

DIGITALES ARCHIV

ZBW – Leibniz-Informationszentrum Wirtschaft
ZBW – Leibniz Information Centre for Economics

Heymans, Elon (Ed.); Termeer, Marleen K. (Ed.)

Conference Paper

Politics of value : new approaches to early money and the state

Provided in Cooperation with:

ZBW OAS

Reference: (2020). Politics of value : new approaches to early money and the state. Heidelberg : Propylaeum.

This Version is available at:

<http://hdl.handle.net/11159/630845>

Kontakt/Contact

ZBW – Leibniz-Informationszentrum Wirtschaft/Leibniz Information Centre for Economics
Düsternbrooker Weg 120
24105 Kiel (Germany)
E-Mail: [rights\[at\]zbw.eu](mailto:rights[at]zbw.eu)
<https://www.zbw.eu/>

Standard-Nutzungsbedingungen:

Dieses Dokument darf zu eigenen wissenschaftlichen Zwecken und zum Privatgebrauch gespeichert und kopiert werden. Sie dürfen dieses Dokument nicht für öffentliche oder kommerzielle Zwecke vervielfältigen, öffentlich ausstellen, aufführen, vertreiben oder anderweitig nutzen. Sofern für das Dokument eine Open-Content-Lizenz verwendet wurde, so gelten abweichend von diesen Nutzungsbedingungen die in der Lizenz gewährten Nutzungsrechte. Alle auf diesem Vorblatt angegebenen Informationen einschließlich der Rechteinformationen (z.B. Nennung einer Creative Commons Lizenz) wurden automatisch generiert und müssen durch Nutzer:innen vor einer Nachnutzung sorgfältig überprüft werden. Die Lizenzangaben stammen aus Publikationsmetadaten und können Fehler oder Ungenauigkeiten enthalten.

Terms of use:

This document may be saved and copied for your personal and scholarly purposes. You are not to copy it for public or commercial purposes, to exhibit the document in public, to perform, distribute or otherwise use the document in public. If the document is made available under a Creative Commons Licence you may exercise further usage rights as specified in the licence. All information provided on this publication cover sheet, including copyright details (e.g. indication of a Creative Commons license), was automatically generated and must be carefully reviewed by users prior to reuse. The license information is derived from publication metadata and may contain errors or inaccuracies.



<https://savearchive.zbw.eu/terms-of-use>

ZBW Leibniz-Informationszentrum Wirtschaft
Leibniz Information Centre for Economics

Mitglied der

Leibniz
Leibniz-Gemeinschaft

Archaeology and Economy in the Ancient World



33

Politics of Value: New Approaches to Early Money and the State

Panel 5.11

Elon D. Heymans
Marleen K. Termeer (Eds.)

**Proceedings of the
19th International Congress of Classical Archaeology**

Volume 33: Politics of Value

**Proceedings of the
19th International Congress of Classical Archaeology**

Cologne/Bonn, 22 – 26 May 2018

Archaeology and Economy in the Ancient World

Edited by

Martin Bentz and Michael Heinzelmann

Volume 33



Edited by

Elon D. Heymans – Marleen K. Termeer

**Politics of Value:
New Approaches to Early Money and the State**

Panel 5.11

Bibliographic information published by the Deutsche Nationalbibliothek:
The Deutsche Nationalbibliothek lists this publication in the Deutsche Nationalbibliografie;
detailed bibliographic data are available on the Internet at <http://dnb.dnb.de>.



This work is published under the Creative Commons License 4.0 (CC BY-SA 4.0).
The cover is subject to the Creative Commons License CC BY-ND 4.0.

Propylaeum

SPECIALIZED INFORMATION
SERVICE CLASSICS

Published at Propylaeum,
Heidelberg University Library 2020.

This publication is freely available under <https://www.propylaeum.de> (Open Access).

urn: urn:nbn:de:bsz:16-propylaeum-ebook-574-7

doi: <https://doi.org/10.11588/propylaeum.574>

Text © 2020 the authors.

Editorial Coordination: Florian Birkner, Ina Borkenstein, Christian Schöne
Editorial Staff: Stefanie Hertzen, Katharina Zerzeropulos

Layout: Torsten Zimmer, Zwiebelfisch@quarium

Cover illustration: Hoard of Hacksilber and cut Athenian tetradrachms, Samaria, late 4th century BC.
IM Inv. No. 99.149.15298/ 1–37. Photo © The Israel Museum, Jerusalem by Peter Lanyi.

ISBN: 978-3-948465-03-2

e-ISBN: 978-3-948465-02-5



CONTENTS

Elon D. Heymans – Marleen K. Termeer

Rethinking Early Money and the State 1

Nicholas Borek

More than Just Coins: A Metrological Approach to Studying Coin Hoards from the Western Mediterranean c.550–480 BC 13

David Wigg-Wolf

The Adoption of Coinage by Non-State Societies. Two Case Studies from Iron-Age Northern Europe 25

Andreas M. Murgan

Between Lumps and Coins. Italy in the First Millennium BC 39

Merav Haklai

How Money Defined the Romans 53

Nicola Terrenato

Discussion 63

PREFACE

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

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

The participation of more than 1.200 scholars from more than 40 countries demonstrates the great response to the topic of the congress. Altogether, more than 900 papers in 128 panels were presented, as were more than 110 posters. The publication of the congress is in two stages: larger panels are initially presented as independent volumes, such as this publication. Finally, at the end of the editing process, all contributions will be published in a joint conference volume.

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

Bonn/Cologne, in August 2019

Martin Bentz & Michael Heinzelmann

Rethinking Early Money and the State

Elon D. Heymans – Marleen K. Termeer

Abstract

In ancient studies, money, and especially coinage, has been predominantly associated with the state, in theoretical opposition to the market. In this paper, we argue that a strong focus on the state as a context for the appearance of early money may obscure our understanding of the range of different ways, in which money as an innovation, could be anchored and socially embedded. This is illustrated by two case studies. In the Iron Age eastern Mediterranean, it was the collapse of state control and its effects on trade networks at the end of the LBA, rather than a process of state formation, that led to a proliferation of the use of (precious) metal as a means of exchange. In early Roman Italy, the adoption of coinage was not so much a result of internal developments in the Roman state, but rather a way to facilitate interaction with others on the Italian peninsula.

Introduction

As one of the most enduring icons of economic life, money has been a common feature and central focus in complex societies from antiquity to the present. Arguably, it gained weight as a key feature of Mediterranean economies in the course of the first millennium BC, mostly in the form of coinage. But money is more than just coin, and its significance more pervasive than just to the strict sphere of what is usually known as ‘the economy’. In this session, we aimed to bring together papers that explore how a more inclusive understanding of early money can shed new light on ancient economies and the diverse social and political realities to which they belonged.

Our main interest, as reflected by the papers, was to explore critical perspectives on the relation between money and the state, in order to problematize presumed state control of money in society, and to foster an understanding of the role played by money in ancient society and economic history that does not need to be imposed top-down. More specifically, we are interested in whether the state was critical in promoting the social, political and economic innovation represented by new forms of money. In other words: to what extent were early forms of money anchored in state authorization, and what other anchoring devices may have been at play as alternatives, or in addition to the state and its symbols of power?

In this introductory paper, we will offer some background to the relevance of this general theme, illustrated by two case studies from our own research. We will conclude with a brief outlook to the papers of the session.

