ROBERT
FRECER

GERULATA: THE LAMPS
ROMAN LAMPS IN A PROVINCIAL CONTEXT

KAROLINUM

Gerulata: The Lamps
Roman Lamps in a Provincial Context

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This book is dedicated to my friends and family.

There's a place in my heart
for all of my friends
Some have stepped out,
some check back in.

It is a great pleasure to see the manuscript of the new monograph of the Gerulata lamps ready for print, completing and essentially improving previous catalogues compiled by Ľudmila Kraskovská and Magda Pichlerová. The progress in lychnology has enabled more exact dating and affiliation of items, the progress in printing to improve quality of illustrations and the possibility of including new finds to publish the full corpus known as yet. Moreover, a second pleasure to me is to see competent continuation of the tradition of lychnological study in the Institute of Classical Archaeology of Charles University, founded by the late Roman Haken and followed by the MA theses of Jiří Marsa and Lenka Kulichová. The new book brings new material and successfully updates the study of Roman lamps in Central Europe.

prof. PhDr. Jan Bouzek, DrSc.

TABLE OF CONTENTS

ACKNOWLEDGMENTS

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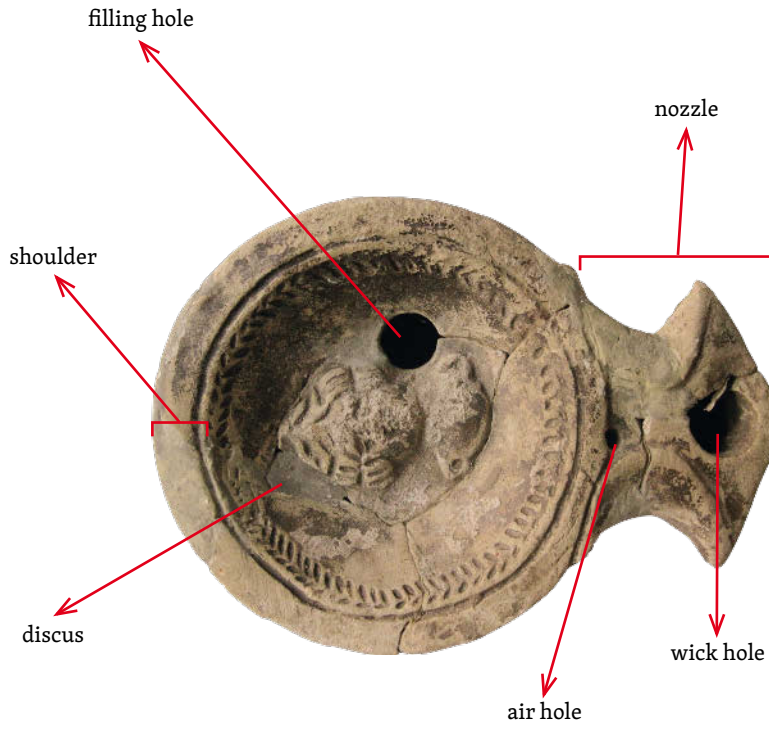
Lastly, I would also like to thank my family and friends for their support and love which helped me greatly in this endeavor.

LEGEND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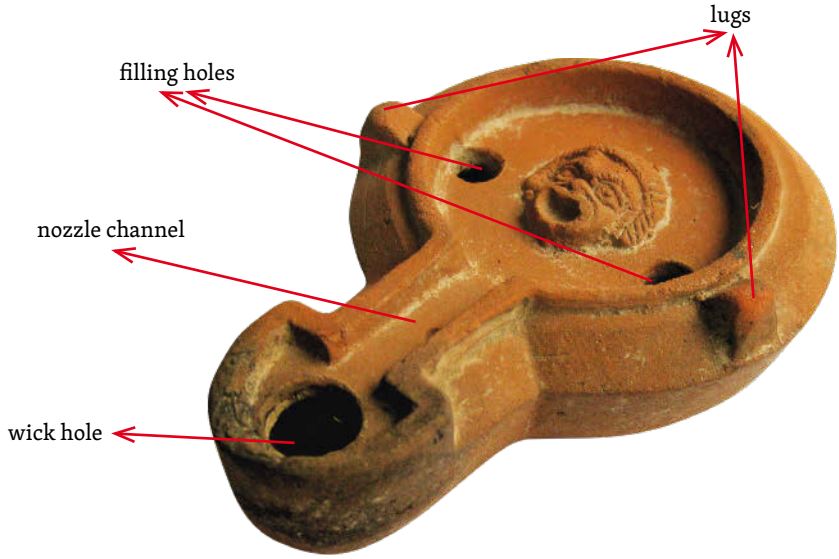
lugs
filling holes
nozzle channel
wick hole

LIST OF ABBREVIATIONS

The following abbreviations are used in shorthand for lamps from published catalogues. The catalogue number of the referenced lamp follows the author's name in italics, e.g. Ruggiu *89*. Some authors and works will be very familiar to lychnologists (e.g. Iványi), but some may be less known – and this is why there is a list of abbreviations. Also included are any other abbreviations used in the text, e.g. CIL.

Alram-Stern	Alram-Stern, E. 1989. *Die römischen Lampen aus Carnuntum*. RLiÖ Heft 35. Wien: Verlag der Österreichischen Akademie der Wissenschaften
Bailey I	Bailey, D.M. 1975. *A Catalogue of the Lamps in the British Museum. Vol I: Greek, Hellenistic and Early Roman Pottery Lamps*. London: British Museum Publications Limited
Bailey II	Bailey, D.M. 1980. *A Catalogue of the Lamps in the British Museum. Vol II: Roman Lamps Made in Italy*. London: British Museum Publications Limited
Bailey III	Bailey, D.M. 1988. *A Catalogue of the Lamps in the British Museum. Vol III: Roman Provincial Lamps*. London: British Museum Publications Limited
Bailey IV	Bailey, D.M. 1996. *A Catalogue of the Lamps in the British Museum. Vol IV: Lamps of Metal and Stone, and Lampstands*. London: British Museum Press
Balestrazzi	di Filippo Balestrazzi, E. 1988. *Lucerne del Museo di Aquileia. Vol. II. Lucerne romane di età repubblicana ed imperiale.* Aquileia: Associazione Nazionale per Aquileia
Băluţă	Băluţă, C. L. 1961. 'Opaiţele romane de la Apulum I'. *Apulum* IV, 111–152, 189–220
Baumann	Baumann, V. H. 2009. 'Lucernele de la Noviodunum'. *Peuce S.N*. VII, 217–310
Brants	Brants, J. 1913. *Antieke terra-cotta lampen uit het Rijksmuseum van Oudheden te Leiden*. Leiden: Ministerie van Binnenlandsche Zaken
Buchi	Buchi, E. 1975. *Lucerne del Museo di Aquileia. Vol. I: Lucerne romane con marchio di fabbrica*. Aquileia: Associazione Nazionale per Aquileia
Busuladžić	Busuladžić, A. 2007. *Antičke svjetiljke u Bosni i Hercegovini. Antique Lamps in the Collections in Bosnia and Hercegovina.* Sarajevo: Zemaljski Muzej Bosne i Hercegovine
Cahn-Klaiber	Cahn-Klaiber, E.-M. 1977. *Die antiken Tonlampen des archäologischen Instituts der Universität Tübingen*. Tübinger Studien zur Archäologie und Kunstgeschichte 2. Tübingen: E. Wasmuth

