUX XXXIV

INSTYTUT KULTUR ŚRÓDZIEMNOMORSKICH I ORIENTALNYCH POLSKIEJ AKADEMII NAUK

STUDIA i PRACE

XXXIV



INSTITUT DES CULTURES MÉDITERRANÉENNES ET ORIENTALES DE L'ACADÉMIE POLONAISE DES SCIENCES

ÉTUDES et TRAVAUX

XXXIV



Publication scientifique financée dans le cadre du programme du Ministre de la Science et de l'Éducation Supérieure « Programme National de Développement de l'Humanistique » pour les années 2016–2021 (projet n° 3bH 15 0099 83)



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ISSN 2084-6762 (jusqu'en 2011 : 0079-3566) e-ISSN 2449-9579

Version première en papier, imprimée en Pologne – 150 copies Version électronique accessible sur http://www.etudesettravaux.iksiopan.pl

Édition: Polskie Towarzystwo Historyczne et Wydawnictwo Neriton, Warszawa

Conception générale de la couverture : J. Iwaszczuk Photographie de couverture : Phot. A. Brzozowska-Jawornicka (Le portique ionique est, péristyle de la Maison « hellénistique », Nea Paphos)

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