Background

As a framework for our session, we offer a brief overview of how scholarship has generally reflected on the forces deemed responsible for creating money and its value, focusing on the contexts or circumstances that may explain its rise within society. While tied as an integral and iconic element to what is commonly referred to as the economy, money has been regarded one of the more prominent means for political entities – states – to assert themselves, i.e. by controlling the issue of coinage and exploiting them as media for political messages. It is therefore hardly surprising that money as an innovation in the embedded economies of the ancient Mediterranean has been predominantly associated with *the state*, in theoretical opposition to *the market*. We wish to subject this assumed relation between the spread of early forms of money and the state to debate.

In doing so, we are indebted to the work of anthropologist Keith Hart, who in his 1986 seminal paper dissected modern understandings of money as being either created by the market or created by the state. He wrote:

Look at a coin from your pocket. On one side is “heads” – the symbol of the political authority, which minted the coin; on the other side is “tails” – the precise specification of the amount the coin is worth as payment in exchange. One side reminds us that states underwrite currencies and that money is originally a relation between persons in society, a token perhaps. The other reveals the coin as a thing, capable of entering into definite relations with other things.¹

As Hart explains, money is a token, but at the same time it is also a commodity. The rigid opposition that Hart criticizes in his analysis of the late-nineteenth- and twentieth-century discourse on money can also be observed in the way money in the ancient world has been approached. Especially in conceptualizing the rise, development and spread of money in ancient economies, the state has often been regarded as a driving force – think of the prominence accredited to the Greek *poleis* and the Roman emperors in the ancient history of money. But to what extent is that characterization apt?

No one challenges the fact that where we see big states in antiquity, we often (though not always) observe active state involvement with the issue, regulation and circulation of money. But if state institutions and its policies are less articulate, does this mean that there can be no money, in whatever form? Or, if this is too radical a consequence, how should we conceptualize the ways in which the value of money is constructed?

We contend that, like other commodities, money is subject to what anthropologist Arjun Appadurai referred to as “the politics of value”, meaning that the production, circulation and use of money – whether metal bullion, coin, or other ‘money-stuff’ – were part of political and social strategies employed by agents within society.² Money was sanctioned for use and its value was constructed through exchanges and payments,

anchored in a range of specific contexts such as religion and cultic institutions, cultural and colonial interactions, elite strategies, military or economic expansion, and in the articulation of political messages. What follows is that while the use of money is always an expression of power, this power need not emanate from the state, but is part of the interplay between people and groups in society.

Current Approaches

We aim to return such theoretical considerations to the center of the debate about money in antiquity. It seems perhaps that archaeologists and historians of the ancient world have developed some sort of discomfort with money as a theoretical concept of relevance to the study of the ancient world. Although Sitta von Reden's recent handbook offers a valuable overview of the main body of research on money in antiquity,³ money is conspicuously absent from several of the general syntheses of the ancient economy. For example, the 2007 *Cambridge Economic History of the Greco-Roman World* does not have a chapter on money,⁴ and the eleven main themes pre-formulated by the AIAC organization for this congress referred to money only rather indirectly.

That is not to say, of course, that nothing interesting is happening in this regard. We would like to point out three recently edited volumes that present a wide range of case studies that deal with the materiality of money and its diverse historical and social contexts, and place it alongside other exchange modalities, such as gift or commodity exchange.⁵ In doing so, they emphasize that value is created through social processes to which materiality forms an integral part. As far as we are concerned, this should be central in the discourse on money, thereby contrasting with economic and sociological approaches that tend to see money as an abstraction.⁶

In line with this, we feel the need to emphasize the obvious, that money is more than just coin. It may take many shapes and feature in diverse settings that do not necessarily resemble the well-known state currencies of classical Athens or imperial Rome. Certainly, these examples, while most prominent in our perception, are not representative of money in antiquity. Accordingly, our focus is not on coinage as a material category within a specialized discourse, but on early money in its wider social settings and the question what it can tell us about the organization of communities and related political dynamics.

Goal of the Session

This brings us to the observation that we need to direct our efforts towards those areas, periods and practices that are generally considered as located at the fringe of 'the ancient economy' (with its focus on the classical periods of ancient history) in order to

understand the diversity of ancient money. It is in this regard perhaps no coincidence that we were both trained not as numismatists or economic historians, but as archaeologists of pre-classical periods, focusing respectively on the eastern Mediterranean, and on pre-Roman and early Roman Italy. From this perspective, it often seems that the more we enter the historical periods, the stronger the tendency to conceptualize society and economy as ‘modern’. This has an effect on the ways money is conceptualized as well. At the same time, archaeologists of earlier periods have been equally reluctant to engage with a concept that seems overtly modernist. These attitudes have only served to reinforce a primitivist-modernist divide that is not conducive to a better understanding of ancient money. We strongly feel that there is room for improvement.

In the remainder of this paper, we use examples from our own research to suggest that a strong focus on the state as a context for the appearance of early money may obscure our understanding of the different ways in which money could be socially embedded.

Case Study: Pre-Coinage Money in the Eastern Mediterranean

The first case is taken from the doctoral research of the first author, dealing with the history of money in the eastern Mediterranean Iron Age.⁷ This project focused on forms of money preceding coinage. As is well known, the ancient Near East has a long history of using uncoined precious metal, particularly silver, for carrying out transactions and making payments, going back to the third millennium BC.⁸ This is not a continuous practice though, and there were times, such as in Babylonia during the Kassite period, when silver was largely absent from circulation.⁹ However, in the area of the southern Levant (modern Israel/Palestine), from the end of the Late Bronze Age to the end of the Iron Age (ca. 1200–600 BC), evidence for the use of silver as a form of money is known through a series of hoards.¹⁰ These consist mostly of cut and broken pieces of silver, conventionally known as *hacksilver*. The aim of the project was in part to study the use of silver money as reflected by these hoards and to place this within a social and historical context. What follows is a short outline of part of the results.

During the Late Bronze Age, silver hoards are mostly absent from the archaeological record of the Levant. A rare example is the gold and silver scrap found in the Uluburun shipwreck, dated around 1300, and likely used for on-the-side transactions by its crew. Then from the twelfth century, as the eastern Mediterranean enters a period of change and relative instability, silver hoards are known from Ugarit, Tell Basta in lower Egypt, and from the southern Levant for example at Beth Shean and Megiddo. Typical for these hoards is that they contain a relatively large amount of jewellery, or ornamental objects, together with ingots, and that the objects are relatively large



Fig. 1: Hoard from Tel Megiddo, ca. 1100 BC.

in size (fig. 1). The presence of large jewellery fragments or complete jewellery suggests that ornamental or prestige objects were increasingly appropriated for hoarding and exchange.¹¹

This practice gains further weight in the Iron I period, as reflected by the hoards we have from the end of the Iron I – the tenth century. These hoards, for example from Megiddo, Tell Keisan and Beth Shean show a remarkably consistent picture: the hoards are now much more fragmented, with most of the objects weighing below 1 gram, and this pattern continues into the Iron II A and B (fig. 2). Objects from these hoards were often broken in multiple instances, and show substantial traces of wear, indicating that even after fragmentation the objects must have circulated rather intensively (fig. 3).¹²

We thus observe a clear increase in the use of silver money from the Late Bronze Age into the Iron Age. Although this is not the place to address the historical context in full detail, the point to be made is that the rise of money-use is not paralleled by the appearance of a central authority that issues money, or is involved in stimulating or creating the stable circumstances for its use, but quite the opposite. In the Late Bronze Age, trade routes and harbours were secured by a central authority. In the southern Levant this role was taken up by the Egyptian imperial rule. However, in the course of the twelfth century the political hierarchy faced increasing pressure, and the Egyptians retreated from the region around the end of the century.¹³ The resulting instability of