Chersonessos	Chrzanovski, L. – Zhuralev, D. 1998. *Lamps from Chersonessos in the State Historical Museum – Moscow*. Roma: L'Erma di Bretschneider
CIL	*Corpus Inscriptionum Latinarum*, multiple volumes published by the Berlin-Brandenburg Academy of Sciences and Humanities
Deneauve	Deneauve, J. 1969. *Lampes de Carthage*. Paris: Editions du C.N.R.S.
Deringer	Deringer, H. 1965. *Römische Lampen aus Lauriacum*. Linz: Institut für Landeskunde von Oberösterreich
Evelein	Evelein, M. A. 1928. *De Romeinische Lampen. Beschrijving van de Verzameling van het Museum G. M. Kam*. 'S-Gravenhage: Algemeene Landsdrukkerij
Farka	Farka, Ch. 1977. *Die römischen Lampen vom Magdalensberg*. Klagenfurt: Verlag des Landesumuseums für Kärnten
Goethert 85	Goethert-Polaschek, K. 1985. *Katalog der römischen Lampen des Rheinischen Landesmuseums Trier. Bildlampen und Sonderformen*. Trieier Grabungen und Forschungen Band XV. Mainz: Verlag Philipp von Zabern
Goethert 97	Goethert, K. 1997. *Römische Lampen und Leuchter. Auswahlkatalog des Rheinischen Landesmuseums Trier*. Schriftenreihe des Rheinischen Landesmuseums Trier, Nr. 14. Trier: Rheinisches Landesmuseum Trier
Haken	Haken, R. 1958. 'Roman Lamps in the Prague National Museum and in Other Czechoslovak Collections'. *Sborník Národního musea v Praze*, series A-Historia XII, Vols. 1 and 2, 7–115
Heres	Heres, G. 1972. *Die römischen Bildlampen der Berliner Antiken-Sammlung*. Berlin: Akademie-Verlag
Iványi	Iványi, D. 1935. *Die Pannonischen Lampen*. Disserationes Pannonicae 2, No. 2. Budapest: Sárkány
Kirsch	Kirsch, A. 2002. *Antike Lampen im Landesmuseum Mainz*. Mainz: Verlag Philipp von Zabern
Komárno	Žundálek, I. – Žundáleková, B. 2012. *Rímske lampy a svietniky v zbierke Podunajského múzea v Komárne. Katalóg V: Rímske zbierky.* Komárno: Podunajské múzeum v Komárne
Köln	Cahn, E.-M. 2009. 'Die römischen Bildlampen aus Köln'. *Kölner Jahrbuch* Vol. 42, 7–391
Kricheldorf	Kricheldorf, H. H. 1962. *Auktionskatalog XII. Tonlampen der Antike*. Stuttgart: H. H. Krichelsdorf Auktionskatalog XII
Leibundgut	Leibundgut, A. 1977. *Die römischen Lampen in der Schweiz*. Bern: Francke Verlag
LIMC	*Lexicon Iconographicum Mythologiae Classicae*, published by the Foundation for the LIMC and printed by Artemis & Winkler Verlag
Loeschcke	Loeschcke, S. 1919. *Lampen aus Vindonissa*. Zürich: Beer&Cie
Marsa	Marsa, J. 1972. 'Roman Lamps in the Prague National Museum and in other Czechoslovak Collections'. *Sborník Národního muzea v Praze*, series A-Historia XXVI, Vols. 3–5, 89–152

Menzel	Menzel, H. 1954. *Antike Lampen im Römisch-Germanischen Zentralmuseum zu Mainz*. Mainz: Verlag des Römisch-Germanischen Zentralmuseums
Mlasowsky	Mlasowsky, A. *Die Antiken Tonlampen im Kestner-Museum Hannover*. Hannover: Kestner-Museum Hannover
Neumann	Neumann, A. 1967. *Lampen und andere Beleuchtungsgeräte aus Vindobona*. Der römische Limes in Österreich Heft XXII. Wien: Herman Böhlaus Nachf.
Perlzweig	Perlzweig, J. 1961. *Lamps of the Roman Period. The Athenian Agora, Volume VII*. Princeton: American School of Classical Studies at Athens
Plesničar-Gec	Plesničar-Gec, Lj. 1972. *Severno emonsko grobišče. The Northern Necropolis of Emona*. Katalogi in monografije 8. Ljubljana: Narodni muzej v Ljubljani
Pontiroli	Ponitroli, G. 1980. *Lucerne antiche dei Musei di Cremona*. Milano: Cisalpino-Goliardica
Petru	Petru, S. 1972. *Emonske nekropole odkrite med leti 1635–1960*. Katalogi in monografije 2. Ljubljana: Narodni muzej v Ljubljani
Ruggiu	Ruggiu, A. Z. 1980. *Le lucerne fittili del Museo Civico di Treviso*. Roma: Giorgio Bretschneider Editore
RMD	*Roman Military Diplomas*, Vols. 1–5, published by Margaret Roxan et alii (1978–2006)
Sidi Khrebish	Bailey, D. M. 1985. *Excavations at Sidi Khrebish, Benghazi (Berenice). Volume III, Part 2: The Lamps*. Tripoli: Secretariat of Education Department of Antiquities
Szentléleky	Szentléleky, T. 1969. *Ancient Lamps*. Budapest: Akadémiai Kiadó
Vegas	Vegas, M. 1966. *Die römischen Lampen von Neuss*. Novaesium 2, Limesforschungen Band 7. Berlin: Mann
Vikić-Belančić I	Vikić-Belančić, B. 1971. 'Antičke svjetiljke u Arheološkom muzeju u Zagrebu'. *Vjesnik arheološkog muzeja u Zagrebu*, Vol. 5, No. 3, 97–182
Vikić-Belančić II	Vikić-Belančić, B. 1975. 'Antičke svjetiljke u Arheološkom muzeju u Zagrebu, II. dio'. *Vjesnik arheološkog muzeja u Zagrebu,* Vol. 9, No. 3, 49–160
Zeischka	Zeischka, A. 1997. 'Lampen aus dem Altbestand des Museums und Nachträge zur Sammlung Mummenthey'. In: Ahrens, D. (ed.) 1997. *Licht durch die Jahrtausende. Die Lampen-Sammlung Karl-Adolph Mummenthey im Städtischen Museum Simeonstift Trier*. Trier: Städtisches Museum Simeonstift Trier

1. PREFACE

We listened with wonder and credulity in equal proportions, and kissing the table, besought the Night-hags to keep in quarters, while we were returning home. And indeed by this time the lamps seemed to burn double and I thought the whole room looked changed, when Trimalchio exclaimed, "I call on you, Plocamus; have you nothing to tell us? No diversion for us?"

Miramur nos et pariter credimus, osculatique mensam rogamus Nocturnas, ut suis se teneant, dum redimus a cena. Et sane iam lucernae mihi plures videbantur ardere totumque triclinium esse mutatum, cum Trimalchio: "Tibi dico, inquit, Plocame, nihil narras? Nihil nos delectaris?"

C. Petronius Arbiter, Satyricon, 64
translated by A. R. Allinson, 1930
revised by the present author, 2014

This book, as a catalogue of ancient lamps, may perhaps find an audience among the highly specialized group of scholars who call themselves lychnologists, knowers of lamps. The subject will interest anyone who wants to know what lighting devices were used by Roman provincial inhabitants in the 2nd century AD. But, as in any other endeavor, the author must ask – *is it important to write about this subject?* Ignoring such questions leads into a loop of pointless academia. Posing such questions, however, examines the very foundations on which Classical Archaeology stands as a discipline.

Here follows a discussion of three approaches to this issue, both an attack on and a defense of each. It must be undertaken to set this entire book into context, because a solid approach to studying the ancient world is a necessary prerequisite in this field. What is archaeology and what should archaeology be?

From its origins in Renaissance aristocratic collections, artifact hunts, esoteric romance, nationalist mythology, and the leisurely pursuits of Victorian gentlemen, Classical Archaeology was a purely antiquarian pastime. It meant the connoisseurship of Classical art and an appreciation for the aesthetic values of nobility, grandeur and artistry that were sought for and seen behind great works of sculpture and vase painting.

Classical art embodies a beauty that was and continues to be widely admired; undoubtedly it has influenced the art of Europe in such a way as to be called the groundwork upon which Western culture is founded. As the marble statues that had survived from Antiquity for our Renaissance ancestors to admire, so were the human figures emulated in art for their gray and white smoothness, and their realistic forms, conveying deep meaning to modern spectators, have captivated the European psyche for more than 400 years.

Both the ways in which we perceive art, and what in fact we see as art today, have changed. Bored by realism, art has turned to the abstract, then over to naïve pop-art and the recognizable symbolic language of street art. That which appeals to us, and which we call 'art', must no longer be pretty, and must no longer exude skill; rather, it must tell us a story, or express an emotion. There has been a blossoming change in our consciousness, which some might call a regression, and it affects the way in which we perceive Ancient art as well.[1]

Classical art tells stories well. It has a formidable body of symbolic language which it uses to construct a coherent, often mythological, narrative. A lamp from the Staatliche Antikesammlungen in Munich shows at once a man in a pointed cap conversing with a throned woman of power, with some animals in the background; at the same time, to those 'in the know', it

1 Indeed, it has been said that "modern art has turned its back on ancient Greece…[this may be the] product of an age whose only universal belief is that all values are relative." – Whitley 2001, 269

Figure 1.1: Odysseus and Circe in heated argument. Loeschcke type IV lamp. Staatliche Antikensammlungen in Munich.[2]

shows the myth of Odysseus and Circe at the point where the hero has come to ransom his companions who have been transformed into sheep, goats and hogs by Circe's spell. A picture may be read as the plot of an entire scene; the characters are instantly recognizable through their positions and attributes, like a complicated pictogram.

Although the antiquarian approach was heavily founded on the appreciation of 'Art' with a capital A, or the preservation of art for art's sake, our modern view is different. We are no longer naïve appreciators of beauty, but in a world with few illusions, we struggle to find meaningful narratives. We are used to digital communication and instant messaging; we have become quite accustomed to hashtags, app icons, and other pictograms to get ideas across. If this is a good thing, maybe we can now appreciate the storytelling of Ancient art from a more primal perspective, closer to that of its original audience.

The second approach is scientific. Classical Archaeology only became a proper scientific discipline when it adopted rational, measurable, and systematic measures of discovering and sorting artefacts. Digs ceased to be artefact hunts but instead became scientific investigations of the past, and care was taken to record every detail of the excavation – principally the circumstances of finds and stratigraphic contexts. This is in accordance with the view of excavations as unrepeatable experiments. An archaeological site "can be read by a skilled excavator, but it is destroyed by the very process which enables us to read it."[3] The irreversibility of the archaeologist's actions

2 By User: MatthiasKabel (own work) [CC BY-SA 3.0], via Wikimedia Commons

3 Barker 1993, 13

is warrant enough for every factor to be noted meticulously; it is only there once, and we do not know what future techniques will depend on to refine our picture of the past.

In short, 'indiscriminate knowledge'. Data is inherently valuable, and even data related to things we do not realize have value may prove to be priceless in the future. The insignificant pottery shards, hardly even catalogued during the great Mediterranean excavations of the 19th and early 20th centuries that revealed magnificent palaces, stoas and fora to the astounded modern world, have today been categorized into precise typologies and are employed as crucial dating elements.

Sadly, this attitude has a flip side: a seemingly self-serving body of scholarship on obscure subjects, pointlessly academic, accurate in execution, but boring and to the benefit of no one in particular. In a century of exciting technological revolutions, pocket computers and rapidly digitalizing personal identities, it is not easy to see who would be directly served by, for example, an analysis of lighting devices used by a small 2nd century AD frontier settlement on the edge of the Roman empire.

But studying the ancient world in any of its myriad aspects is in fact studying archetypal models of organization – social and material constructs of thought that reveal universal truths about the way human civilization works. Observing a complicated chemical reaction as it is already well underway can be confusing; rather, it may prove helpful to observe the reactants in their original states, pre-reaction, and then gradually in their early stages, in order to fully understand how they interact and how they came to form the substance we know today.

Likewise, modern society is an unfathomably complicated network of interconnected variables. Examining the world at an earlier chapter of its development can give us a useful detachment, or aloofness; a perspective unobstructed and clear, through which the web of relations that makes up the present day may be re-examined.

Studying prehistory is to discover ways of thinking, patterns of society and consciousness that ruled the ancient world. This is not to suggest that archaeologists should become behavioral psychologists! But they should be aware of the immense significance of their discipline, dipping into the treasure trove of human knowledge in past ages. Good archaeology should supply sound stratigraphic and material data; good analysis should discriminate with scientific rigor whether the patterns of human behavior which it reveals do still hold true today. It is a path of discovery.

Ancient art, so often at the center of archaeological interest, is but one facet of this path. Classical Archaeology seems to have had somewhat of a hard time leaving behind the burden of describing works of art in transcendental terms – having them embody the values and aesthetic of an entire generation,

even a society.[4] In such a way, the builders and sculptors of the Parthenon are recognized as having created the ultimate expression of Classical Athenian ideals in a single relief – a city celebrated in democratic procession. We know there are works of art that *do* embody the spirit of an age rather well – as, for example, *M*A*S*H* does for the 1970s – just as there are public monuments that were built with the conscious purpose of expressing an ideal, such as the statue of Christ the Redeemer over Rio de Janeiro or the 9/11 Memorial in New York City. However differently their values may be understood (is the 9/11 Memorial a testament to peace, or to national resilience, or built to commemorate the dead, or all of the above, or something altogether different to each observer?), they are undoubtedly testaments of *community*. Can these modern interpretations be applied to explain craftsmanship and construction in the ancient world?