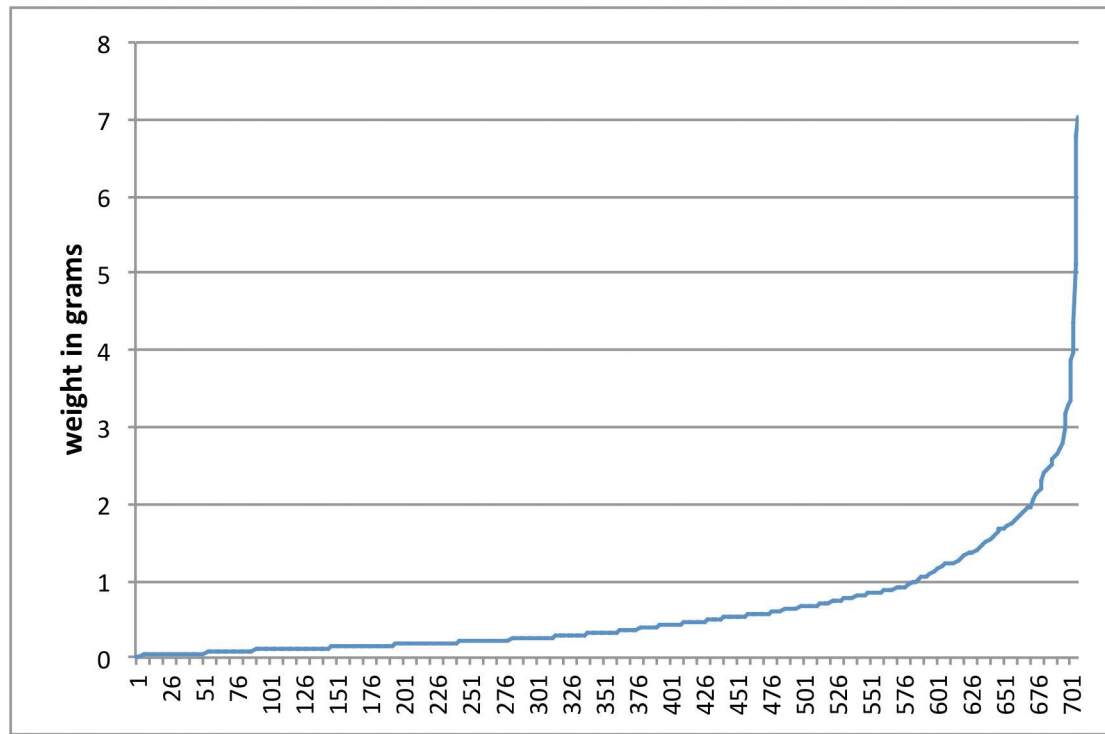


Fig. 2: Object weights on an ascending scale, from a hoard from Tel Megiddo, 10th century BC.

trade networks appears to have stimulated a growing reliance on silver to carry out transactions and maintain a supply of goods.¹⁴

In short, this historical case shows that the circulation of money was not anchored in the rise of a central authority, but was prompted by its collapse.

Case Study: Early Roman Coinage

The second case focuses on the introduction of coinage as a new form of money in the Roman world. In this case, predefined ideas about money's relation to society have been strong – more specifically: all coinage production is more or less automatically related to state initiatives.¹⁵ An argument can be made, however, that this perspective does not explain how the value of coinage as money was created in the early Roman world.

It is well known that coinage was adopted in the Roman world some three centuries after its first appearance in the Aegean. Importantly, even before coinage first appeared Rome was a strong political player in Italy, with developed institutions. This in itself should trigger our interest: apparently the adoption of coinage was not something that

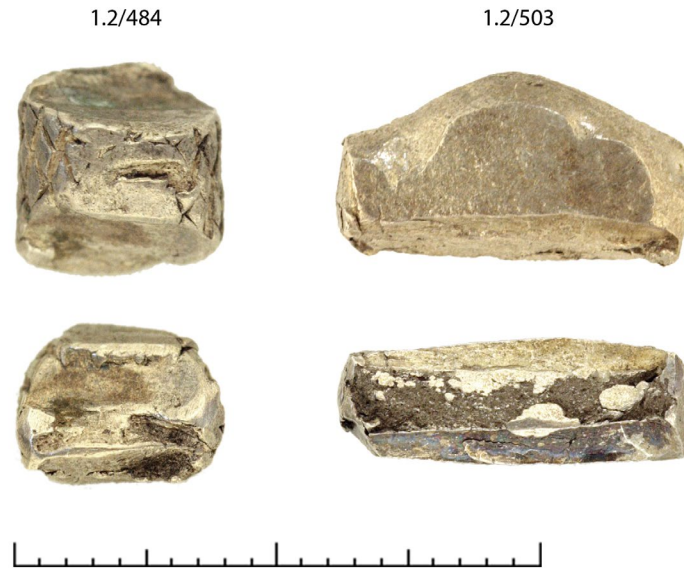


Fig. 3: Traces of wear on two objects from a hoard from Tel Megiddo, 10th century BC.

happened automatically when it was available: it must have been a conscious step. Most research of early Roman coinage, however, does seem to implicitly accept that the adoption of coinage was a kind of ‘natural development’: the question how, or why, coinage came to be accepted as a form of money has received remarkably little attention. This may be partly explained by a second common assumption: that coinage in the early Roman world functions as money because it was issued and authorized by the state.

There are several reasons why these assumptions are problematic, based on the data that we have. A brief discussion of these problems here serves to show the need to rethink the relationship between coinage and the state.

First of all, in the usual understanding of a state-authorized coinage, we would expect standard types that would signal the coins as being authorized by the state.¹⁶ Early Roman coinage, however, not only displays a variety of types, but even the use of different concepts of money: it consists of struck silver, struck bronze and cast bronze that have different circulation and consumption patterns. Moreover, Rome is only one of many coin producers in the Roman world. Many other communities – including colonies and allies of Rome – produced their own coinages in the third century BC.¹⁷ While these colonial and allied coinages have generally been related to the political authority of the local community,¹⁸ we should realize that most of these productions must have been functional to an emerging Roman world.¹⁹

This is all the more relevant since it is very much an open question to what extent these local coinages were locally used. In a ‘normal’ case of state authorized coins, the coins would be legal tender within the state’s territory, and we would expect this to be the main area of circulation. For Rome’s own production, especially in silver, we know it

circulates to a large extent outside territories that fall directly under Roman authority.²⁰ For other Italic coinages, more research is needed to better understand which coinages circulated where, and, importantly, in which contexts they were used. In the case of the early Roman struck bronze coins, various scholars have noted that they are found rarely in settlement contexts, but mainly in sanctuaries.²¹ Rather than assuming that coins were used and had value mainly in a market context, this draws our attention to alternative ways in which coins may have been considered valuable.

These observations suggest that state authorization may not have been crucial in creating the value of the first coins in the Roman world. Other cultural strategies and practices need to be taken into account in order to fully understand the relation between coinage production and the developing Roman state.²²

Outlook

By briefly presenting these two case studies, different as they are, we hope to have made clear the need to rethink the relationship between coinage and the state more generally. The following papers furthermore demonstrate the wider relevance of this need, both geographically and chronologically, as well as thematically. It is welcome in this regard that the papers present case studies across traditional boundaries between the Greek and Roman world and even travel beyond the Mediterranean.

The first paper by Nicholas Borek draws on several archaic Greek coin hoards from southern Italy. While the coins in these hoards are evidently minted by early Greek states (*poleis*), Borek shows that their relation to state control is hardly straightforward. His metrological analysis of several hoards suggests that the nominal or face value of the coins – assumed to be based on the state's authority – did not necessarily supersede the intrinsic value of the silver from which they were made. The question remains how then state-minted coins were necessarily different in use from bullion.

This notably contrasts with the adoption of coinage by two non-state societies, discussed by David Wigg-Wolf. In Germania, Roman Imperial precious metal coinage appears to have been appreciated particularly for its representative and symbolic characteristics, rather than simply as metal currency. While this emphasizes the token aspect of the coins, the Roman imperial authority that had produced these coins played no role in controlling their use across the limes. Wigg-Wolf compares this use of imported coinage in Germania, where no local coinage was produced, with late Iron Age Gaul, where local issues soon succeeded the initial use of imported coins. In this way, he illustrates the pluriform nature of the coinages adopted and the diverse ways in which they were used.

This diversity resonates with the complex Italic material presented by Andreas Murgan, who offers an insight into the various contexts in which both unminted bronze (*aes rude*)

and coins were employed, and the possible significance these different uses could have had. The prominence of non-state institutions, such as sanctuaries, in mandating the use and perhaps even production of money, and the deliberate choice made in certain contexts for currency that is not state-issued, challenges the homogeneity of money in first millennium BC Italy. Rather, it suggests a money economy in which different monies coexist and were used in different contexts and different purposes.

Merav Haklai turns things around: rather than taking off from the objects, she uses a philological approach to discuss the literary tradition surrounding the reforms by Servius Tullius, including his alleged monetary reform and installation of the *comitia centuriata*. Since the organization of this citizens' assembly was based on a division in wealth classes, Haklai draws attention to the Roman state's interest in measuring the wealth of its citizens and its tentative connection to monetary reform in a period before the introduction of coinage. Interestingly, structural similarities exist with the timocratic organization of political life in other contexts, such as the establishment of wealth classes under Solon in Athens.

Finally, in the discussion paper, Nicola Terrenato draws out conclusions that place these contributions in the broader context of his recent reconsiderations of the state, focusing specifically on early Italy. Taking a deconstructive attitude towards the state, he identifies parallel developments in recent scholarship regarding the social context of early money use, which perhaps can be considered part of a larger shift in scholarship. By bringing these developments together, he elucidates the fundamental problems inherent to any *a priori* relation between money and the state.

Acknowledgements

We would like to thank the participants in our session 'Politics of value: new approaches to early money and the state' (5.11) in Bonn on the 25th of May 2018 for their enthusiasm, and the organizers of the AIAC congress for their involvement. This introductory chapter was written with the support of Anchoring Innovation, the Gravitation Grant research agenda of OIKOS (the National Research School in Classical Studies in the Netherlands), funded by the Dutch ministry of Education, Culture and Science (2017–2027). For more information see www.ru.nl/oikos/anchoring-innovation.

Notes

¹ Hart 1986, 638.

² Appadurai 1986.

³ von Reden 2010.

⁴ Scheidel et al. 2007.

⁵ García-Bellido et al. 2011; Haselgrove – Krmnicek 2016; Brandherm et al. 2018.

- ⁶ Ingham 2004; van der Spek – van Leeuwen 2018, 9.
- ⁷ Heymans 2018.
- ⁸ Powell 1978; 1996; Peyronel 2010.
- ⁹ Kleber 2016.
- ¹⁰ Kletter 2003; Thompson 2003.
- ¹¹ Heymans 2018, 92–110. 133–138.
- ¹² Heymans 2018, 92–110.
- ¹³ Weinstein 1992.
- ¹⁴ Heymans 2018, 130–140.
- ¹⁵ Some recent discussion in Coarelli 2013, 8 and Burnett – Crawford 2014, 242; see Termeer 2016 for a critical perspective focusing on colonial coinages.
- ¹⁶ Martin 1985, 15–21.
- ¹⁷ Burnett 2012.
- ¹⁸ Examples in Termeer 2016.
- ¹⁹ As noted by Rutter 1997, 71–72.
- ²⁰ See Vitale 1998.
- ²¹ Taliercio Mensitieri 1998, 80; Jaia – Molinari 2011, 89.
- ²² This is one of the goals of a research project by the second author, funded by a NWO-VENI grant of the Netherlands Organization of Scientific Research, to be started in 2019.

Image Credits

Fig. 1: courtesy of the Megiddo Expedition, Tel Aviv University. – Fig. 2: by the authors. – Fig. 3: photo by the authors. Courtesy of the Oriental Institute of the University of Chicago.

References

Appadurai 1986

A. Appadurai, Introduction: Commodities and the Politics of Value, in: A. Appadurai (ed.), *The Social Life of Things: Commodities in Cultural Perspective* (Cambridge 1986) 3–63.

Brandherm et al. 2018

D. Brandherm – E. Heymans – D. Hofmann (eds.), *Gifts, Goods and Money: Comparing Currency and Circulation Systems in Past Societies* (Oxford 2018).

Burnett 2012

A. M. Burnett, Early Roman Coinage and Its Italian Context, in: W. E. Metcalf (ed.), *The Oxford Handbook of Greek and Roman Coinage* (Oxford 2012) 297–314.

Burnett – Crawford 2014

A. M. Burnett – M. H. Crawford, Coinage, Money, and Mid-Republican Rome. Reflections on a Recent Book by Filippo Coarelli, *AnnIstItNum* 60, 2014, 231–265.

Coarelli 2013

F. Coarelli, *Argentum Signatum. Le origini della moneta d'argento a Roma* (Rome 2013).

García-Bellido et al. 2011

M. P. García-Bellido – L. Callegarin – A. Jiménez Díez (eds.), *Barter, Money and Coinage in the Ancient Mediterranean (10th–1st centuries BC)* (Madrid 2011).

Hart 1986

K. Hart, *Heads or Tails? Two Sides of the Coin*, *Man* 21, 1986, 637–656.

Haselgrove – Krmnicek 2016

C. Haselgrove – S. Krmnicek (eds.), *The Archaeology of Money: Proceedings of the Workshop 'Archaeology of Money'*, University of Tübingen, October 2013 (Leicester 2016).

Heymans 2018

E. D. Heymans, *Argonauts of the Eastern Mediterranean: the Early History of Money in the Eastern Mediterranean Iron Age* (Ph.D. diss. Tel Aviv University, Tel Aviv 2018).

Ingham 2004

G. Ingham, *The Nature of Money* (Cambridge, Malden (MA) 2004).

Jaia – Molinari 2011

A. M. Jaia – M. C. Molinari, *Two Deposits of Aes Grave from the Sanctuary of Sol Indiges (Torvaianica/Rome): the Dating and Function of the Roman Libral Series*, *NumChron* 171, 2011, 87–97.

Kleber 2016

K. Kleber, *The Kassite Gold and the Post-Kassite Silver Standards Revisited*, in: K. Kleber – R. Pirngruber (eds.), *Silver, Money and Credit: a Tribute to Robartus J. van der Spek on the Occasion of his 65th Birthday* (Leiden 2016) 39–60.