While classical archaeologists were preoccupied with identifying the hands of masters in Athenian vase-painting, the archaeologies of more 'primitive' societies and cultures were free to work without the baggage of preeminence.[5] When Classical Archaeology was a still a culture absorbed in itself, prehistoric archaeologies were already studying *other* cultures, and well on the road to becoming sciences. They were not pressured to come up with grand explanations regarding the aesthetics of a certain ware; though they may have indeed come up with some of their own accord. They were allowed to study their field of expertise without having to look for emotional values, and they could work as scientists to catalogue the physical wealth of the past.

However, meticulous measurements of half-pit houses and endless lists of pottery shards, with no allowance for character and culture, could well prove to be mundane – for whom is this knowledge being collected? By depriving ourselves of the personalities we glimpse behind archaeological artifacts, we are at the same time robbing ourselves of any meaningful connection with past models of consciousness.

Studies of less remarkable objects such as coarse-ware pottery or loom weights are a treasure trove of their own in teaching us about the way the ancient world was organized.[6] In order to be useful, they must not allow

4 To mention but one example, the "definable ethos [...], simultaneously proud and vulnerable" seen by Pollitt 1972, 48, in the famous statue of the Delphi Charioteer. These value-based judgements applied to singular works of Classical art have been examined by Whitley 2001, 6–17, who poses the harsh question: "is Classical Archaeology archaeology at all?"

5 Here is a good place to mention the so-called 'Vickers-Gill controversy' (summarized in Vickers and Gill 1994) in which the authors attack the preoccupation of Classical archaeologists with Greek painted pottery. They argue that pots were but inferior imitations of plate originals in precious metals, lost to us now, and as such, painted pottery hardly deserves the artistic recognition it now receives. For a criticism of their view, see Cook 1987 and Boardman 1987.

6 Interest in 'ordinary' wares was heralded by V. Gordon Childe as early as 1943 (Childe 1943), but has found proper acceptance in the fields of Greek and Roman archaeology only from the 1970s

themselves to be defined by scholars purely by their 'artistic' merit, but by virtue of their function and geographic distribution. Only then can they provide valid insights on the patterns of behavior prevalent in one corner or another of the ancient world.

This book aspires to be a catalogue of lamps from Gerulata, a Roman military fort housing 500 to 1000 troops and its neighboring vicus, one day's march east along the Danube from Carnuntum. It is only based on the lamps gathered together in this book that more may be written on the producer's marks and discus scenes found on them; then conclusions may be drawn regarding their manufacture, and to a limited extent about their trade; more then on the use of lamps in furnishing graves in burial; and lastly, on the significance of lamplight in day-to-day provincial life.

Lamps were present in Gerulata from its very foundation with the arrival of the Roman army in the AD 80s. It was a novel technology that necessitated a stable production system of wares, relied on fuel made of foodstuff, and required a certain skill to operate. Lamps were most widely used within a generation of the first Roman soldiers setting foot in Gerulata, and the pleasure of lamplight may or may not have had cultural and religious significance for the inhabitants of the settlement. The habit of furnishing graves with oil lamps was popular in the first few generations, but then seems to have died out sometime around AD 200. Herein is encapsulated one community's use of a certain method of illuminating its interior spaces.

Pause for a moment and take a look at the room around you. Is it a bright library, lit by rows of white fluorescent bulbs on the ceiling? Is it your own living room, with several lights on the walls, or perhaps one central hanging lamp? Or are you reading by a bedside or table lamp, its light focused on the pages? Is there a screen illuminating your field of vision nearby? Do the streetlamps shine through your windows? Are car headlights sparkling as they are reflected in them too? Do you see the dim sheen of the kitchen light turned on through an open door?

You have now become sensitive to the light in your surroundings. Imagine it changed. Picture the feelings you associate with having a meal by brightly-lit ceiling lights, or enjoying the same meal by candlelight in a restaurant. One is sterile, impersonal and efficient; the other, intimate, romantic but impractical. Placing sources of light in spaces is naturally very important in interior design, as the different means and angles of lighting can dramatically

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onward with the explosion of field surveys and material studies – all somehow pointed in the direction of the ancient economy. In this book, the economy of lamps is tackled in Chapter 5, which focuses on lamp producers and workshops (a complex relationship, wherein they were not always one and the same). Chapter 7.2 summarizes the conclusions reached regarding the lamp industry, and Chapter 7.3 does the same for the oil supply and evidence of personal use from Gerulata.

change the appearance of any room. Try it, if you will: change the position of one light source in your home.

In this way, ancient lamps were both works of trivial craft and at the same time far more than just means of making light to see in the dark. With literary flourish, this was sometimes recognized – as affirmed in the opening quote to this chapter from the insane feast of Trimalchio in the *Satyricon*, lamplight can make a room look transformed. But lamps were also muses, witnesses and supernatural agents. In competition with other light-sources, such as candles or braziers, they formed the atmosphere of day-to-day life in the homes, workshops and public spaces of Gerulata in a way that was far more familiar to its inhabitants than the 'High Art' of mosaics, statues or frescoes of their time.

This book seeks to document the lamps used in Gerulata, and to cater to all three approaches to Classical Archaeology when appropriate, for each has its merits.

First, it is a catalogue in the scientific sense, bringing together for the first time quality graphic documentation and all circumstances of discovery for each of the 210 lamps. Some mistakes in reading producers' marks and attribution of motifs, incurred in good faith by the excavators who published the two large cemeteries of Gerulata in bulk, I have attempted to correct.

Second, the lamps and their decorations are evaluated as works of art – in the sense that they showed designs of Classical (Roman, but also Greek) myth and culture, to which the inhabitants of Gerulata cannot have been oblivious. It is however very uncertain to what extent the soldiers, coming from all corners of the Empire, and the inhabitants of the settlement, whether native or newcomers, were responsive to these myths. Were they more than just faintly aware of the stories behind the images? But even if they were not – in their own right, the images are not disagreeable.

Third, this work aims to evaluate the patterns of behavior associated with the use of lamplight. As we shall see, some lamps were imported to Gerulata the Pannonian hinterland, from northern Italy and possibly even the island of Cnidus, while some were local copies fashioned from home-made molds taken from existing lamps in circulation. These lamps tell us much about the economic contacts of the settlement. Some lamps with multiple nozzles may have had different purposes than simpler consumer wares; the overused designation of lamps for 'religious purposes' should not always be ridiculed, but kept in mind. The relationship of producer's marks and workshop marks will be evaluated to draw conclusions on lamp production. Moreover, the use of lamps in funeral rites is significant in evaluating the life of the community and its rituals.