Kletter 2003

R. Kletter, *Iron Age Hoards of Precious Metals in Palestine – an 'Underground Economy'?*, *Levant* 35(1), 2003, 139–152.

Martin 1985

T. R. Martin, *Sovereignty and Coinage in Classical Greece* (Princeton 1985).

Peyronel 2010

L. Peyronel, *Ancient Near Eastern Economics: the Silver Question Between Methodology and Archaeological Data*, in: P. Matthiae – F. Pinnock – L. Nigro – N. Marchetti (eds.), *Proceedings of the 6th International Congress on the Archaeology of the Ancient Near East I* (Wiesbaden 2010) 925–948.

Powell 1978

M. A. Powell, *A Contribution to the History of Money in Mesopotamia prior to the Invention of Coinage*, in: B. Hrouška – G. Komoróczy (eds.), *Festschrift Lubor Matouš II* (Budapest 1978) 211–243.

Powell 1996

M. A. Powell, *Money in Mesopotamia*, *Journal of the Economic and Social History of the Orient* 39, 1996, 224–242.

Rutter 1997

N. K. Rutter, *The Greek Coinages of Southern Italy and Sicily* (London 1997).

Scheidel et al. 2007

W. Scheidel – I. Morris – R. P. Saller (eds.), *The Cambridge Economic History of the Greco-Roman World* (Cambridge 2007).

Taliercio Mensitieri 1998

M. Taliercio Mensitieri, Le emissioni romano-campane di bronzo, in: *La monetazione romano-campana. Atti del X convegno del centro internazionale di studi numismatici* (Rome 1998) 49–140.

Termeer 2016

M. K. Termeer, Roman Colonial Coinages Beyond the City-State: a View from the Samnite world, *Journal of Ancient History* 4(2), 2016, 158–190.

Thompson 2003

C. M. Thompson, Sealed silver in Iron Age Cisjordan and the ‘Invention’ of Coinage, *Oxford Journal of Archaeology* 22(1), 2003, 67–107.

van der Spek – van Leeuwen 2018

R. J. v. d. Spek – B. Van Leeuwen, Money, Currency and Crisis. In *Search of Trust, 2000 BC to AD 2000* (Andover 2018).

Vitale 1998

R. Vitale, I rinvenimenti di moneta romano-campana nell’Italia antica, in: *La monetazione romano-campana. Atti del X convegno del centro internazionale di studi numismatici* (Rome 1998) 141–164.

von Reden 2010

S. von Reden, *Money in Classical Antiquity* (Cambridge 2010).

Weinstein 1992

J. M. Weinstein, The Collapse of the Egyptian Empire in the Southern Levant, in: M. Joukowsky – W.A. Ward (eds.), *The Crisis years: the 12th century B.C. from beyond the Danube to the Tigris* (Dubuque, Iowa, 1992) 142–163.

More than Just Coins: A Metrological Approach to Studying Coin Hoards from the Western Mediterranean c.550–480 BC

Nicholas Borek

Abstract

The value of a hoard was not always determined by the number of coins it contained but by the amount of silver it represented. This certainly appears to be true for coin hoards in the western Mediterranean during the archaic period. For this reason, it is important to consider the metrological rather than strictly numismatic aspects of these hoards. By analyzing their metrology, it could be possible to determine if the coins were counted or weighed. The results have broad implications. In particular, one of the traditional distinctions between bullion and coinage is that the value of a coin was guaranteed by the state so that there was no need for weighing it. However, some hoards suggest that their contents were in fact weighed like bullion. This indicates that the state's 'guarantee' of value was perhaps less entrenched and slower to take effect in local contexts than is normally assumed.

Introduction

Shortly after 550 BC, a handful of cities in southern Italy and Sicily began minting coins. Although they were not necessarily the first to use coins, these cities were certainly the first to produce their own coinage in the western Mediterranean region.¹ However, they were not on their own for very long. By the end of the Archaic period, the practice of minting silver coins – and it was only silver coins being produced at this time – was taken up by other cities in southern Italy and Sicily as well as France and Spain. Almost as soon as these cities started minting coins, individuals started hoarding them. The oldest surviving hoards turn up a few decades after the first coins were struck and occur with increasing frequency towards the end of the Archaic period. In fact, while there are perhaps less than 10 from the sixth century BC, the number of hoards from the first half of the fifth century BC is closer to 50.²

Considering the paucity of evidence from the Archaic period, coin hoards are an important source of information about the early use of coinage in the region. One way of tracking the use of coinage is by looking at the various find contexts or the contents of hoards. For example, circulation patterns can be deduced by the appearance of hoards or finds in urban or rural contexts.³ Elsewhere, hoards left behind as votive offerings at sanctuaries or cemeteries show a very different kind of use.⁴ What is found in these hoards also varies greatly. Sizes range from a small fistful to hundreds of coins.⁵

Additionally, while some hoards contain coins from one denomination or mint, others feature many different denominations and mints.⁶ Sometimes they are even found with other objects like bullion, jewellery, or statues.⁷

All of these examples show how the use of coins by individuals or social groups could vary at this time. However, the objective of this paper is to explore how coin use might be understood further by scrutinizing the metrology of hoards, including weight standards, individual weights of coins, and combined weights of coins.⁸ This approach is significant because it leads to a reconsideration of not only how coins were used at the time but also the relationship between early money and the state. It also has some limitations. In particular, information about coin hoards is not always available or it is unreliable and outdated. This means that many details have been lost or the contents are simply unknown. In fact, it would be optimistic to say that half of the hoards from this period are complete, or mostly complete, and published. In consideration of this unfortunate reality, some caution is required when dealing with the metrology of hoards.

Analysis

Rather than attempt to cover all hoards, the aim is to pick out a few and make some observations about the use of coins in the western Mediterranean based on their metrological profiles. A useful place to start is by comparing two hoards that have the same approximate burial date (c. 480/470 BC) and were found in southern Italy (Tables 1 and 2). The first hoard (southern Italy, pre-1903)⁹ is made up of 5 staters from various mints in southern Italy while the second (Muro Leccese 1996)¹⁰ contains 5 staters and 5 diobols. On the surface, the composition of these hoards is different. Not only does the first hoard contain fewer coins but also its contents have a lower face value, which is the denominational value placed on coins by the minting authority or state. Simply put, the face value of the first hoard was 5 staters and the second was 5 staters and 5 diobols.

Setting aside their face values, it is worthwhile to think about how much silver each hoard actually contained. In fact, the total amount of silver is close. The combined weight of the 5 staters from the first hoard is 40.28g while the 5 staters (35.06g) and 5 diobols (4.90g) from second amount to 39.96g. What is striking is that the first hoard contained slightly more silver despite having a lower face value. The reason for this is found in

Publication	Mint	Date (BCE)	Denomination	Weight (g)
Vlasto 1922, no. 1	Taras	510-500	Stater	8.00
Vlasto 1922, no. 2	Croton	530-500	Stater	8.09
Vlasto 1922, no. 3	Croton	500-480	Stater	8.10
Vlasto 1922, no. 4	Caulonia	525-500	Stater	8.05
Vlasto 1922, no. 5	Caulonia	525-500	Stater	8.04

Table 1: Southern Italy, pre-1903 (IGCH no. 1879).

Publication	Mint	Date (BCE)	Denomination	Weight (g)
Siciliano et al. 2016, no. 1	Caulonia	525-500	Stater	7.69
Siciliano et al. 2016, no. 2	Caulonia	525-500	Stater	6.58
Siciliano et al. 2016, no. 3	Croton	530-500	Stater	7.17
Siciliano et al. 2016, no. 4	Metapontum	540/530-510	Stater	6.69
Siciliano et al. 2016, no. 5	Metapontum	475/470-440	Diobol	0.88
Siciliano et al. 2016, no. 6	Metapontum	475/470-440	Diobol	1.12
Siciliano et al. 2016, no. 7	Metapontum	475/470-440	Diobol	0.85
Siciliano et al. 2016, no. 8	Metapontum	475/470-440	Diobol	0.78
Siciliano et al. 2016, no. 9	Metapontum	475/470-440	Diobol	1.27
Siciliano et al. 2016, no. 10	Sybaris	525-514	Stater	6.93

Table 2: Muro Leccese 1996.

the weights of the coins. Although they were all struck on the same ‘Achaean’ standard, the average weight of the staters in the first hoard is 8.06g whereas the average of the staters in the second is only 7.01g. Since the theoretical weight of an Achaean stater was 8.05g, this means that the weight of the 5 staters in the first hoard (40.28g) is almost exactly the same as the theoretical weight of 5 staters on the Achaean standard (5 x 8.05 = 40.25g) but the 5 staters from the second (35.06g) are well below it.¹¹

By adding the weight of the diobols (4.90g) to the staters in the second hoard, not only is this discrepancy reduced but also the total weight of the hoard approximates the theoretical weight of 5 Achaean staters. In this way, it seems that these hoards represent two different ways of achieving the same result – a sum of silver that is equivalent to the weight of 5 staters on the Achaean standard. On the one hand, there are 5 staters that were possibly up to 50 years old and underweight, which meant that 5 diobols were added to make up the difference. On the other hand, there are 5 staters that were also as much as 50 years old but not underweight. In fact, their average weight almost perfectly matches the theoretical weight of an Achaean stater. Moreover, the range of weights is narrow (8.00–8.10g), which suggests that they were intentionally kept because they were so close to the theoretical standard. This is crucial because it means that for both hoards the emphasis was the intrinsic value of the coins – their weight in silver – rather than the extrinsic or face value of the coins – their value according to the institution issuing them.

The same could be said for the two oldest hoards in southern Italy, both of which show very different metrological profiles. The first was unearthed near the town of Sambiasi in 1959 and is probably the only hoard buried before 510 BC in the region.¹² Sambiasi 1959/1961 consists of 56 staters and 3 stater fragments from Sybaris, 2 staters and 1 stater fragment from Corinth, as well as a ‘chunk’ of silver cut from a larger ingot.¹³ Setting aside the ingot fragment, what is striking about the weights of the coins is that they are both so low and variable (fig. 1). The average weight of the 56 Sybarite staters (7.14g) is nearly a full gram below the theoretical weight standard of an Achaean stater. The histogram in fig. 1 also shows that their weights

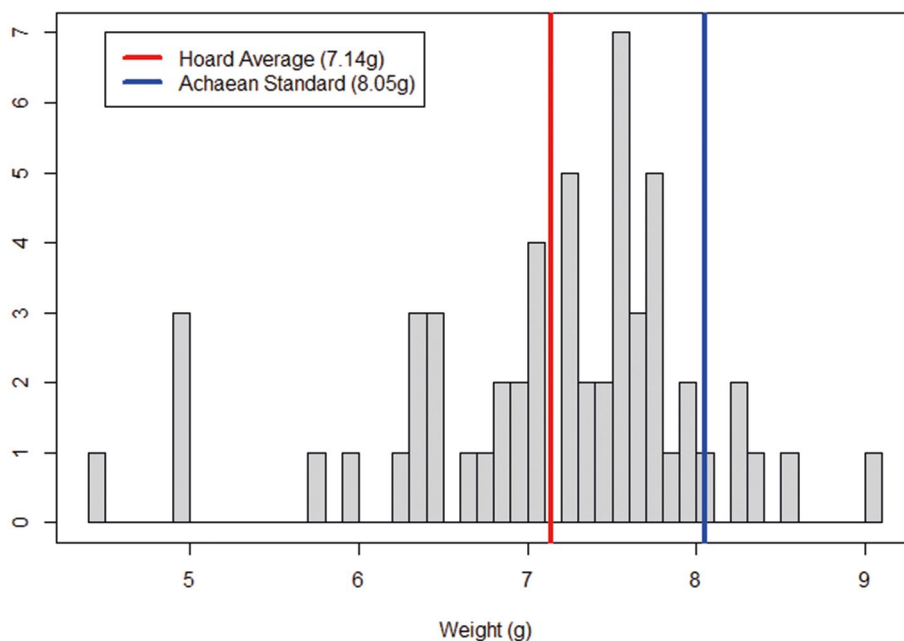


Fig. 1: Weights of Staters from Sybaris in Sambiasse 1959/1961 (IGCH no. 1872).

fluctuate greatly between 4.45g and 9.03g. Similarly, the 2 staters from Corinth weigh 7.86g and 8.12g, both of which are well below the theoretical weight standard of a Corinthian stater (8.72g).

By comparison, the second oldest hoard in southern Italy (c. 510–500 BC) shows something very different. This hoard was discovered near S. Nicola di Amendolara in 1976 and contains 34 staters as well as 8 drachms from 3 different mints.¹⁴ Like most of Sambiasse 1959/1961, all of the coins in Amendolara 1976 were struck on the Achaean standard. However, the weights of the staters found in this hoard are radically different from Sambiasse 1959/1961 (fig. 2). Not only is the average weight of the coins high – 8.10g is actually above the theoretical weight standard of an Achaean stater – but also the range of weights is narrow (7.56–8.49g) in comparison to Sambiasse 1959/1961 (4.45–9.03g). In fact, there is a very distinct cluster of coins that weigh near the Achaean standard with no significant outliers like in Sambiasse 1959/1961. Moreover, it should be emphasized that this is the *theoretical* standard for Achaean staters. In reality, Achaean staters seem to have been struck at an average weight of 7.8–8.0g, which makes a distribution of this many staters above the theoretical standard seem more deliberate than accidental.¹⁵

Two hoards, two very different metrological profiles. While the weights of the staters in Sambiasse 1959/1961 are low and erratic, those in Amendolara 1976 are high and consistent. Why are they so different? In the case of Amendolara 1976 (and southern Italy, pre-1903), it seems that the coins were kept deliberately because they were near the Achaean weight standard. As for Sambiasse 1959/1961,