I hope you, the reader, will find this book a stimulating experience, and a pleasant window to another world. Don't be shy – you are encouraged to

skip chapters and sections according to your momentary curiosity. The aim of this book is to accommodate the interest of both scholar and casual reader alike. Some sections, such as the material catalogue of Chapter 3 and the analysis of funerary rites in Chapter 4, will interest archaeologists. The breakdown of mythological scenes in Chapter 6 will be stimulating for religionists. Historians might enjoy Chapter 2.2, which presents an overview of our best knowledge on the history of Pannonia in general, and Gerulata in particular. Chapter 2.1 is a summary of lamp production, to act as an introduction to the material presented in the catalogue. In Chapter 5, the producer's marks and workshop marks are collected. Finally, the conclusion in Chapter 7 summarizes everything we may learn from the Roman lamps of Gerulata – in matters of society, religion, and especially economy.

Let's get started, then! In the words of Pliny the Younger, in his letter to the historian Tacitus, and about to describe the final hours of his learned uncle's life:

Happy are they, in my opinion, to whom it is given either to do something worth writing about, or to write something worth reading; most happy, of course, those who do both.[7]

Robert Frecer
Pragae
ante diem xii Kalendas Maias MMXIV A.D.

7 Pliny the Younger, *Letters*, 6.16

2. LAMPMAKING THROUGHOUT THE AGES AND THE ROMANS IN GERULATA

Now, when the rage of hunger was appeas'd,
The meat remov'd, and ev'ry guest was pleas'd,
The golden bowls with sparkling wine are crown'd,
And thro' the palace cheerful cries resound.
From gilded roofs depending lamps display
Nocturnal beams, that emulate the day.
A golden bowl, that shone with gems divine,
The queen commanded to be crown'd with wine:
The bowl that Belus us'd, and all the Tyrian line.

Postquam prima quies epulis, mensaeque remotae,
crateras magnos statuunt et vina coronant.
Fit strepitus tectis, vocemque per ampla volutant
atria; dependent lychni laquearibus aureis
incensi, et noctem flammis funalia vincunt.
Hic regina gravem gemmis auroque poposcit
implevitque mero pateram, quam Belus et omnes
a Belo soliti; [tum facta silentia tectis:]

P. Vergilius Maro, Aeneid, 1.723
translated by John Dryden, 1697

2.1 HISTORY OF LAMPMAKING

To understand the context of Roman lamps in Gerulata, we would do well to remind ourselves of the greater context of lamps in the ancient world. The use of oil and wick to light a flame was an invention with a long tradition which underwent significant development throughout the ages. These sturdy pieces of baked clay were not just for show; in their absence, life would all but stop after sunset. But before we get too besotted by the thought that all light after dark came from lamps, we might also keep in mind that there were other forms of light as well – candles, lanterns, braziers, torches, but most importantly, the home hearth, sacred to the virgin goddess Vesta and kept burning at all times.

2.1.1 THE FIRST LAMPS

A broken shard of pottery, perhaps from a jug with a well-rounded concave side. Some oil – olive, fish, vegetable – any kind will do. A string made of any fibrous plant, say, flax or hemp. This is how the earliest lamps were made using the simple formula on which all subsequent lamps were based – bowl, fuel and wick. Any fiber soaked in oil and set on fire will burn with a steady flame – even glass fiber.[1]

The first lamps in the Mediterranean – that is, the first lamps actually *made* for this purpose – were simple, open bowls that were filled with oil and set with a wick. They are practically indistinguishable from shallow cups, save for their charred rims where the wick burned the clay. It is difficult to pinpoint where exactly they first appeared, and whether or not they were a sudden invention, but they were being widely used in the Levant by the early 2nd millennium BC.[2]

To support the wick, the rims of lamps were made to form protruding rests that gave rise to the term 'cocked-hat lamps' (**Fig. 2.1**). A wick floating in oil produces smoke, and needs to be controlled – the wick rest helped in this regard. At first, cocked-hat lamps were hand-made, and probably home-made, too; they persisted for millennia thanks to their relative simplicity.

With the invention of the potter's wheel, cocked-hat lamps were made by simply pinching the upper rim to form a wick rest. But on the wheel, more complex shapes could be formed. By the Minoan period, the lips of the bowl had begun to curve inward, presumably to reduce oil spillage. It may be assumed that the technology of lampmaking had come to the Aegean as

1 Wunderlich 2003, 253. Non-flammable materials are acceptable, but it goes almost without saying that in antiquity most wicks were made from plant fiber, such as flax or hemp string.

2 Bailey 1972, 17

Figure 2.1: A wheelmade cocked-hat lamp with two wick rests, pinched together from the rim. A simple design with one wick rest persisted for almost two millennia. Unknown provenance, 7th–5th century BC. National Museum in Prague.[5]

part of its contacts with the Eastern Mediterranean. Some Mycenaean lamps were known to exist, but torches were probably preferred in that period and place.[3] After the upheaval of the Mycenaean palaces, lamps disappear from Greece, only to resurface again about 700–675 BC – unsurprisingly, they were simple cocked-hat lamps.[4] These lamps came to Greece once more as part of the greater artistic influence of the East – but this time, they were to stay and develop in their own right.

2.1.2 THE GREEK RE-INVENTIONS – NOZZLE AND COVERED BOWL

The first Greek lamps were handmade, but almost immediately, they began to be produced on the potter's wheel, and attention was focused on where to place the wick. Over time, the lips of the lamps could be made to better curve inward, and the simple wick rest evolved to a tongue-shaped nozzle.[6]

Here it seems appropriate to mention that technological 'advance' does not equal absolute replacement of one thing by another. Every design has its advantages, and the simplicity of open lamps had continued to benefit a large number of households, while others chose to follow different designs which were superior in other respects.

3 Bailey 1972, 17
4 Howland 1958, 7–8; his Type 1
5 After Svobodová 2006, cat. no. 1, 50
6 Howland 1958: Types 2–9, type 2 being handmade still

Figure 2.2: Wheelmade black-glazed lamp, Howland type 28A. Athenian Agora, c. 400–350 BC.[7]

The bridged or covered nozzle seems to have been invented before the middle of the 7th century BC in the Greek cities of Asia Minor.[8] Such lamps were usually spun on a wheel to fashion the bowl first. The base was then made flat with a metal or wooden tool. Next, after the clay had dried somewhat, the nozzle, made separately, was attached. The same went for the handle, if there was one, and the finished product was then fired in a kiln. This was a significant change in the lamp paradigm.[9]

In Athens, lamps with unbridged nozzles continued to be made and used alongside bridged ones until about 490 BC. But the Athenian production of the 6th–4th centuries BC was responsible for the majority of new types and quality wares.

The curved rims of the lamp, at first made to prevent spills, gradually closed in to form a discus with an oil-filling hole in the middle. This helped prevent insects attracted by the light from falling in, and stopped mice from drinking the oil when the lamp was unattended. After all, oil was still food. To avert the leakage of hot oil through the walls, lamps were dipped and coated in a thinly diluted solution of clay made with iron oxide, called a slip, the best of which was, not surprisingly, produced in a similar manner to fine black pottery in Athens (**Fig. 2.2**).