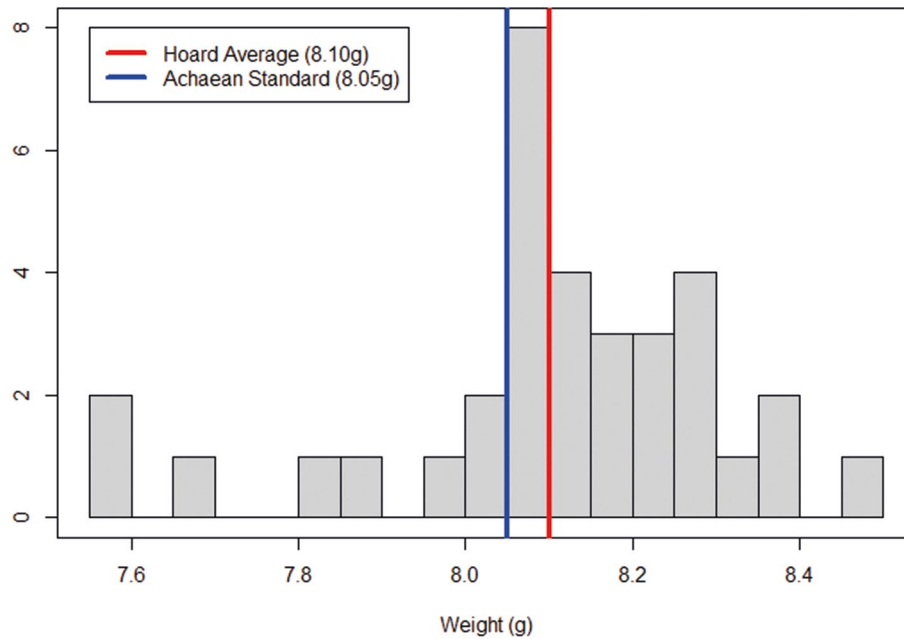


Fig. 2: Weights of Staters from Croton, Metapontum, and Sybaris in Amendolara 1976 (CH 7 no. 9).

it is possible that the hoarders were simply less scrupulous.¹⁶ However, another way of looking at Sambiase 1959/1961 is not through the individual or average weights of the coins but by their combined weight. By adding together the weight of the 56 staters and 3 stater fragments from Sybaris (402g) and dividing them by the theoretical Achaean standard (8.05g), the sum is an almost improbably exact 50 staters. Similarly, the combined weight of the 2 staters and stater fragment from Corinth (17.41g) also divides equally by the Corinthian standard (8.72g), making 2 staters on the Corinthian standard.

Unless these results are just a coincidence, it would suggest the coins in Sambiase 1959/1961 (and Muro Leccese 1996) were weighed en masse to achieve the desired sums. Admittedly, this interpretation is open to various problems, but similar calculations have shown that bullion hoards and vessels made out of precious metals could be reckoned like this.¹⁷ Either way, the real point of this exercise is to ask if hoarders at this time viewed their coins in terms of their intrinsic or extrinsic value. Perhaps one clue is the bronze weight found near ancient Sybaris and dated to the sixth century BC.¹⁸ This weight is marked by letters designating an unknown unit of 30. In fact, the weight of this object (80.55g) provides the answer. Dividing it by 30 gives the exact weight (2.69g) of a drachm on the Achaean standard. Since a drachm was worth a third of the stater, this weight represents both 30 drachms and 10 staters on the Achaean standard.¹⁹ An object like this certainly could have been used for weighing out both bullion and coins.²⁰

Conclusions

Having reviewed a few different hoards, it remains to be seen how all of this is significant or what it means. Firstly, in addition to the case studies presented in this paper, there are potentially more hoards from this period with similar metrological profiles – either the average weight of the coins is above their theoretical weight standard or the total weight appears to divide into a ‘whole’ sum.²¹ This suggests that there existed a more widespread pattern of this behavior at the time, especially considering that these metrological profiles do not seem to occur in hoards after the middle of the fifth century BC. However, it is also important to note that there are hoards from this period that do not fit either metrological profile. This is explained by the general nature of hoarding since not all hoards represent one sum, but can be an accumulation that was added to or taken away from over time. This means that the sum of the hoard would not necessarily add up to a whole number like 5, 10, or 50.

Finally, it is necessary to address how this material relates to early money and the state. In order to do this, it helps to consider how it suggests coins were used as money during this period, at least when it comes to hoarding. One of the frequently cited characteristics that distinguishes coins from other monetary instruments like bullion is that their value was determined by counting them.²² In contrast, bullion and *hacksilber* adhere to abstract weight units like the mina or talent, but it is usually necessary to weigh it in order to determine if it meets these abstract units. According to these definitions, the hoards presented in this paper were treated more like bullion than coins.

This is because what mattered more was the weight of the coins in silver and not their face value given by the state. The only way to know their value for sure was to weigh them. However, even in antiquity, as the well-worn passage from Aristotle shows (Arist. Pol. 1257a), it was argued that the value of coins was guaranteed by the stamp of the state “to save the trouble of weighing”. For this reason, it is said that this created a reduction in transaction costs since coins could be used more efficiently by virtue of being counted rather than weighed.²³ Yet, there is nothing intrinsic about a coin, not even the stamp, which means that it has to function in a fixed way. After all, coins are just lumps of metal that are at times treated just like lumps of metal. This much can be seen from a silver ingot found near Paestum with four coins fused to its surface²⁴ or in the cases when coins were exported as bullion.²⁵

The point is that the stamp, the ‘guarantee’ of value by the state, did not by itself dictate how coins were used at this time. This observation is fundamental because it fits with recent re-evaluations of the uses of coinage and money beyond their function as an instrument for exchange issued by the state.²⁶ What is significant about these perspectives is that they rest on the same insight. This is simply that the use of monetary instruments like coinage is not fixed, and certainly not fixed solely by the states issuing

them.²⁷ Instead, it is the context that matters, whether it is the ritualized deposition of coins in sanctuaries or the export of coinage as bullion. How coins are used depends on where they are and who is using them.

Of course, context is not always available, especially when it comes to coins and coin hoards. For this reason, part of this metrological approach to studying hoards is to reconstruct these missing contexts. It offers a way of establishing how coins were used as money in the western Mediterranean during the Archaic period, something for which there is very little direct evidence. This approach suggests that the weight of silver coins mattered more than the guarantee of value from the state, at least initially. However, this is probably not the case in later hoards. The theoretical implications of this are potentially vast. Most importantly, it has to be taken into consideration that changes in use do not necessarily depend on the intrinsic properties of coins, but to extrinsic developments in their cultural, economic, and political contexts. For this reason, it is always important to think about more than just the coins.

Notes

¹ Coins from the eastern Mediterranean probably circulated before the cities in this region minted their own coinage. For example, a Phocaic stater from the sixth century BC was found in Iberia and predates coin production in the area (Rowan 2013, 112). In this way, a find like this could represent the first use but not *production* of coins in Iberia.

² These figures are based on my ongoing PhD research project at Goethe-Universität in Frankfurt am Main. An aspect of this work is updating what is known about hoards from the Western Mediterranean in the archaic and classical periods. In this respect, although the IGCH is the *Stand der Forschung* of Greek coin hoards, it was published in 1973 and is outdated. It is necessary to supplement the IGCH with material from the “Coin Hoards” series (CH 1–10) as well as recent catalogues for places like Sicily (Puglisi 2009, 181–219) and publications of hoards in museum collections like Palermo (Macaluso 2008, 79–95).

³ Marrazzo et al. 2004.

⁴ For example, 12 incuse coins from the Archaic period were recovered in a votive deposit at Garaguso (Morel 1974) although this might not have been a hoard (Fischer-Bossert 1999, 7). Recently, two burials near Himera were found with coin hoards (Boehringer et al. 2011).

⁵ A hoard found near Lentini contained just 2 coins (IGCH no. 2060) while the Taranto hoard contained more than 600 coins and 6kg of bullion (IGCH no. 1874).

⁶ For example, two of the oldest hoards in Sicily have vastly different compositions. One contained 70 coins, all of which were staters from the same minting phase at Selinus (IGCH no. 2059; Macaluso 2008, 79–85). The other contained 5 silver bullion objects and 165 coins from mints in Sicily, Italy, and Greece (CH 9 no. 35; Arnold-Biucchi et al. 1988).