The slip was applied to the lamp before firing, and most Greek lamps underwent a three-stage firing process to be complete. First, the lamps

7 After Camp 2008, Fig. 7

8 Lamps found in the Temple of Athena in Old Smyrna may be among the first with this type of nozzle. See Akurgal 1983, 144, Taf. 123 and Tafel D.

9 Howland 1958, 21 writes: "(The bridged nozzle) was perhaps the work of a potter who conceived of a lamp as a low pot or shallow rounded bowl [...], quite distinct from the original form of the lamp as a flaring open saucer with the nozzle simply formed by manipulating part of the side wall."

were fired in a kiln with a clear fire (an oxidizing atmosphere), in order to harden and bake the lamp. If damp wood was then added to the furnace in a second stage, and air access was blocked, the resulting smoke containing carbon monoxide caused the slip to turn black, due to a reducing atmosphere present in the kiln. In the third stage, dry fuel was again burned in the furnace to get a clear fire. This stage reversed any discoloration to the clay body of the lamp brought about by the second stage, but was not sufficient to change the color of the slip, which remained black. In this way, the final product had an earth-colored clay body, with a black glaze-like slip on its surface.

Until the 4th century BC, lamps were wheelmade like most pottery. But when molds began to be used to create ceramic wares it opened up new possibilities for design that lamps were quick to employ. Naturally, wheelmade lamps continued to be made for centuries, but ones made from molds could be manufactured faster and decorated with relief features on their discus and shoulders.

The process was as follows: first, an archetype lamp was fashioned from a lump of clay into its final shape – it needn't have been hollowed out – and the desired decorations were then applied to it – stamps or hand tools for incised features, smaller molds applied for relief. This archetype, or *patrix*, was then fired.

Next, the patrix was encased in a two-part mold. Molds were made from plaster (lime and gypsum) or fired clay, but more clay molds have survived from the Roman period than plaster. As it is brittle and porous, plaster is very degradable. It is hard to say if this is a textbook example of preservation bias – the bane of the archaeologist – or if ceramic molds were truly preferred. Sometimes, tiny pockets of air were trapped in the plaster of the mold, and when the form was filled with clay, tiny globules would blemish the surface of the newly formed lamp – which is useful in identifying the use of plaster molds by ancient craftsmen (**Fig. 2.3**).

A lampmaker could have made as many molds from one patrix as he wished, for certainly large workshops had to have had dozens, if not hundreds, of molds in simultaneous use. First, the bottom of the patrix was encased in plaster; after it had dried somewhat, the top part of the archetype was covered too, all while making sure that the two parts could be removed. In order for the two halves of the mold to fit properly upon removal, they were equipped with lugs or marks on the side that would lock together in the proper shape. Ceramic molds were removed from the patrix when they were still soft; relief decorations could then have been added with poinçon stamps.

When a mold wore out – plaster crumbled, ceramics cracked – another could have been made from the same archetype, or even from an existing

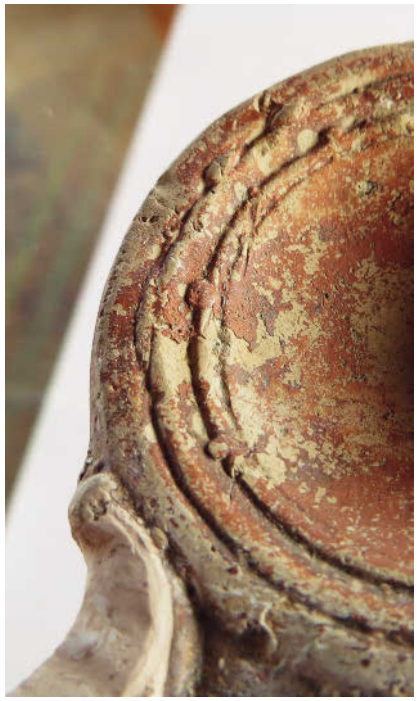

Figure 2.3: Globules sit in the discus grooves of **λ 16** and reflect pockets of air in the plaster mold that the craftsman had used.

lamp.[10] In this way, lamps formed production series, but as a side effect, they decreased in size.

After the molds were ready, they were removed, and the two halves of the interior were lined with a thin layer of clay to form the lamp itself. With top and bottom joined, the lamp was left to dry and attach, and once ready, it was subject to finishing touches by incision and eliminating the gap between the halves (**Fig. 2.4**). Then it was dipped in slip and fired. Most Roman lamps underwent a single-stage firing process, in an oxidizing atmosphere that turned the clay a palette of reddish brown and brick-red colors, but at the same time did not burn the slip black. But when some lamps were offered as funeral gifts on the pyre, they underwent a second burning that charred both lamp and slip into shades of light and dark grey, as is the case with more than sixty lamps from this catalogue.

By this process, lamps were made from molds beginning in the early 3rd century BC onward. But such lamps were largely a Greek phenomenon – we must now look at how Rome first adopted and then adapted oil lamps to make them into a great Mediterranean industry.

10 As discussed in Chapter 7.2, making new molds from existing lamps was a popular method used by unauthorized producers to cater to local markets.

Figure 2.4: The joined halves of the lamp, stemming from the top and bottom halves of the mold, respectively, are particularly noticeable on **λ 86** – not only in the clear dividing line cutting below the shoulders, but also in the color of the clay, which is darker above. The material was probably mixed in two different batches, or water had been added to dilute the clay paste as the craftsman filled the bottom mold half.

2.1.3 ROMAN LIGHT

Old Roman society was grounded in the agriculture of Latium and its environs. With ample forests, fertile grasslands and plentiful rain in central Italy, the people of the region could harvest enough wood, tallow, and beeswax for their lighting needs.

Wood was readily available for burning in braziers and for torches (Lat. sg. *fax,* or *taeda*,) that used fabric soaked in pitch or sulfur mixed with lime. Tallow, the solid product of animal fat, was worked to make candles (sg. *candela*) in a manner very similar to beeswax (*cereus*). In order of decreasing efficiency, lard of beef, pork, fish and mutton were used in this process; beeswax candles were an Etruscan tradition that had been become outdated by the Principate. In more formal or homely settings, covered lanterns were employed to create a controlled flame.

Lanterns consisted of an open bowl of fuel with an inserted wick; in this regard, mostly tallow, but also various vegetable oils, and even tree sap (*oleum*

leguminum) could be used. The bowl was then covered with a transparent animal horn (*lanterna cornea*) or bladder (*lanterna vesica*).[11] Naturally, a candle or even a lamp could be placed inside, too.

Lamps came to be known in central Italy through the Greek colonies and towns in Campania, chief among which was Cumae. Oil lamps only appeared in greater number in Rome in the 3rd century BC. Why so late? Discounting any conjectures of Roman conservativism in the face of Greek mores and practices, it may have been for the simple fact that these lamps required liquid fuel, specifically, olive oil, which was yet unfamiliar in Rome, as opposed to the solid fuels of tallow and tree sap used in lanterns up to that time.

In his *Natural History*, Pliny the Elder devotes eight chapters to the olive tree, its oil and its properties. We may learn that the olive was unknown in Italy during the regal period, while in 248 BC, the price of olive oil had already been regulated to one *as* per 12 pounds. This price must have had seasonal fluctuations with severe consequences, as in 73 BC, the curule aedile had to regulate the price again to one *as* per 10 pounds, all year round. It seems that in the 1st century BC, a great number of olive trees were planted in Italy to counter rising prices and unavailability of olive oil, as only 22 years after the latter price regulation, a surplus was already being produced.[12]

Several varieties were recognized: in Italy, Licinian olives from Campania were praised for yielding the best oil, while olives from Picenum and Sidicina were considered to be best for table consumption. Oil was also produced in Histria (the peninsula of Istria, modern Croatia) and Baetica (modern Andalusia, Spain), from whence it was imported.

2.1.4 THE ROMANS ACQUIRE LAMPS

At first, common and widespread Greek lamp types were used in Rome, such as the Howland type 25D Prime lamp known in Magna Graecia.[13] Some the oldest lamps produced in Italy were found in the necropolises of Esquiline Hill in Rome.[14] But hand in hand with the availability of the olive in Latium in the 1st century BC, lamps were adapted in Rome to form new, hybrid types with figural decoration.[15] These lamps were made from molds, and took some design from Hellenistic prototypes, only to add the wholly Roman relief decoration on the discus.[16] Several new shapes from the Republican

11 Martial, *Epigrams*. 14.61–62.
12 Pliny the Elder, *Natural History*, 15.1–8
13 e.g. Bailey 1975, *Q 703* dated to 300–251 BC.
14 Menzel 1954, 22–23, citing Dressel 1880, tav. O
15 for example, Menzel 1954, lamps *67–69*
16 Ruggiu 1980, 48–71, especially lamps *76* and *81* from central Italy as well as *84* from the vicinity of Treviso are good examples of exploring the decorative potential of the discus area.

Figure 2.5: The earliest of Roman lamps, late 1st century BC. Centre arqueològic de l'Almoina.[17]

period were found in the sanctuary at Lanuvium and also show this experimentation[18] (**Fig. 2.5**). What is more, lamps were beginning to be signed by producers; among the first known stamps is the *tria nomina* stamp of C OPPI RES on early Vogelkopflampen, named so for the double bird's head motif on their nozzle.[19]

In Latin, an oil lamp was called a *lucerna*, while in Greek, the word was λύχνος (*lychnos*). The nozzle, likened to a flaring nostril, was called a *rostrum*. Beginning with Petronius the Romans had taken over Greek terms used to describe lamps with multiple nozzles and wick-holes – *bilychnis*, *trilychnis* and so forth, or *polylychnis* in general. A wick was called *ellychnos* (pl. *ellychnia*), and could be made out of any fibrous substance – even asbestos or modern glass fiber – although naturally flax and hemp were used then.

Besides being placed on their bases on a flat surface, like a work table, lamps could be suspended from a lampstand, or *candelabrum*. For bronze lamps, this was a necessity – the metal became very hot when the lamp burned – and the rings by which lamps were suspended are very visible. Pot-

17 By User: Joanbanjo (own work) [CC BY-SA 3.0], via Wikimedia Commons

18 For example, Bailey 1975, *Q 712* and *Q 724* from Lanuvium, both dated c. 50–1 BC.

19 Pisani Sartorio 1969; Ruggiu 1980, 53–58, with lamps signed C OPPI RES, SVCC, VESTA, TI IVL SVC, L FABR MAS, and APPI

tery lamps could be handled more safely, but the impractical shoulder lugs on Firmalampen are remnants of this suspension system.

According to their function, we hear of *lucernae cubiculares* (room lamps), *balneares* (bathing lamps), *triclinares* (dining lamps) and *sepulcrales* (religious lamps) – but this is always a reference to function, not to form. There is some evidence that multi-nozzled lamps may have been colloquially called 'Heliosarapis' as twenty-wicked lamps were often dedicated to the syncretic god Sarapis.[20]

Lamps were often silent witnesses to nightly escapades, and as they were burnt at the bedside during the night, they were no strangers to intimate affairs. Indeed, an epigram of Martial goes:

> I am a night-lamp, privy to the pleasures of the couch;
> do whatever you please, I shall be silent.
> *Dulcis conscia lectuli lucerna,*
> *Quidquid vis facias licet, tacebo.*[21]

But lamps were not only synonymous with sex. Artificial light made labor possible beyond the daylight hours; as such, it became important to distinguish these activities using the verb *lucubro, -are* and the noun *lucubratio*, meaning work by lamplight, and the pursuit of studious enterprises:

> As for your own utterances, they are absolute fictions, scarcely worthy to be discussed by old women over their evening work…
> *Nam ista quae vos dicitis sunt tota commenticia, vix digna lucubratione anicularum.*[22]

> In winter, it is best to rest in bed the whole night long; if there must be study by lamplight, it should not be immediately after taking food, but after digestion.
> *Per hiemem potissimum totis noctibus conquiescere; sin lucubrandum est, non post cibum id facere, sed post concoctionem.*[23]

20 Comment by Donald Strong in Bailey 1988, 118. Of the lamps in the British Museum collection, 'rectangular multinozzlers' such as *Q 1974* or *Q 2722* may be seen as a type associated with Egypt and sometimes with the cult of Sarapis and Isis through inscriptions and iconography – see Bailey 1988, 48–49 and 220–221.

21 Martial, *Epigrams*, 14.39

22 Cicero, *On the Nature of the Gods*, 1.94

23 Celsus, *On medicine*, 1.2

2.1.5 ROMAN LAMPS IN GERULATA

In the archaeological excavation of Gerulata, 210 lamps and lamp fragments have been discovered to date. We have already seen what development the lamp itself had undergone in its two thousand years of existence – from shard to open bowl to nozzle to black varnish Athenian to Roman picture lamp. We would do well to suppose that lamps did not find their way to Gerulata meaninglessly. As a distinct class of objects, the use of lamps has practical, cultural and economic implications for what we may know about the lifestyle of the inhabitants of Gerulata.

At first glance, like in many other territories north of the Alps, proper lamp use in Pannonia would have been dependent on imported fuel, namely, olive oil. This in itself suggests an established network of trade, or a simple pathway by which a steady supply of oil was somehow available from the Mediterranean to areas where the olive would not grow. However, as we know well from ancient sources and our own chemical analyses, an array of substitute fuels was used in Roman provinces where olive oil was expensive, unavailable or simply not preferred: from castor oil, sesame oil, radish oil, to various nut and vegetable oils.[24] The import of a lighting substance for which the original fuel is unavailable, and for which another must be adapted, indicates that use of lamps persevered against unfavorable odds. Without fuel, lamps would be for decoration only – but this is also something that we cannot rule out.

Second, this fuel was a prized resource – perhaps less so in Italy or Greece, where low-quality waste oil was better available, but in Pannonia, any quantity of oil, olive or vegetable, would have been valued primarily as a food resource. Whether one could afford to burn it in a lamp was another question. In this way, lamps may have been a symbol of status.

Third, we may reasonably expect that lamps were used to illuminate evening or night activities – be it dinner or a feast, for reading documents, counting or studying.[25] Although any of these may have been satisfactorily carried out by glowing candles, the use of oil-fueled Roman lamps in this way may have cast a different light upon the activities in question.

24 For specific instances where substitute fuels have been studied, see Rottländer 1992; Mossakowska 1994; Copley et al. 2005; Gonçalves et al. 2007; Garnier et al. 2009, 2011; Happa et al. 2010. For insight into this issue, I would like to thank Dr. Laurent Chrzanovski of the Romanian Academy of Sciences. The use of olive oil and substitute lamp fuels is further discussed in Chapter 7.3.

25 Eckardt 2002a, 15–16: "The desire for artificial light is in itself culturally significant and might well relate to social activities such as dining, reading, and writing for which the already available windows, hearths, fireplaces and torches were apparently no longer deemed adequate."

Lastly, the use of lamps in religious rituals and burial also presents an important layer of our understanding of how these objects were used in the context of Roman culture. The incidence of lamps in graves from the various cemeteries of Gerulata is discussed in detail in Chapter 4.

Of all these speculations, it is important to recognize which can be verified using data available to us. Were lamps shipped to Gerulata on state orders, to supply the army, create a sense of Roman community, or were they sold to cater to the purely private demand of settlers, vicus-dwellers, and soldiers alike? Were lamps used as a public declaration of Roman culture, or do they represent the creative potential of a few individuals whose items the archaeological record happens to conserve?[26]

Here it seems fitting to break off the narrative of lamp development which is to be continued in Chapter 3 for each respective lamp type found in Gerulata. It will be seen that Roman lamps were an innovative business in which shapes, decorations and a booming industry of workshops were established that came to dominate the both the mainland European provinces as well as the whole Mediterranean.

2.2 ROME, PANNONIA AND THE ARCHAEOLOGICAL HISTORY OF GERULATA

The region known to the Greeks and Romans as Pannonia is bordered on the north and east by one of Europe's largest rivers, the Danube (Lat. *Danuvius*, Gr. *Ister*), but its southern and western borders are not exactly well-defined.[27] Indeed, the boundaries of a province could have shifted several times over its existence. In addition to the obvious military reasons, this may have had to do with the existence of customs fees (*portoria*, generally 2–5%) on the movement of goods across internal borders – sometimes it may have been preferred that two towns be in the same province for reasons of supply, taxation, or trade. Borders with Noricum to the west and Dalmatia/Illyricum to the south shifted in this way, as the province was divided in two (AD 102–107) and then into four (AD 295–297) sections.

26 For further discussion of culture and the archaeological record, see Woolf 1998, 12–13. Preservation bias is a phenomenon that every archaeologist worth his salt should always keep in mind.

27 See Soproni 1980 for a good description of what we know about the borders of Pannonia. In the 30 years since publication, the picture has not changed much.

Figure 2.6: The province of Pannonia within the Roman Empire.[28]

2.2.1 THE GEOGRAPHY OF PANNONIA

Most of the territory of Pannonia is part of the Great Hungarian Plain – an ecosystem of flatland, plains and low forests. Much of the land was cultivated, and gains only increased in the Roman period through the implementation of novel farming techniques. Animal husbandry and hunting were also important sources of economic activity. Of note are two great lakes, both somehow and rather confusingly called *Lacus Pelso* by the Romans, now known as Lake Neusiedl and Lake Balaton in present-day Austria and Hungary, respectively. Around their coasts, a network of recreational villas later grew up – a far cry from the opulence of the Campanian seaside, but an oasis of sorts nevertheless.[29] The rivers Danube, Drava and Sava have already been mentioned; as river communications, they were not without practical use. But most importantly, the flow of the Danube served as the primary river frontier of the Roman Empire, not only in Pannonia but all along its extent from Germany

28 By User: Joy (own work) [CC BY-SA 3.0], via Wikimedia Commons
29 Thomas 1964, 13–210; villa categories a) and b)

to the Black Sea. The Roman fleet maintained a permanent naval presence here at least since the mid-1st century AD.[30]

From the south, Pannonia was roughly delineated by the mountains beyond the River Sava near the Adriatic coast. The border between Pannonia and Dalmatia was marked by the station of Ad Fines ('at the limits') near Kravarsko in Croatia, as it is mentioned on the *Tabula Peutingeriana*. The western border is perhaps more problematic, bounded on by the former kingdom and future Roman province of Noricum – forming a somewhat fluid line that ran from the western outskirts of Vindobona (modern Vienna) down the eastern foothills of the Alps through the *Deserta Boiorum* to Poetovio (Ptuj) and the Sava River below Celje. The region of Slovenia around Emona (Ljubljana) was previously regarded as part of Noricum or Pannonia, but the discovery of a milestone in Bevke shows that it was part of the same administrative unit as Aquileia – that is, Italian *regio X* – from at least the Claudian period.[31]

Today, parts of Pannonia are governed by six independent states. Apart from the western half of Hungary (divided from its eastern part by the Danube), which formed the greatest part of the province, it includes the northeast of Slovenia, Croatian and Serbian Syrmia (Cro. *Srijem/Srem*), all territory between the Drava and Sava Rivers, the eastern part of Austria (Burgenland and the Vienna Basin), as well as the tiniest part of Slovakia on the right bank of the Danube. It is in this tiny part, consisting of three villages – now suburbs of Bratislava – that Gerulata is located.

2.2.2 THE LITERARY SOURCES

The territory of Pannonia was, for a very long time, outside the realm of Greek and Roman cultural influence – indeed, one could say that the Roman period of slightly more than four centuries was only a short chapter in the otherwise wholly 'barbarian' history of this Central European plainscape. But some of the deepest connections come from myth – Jason was said to have sailed by way of the Ister (Danube) and Save (Sava) rivers on the return journey with the Golden Fleece – having circumnavigated the known world.[32] The Hyperborean connection was also known – as the votive gifts of amber came dutifully wrapped in straw-lined boxes to the sanctuary of Apollo at Delos from the distant northern Hyperboreans – mirroring in myth the Amber Route that traversed northern Italy through Aquileia, Emona, southern Pannonia up to the Danube, the Marus littoral, northern Moravia, Silesia, and onwards to the Baltic. The Amber Route, however, was no state highway; it

30 Tacitus, *Annals*, 12.30
31 Kos 2002, reading "*finis | Aquileien/sium | Emonen/sium*" on the respective sides
32 Apollonius Rhodius, *Argonautica*, 4.294–337