⁷ Sambiasi 1959/1961 (IGCH no. 1872), Taranto 1911 (IGCH no. 1874), Volterra 1868 (IGCH no. 1875), and Selinunte 1985 (CH 9 no. 35). Depending on the viewpoint, characterizations of bullion finds are mixed.

Kroll argues that bullion was “slow to disappear as a transactional medium in the western Greek world” (Kroll 2008, 33; Sole 2010) while others claim that uncoined silver appears “rarely in the west” (Arnold-Biucchi et al. 1988, 26).

⁸ The incidence of weight standards has already been used to study hoards from western Asia Minor (Meadows 2011).

⁹ The exact location and date of its discovery are unknown, but this hoard eventually entered the collection of M. P. Vlasto. Vlasto reports that it was complete and lists the weights of the coins along with descriptions (Vlasto 1922, 215–216.; IGCH no. 1879).

¹⁰ This hoard was found inside an earthenware jar in 1996, but its contents were not published until 2016: Siciliano et al. 2016, 23–36. The catalogue shows that the staters were minted before 500 BC while the diobols were minted later (475/470–440 BC). It should be noted that the weight of at least one fraction (1.27g = Siciliano et al. 2016, no. 9) is closer to the theoretical weight of a triobol (1.34g) than a diobol (0.89g).

¹¹ Both the designation ‘Achaean’ and the figure of 8.05g are modern conventions that should be regarded as approximations. For example, the same author has claimed that the Achaean standard was 8.04g (Parise 1996), 8.05g (Parise 2009), and 8.06g (Parise 1990).

¹² The hoard was actually found near Acquafredda, which is northwest of Sambiasi (de Sensi Sestito – Mancuso 2001, 25–31), and is called “Sambiasi 1959/1961” because it entered the Museo Archeologico Nazionale di Reggio Calabria in two lots between 1959 and 1961. News of its discovery was published in 1961, but only the first lot was reported (van Buren 1961, 381–382). For this reason, IGCH no. 1872 only lists the contents of the first lot (45 coins and a ‘silver bar’ weighing 57.70g). This was almost immediately noticed (Pozzi Paolini 1974, 41–42), but the figures given in the IGCH are still cited (Kroll 2008, 29).

¹³ Spagnoli – Taliercio Mensitieri 2004, 11–47.

¹⁴ 1 stater from Croton, 13 staters and 5 drachms from Metapontum, 28 staters and 3 drachms from Sybaris (CH 7 no. 9; Guzzo 1976–1977; Polosa 2009, 13–24).

¹⁵ According to the metrological study by Parise, Achaean staters were struck at an average weight of 7.85g (Sybaris), 7.9g (Croton), 8.0g (Metapontum), and 7.8–8.0g (Caulonia) in the archaic period (Parise 1973). It has since been confirmed that archaic staters from Sybaris were in fact struck at an average weight of 7.8–7.9g (Spagnoli 2013, 199–202).

¹⁶ The catalogue of this hoard observes that 6 out of 56 staters appear to be broken and that the condition of the coins is not good, but it is not known if this is due to use or exposure while buried in the ground (Spagnoli – Taliercio Mensitieri 2004, 24–25). For this reason, it has to be taken into account that the uneven weight distribution could be due to corrosion or oxidization.

¹⁷ Tirabassi 1998 (Bullion Hoards); Vickers – Gill 1994, 24–51 (Vessels).

¹⁸ Zancani Montuoro 1965–1967.

¹⁹ That it represents decimal units of 10 is fitting since the weight of the Sybarite staters in Sambiasi 1959/1961 equals 50 staters and the weights of the first two hoards equate to 5 staters each.

²⁰ Other weights from this period have emerged in southern Italy, some of which appear to correlate with monetary standards (Parise 2009; Arslan 2005, 142 no. 423).

²¹ For example, the average weight of 11 Achaean staters in a hoard found near Valesio in 1957 (CH 2 no. 9; CH 4 no. 8; Travaglini 1973) is 8.16g, which is also above the theoretical standard of 8.05g. Elsewhere, a hoard of 3 staters and 19 drachms found in Paestum in 1939 (IGCH no. 1876; Pozzi Paolini 1962–1964, 77–82) has a combined weight of 77.33g, which divides almost exactly into 10 staters on the theoretical weight standard used locally (7.76g).

²² For example, Le Rider concludes that “les monnaies, en effet, n’étaient pas pesées, mais comptées” (Le Rider 1989, 163; Picard 1984). Others have argued that coinage did not necessarily make weighing obsolete (Kim 2001, 18).

²³ It has been suggested that this was especially the case for small transactions where weighing metal was impractical (Kim – Kroll 2008, 67). However, it has been pointed out that any reduction in the transaction costs of weighing would have been mitigated by other problems like counterfeiting (van Alfen 2012, 14) or shortages of small denominations (Melitz 2017).

²⁴ Kroll 2008, 27 fig. 1.3.

²⁵ Kroll 2011; Rowan 2013; Tselekas 2015.

²⁶ Kurke 1999; Schaps 2004; Seaford 2004.

²⁷ Plato recognized the limitations of state authority on the valuation of coinage, an insight which led him to distinguish between ‘regional’ and ‘international’ currencies (Plat. leg. 746a–d; Meadows 2009).

Image Credits

All images by the author.

References

Arnold-Biucchi et al. 1988

C. Arnold-Biucchi – L. Beer-Tobey – N.M. Waggoner, A Greek Archaic Silver Hoard from Selinus, ANSMusNotes 33, 1988, 1–35.

Arslan 2005

E.A. Arslan, Archeologia urbana e moneta: il caso di Crotone, in: R. Belli Pasqua – R. Spadea (eds.), Kroton e il suo territorio tra VI e V secolo a.C. Aggiornamenti e nuove ricerche. Atti del Convegno di studi, Crotone, 3–5 marzo 2000 (Crotone 2005) 91–142.

Boehrer et al. 2008

C. Boehrer – L. Brousseau – S. Vassallo, Monete in tomba: due tesoretti di argento dalla necropoli occidentale di Himera, AnnIstItNum 57, 2011, 9–38.

de Sensi Sestito – Mancuso 2001

G. de Sensi Sestito – S. Mancuso, Il lametino antico e Terina-Magna Grecia dall’età protostorica all’età romana, in: F. Mazza (ed.), Lamezia Terme: storia, cultura, economia (Soveria Mannelli 2001) 25–31.

Guzzo 1976–1977

P. G. Guzzo, Ripostiglio monetale da località S. Nicola di Amendolara, *AnnIstItNum* 23–24, 1976–1977, 299–303.

Kim 2001

H. S. Kim, Archaic Coinage as Evidence for the Use of Money, in: A. Meadows – K. Shipton (eds.), *Money and Its Uses in the Ancient Greek World* (Oxford 2001) 7–21.

Kroll 2008

J. H. Kroll, The Monetary Use of Weighed Bullion in Archaic Greece, in: W. V. Harris (ed.), *The Monetary Systems of the Greeks and Romans* (New York 2008) 12–37.

Kroll 2011

J. H. Kroll, Minting for Export: Athens, Aegina, and Others, in: T. Faucher – M.-C. Marcellesi – O. Picard (eds.), *Nomisma. La circulation monétaire dans le monde grec antique. Actes du colloque international, Athènes 14–17 avril 2010* (Athens 2011) 27–38.

Kurke 1999

L. Kurke, *Coins, Bodies, Games, and Gold: The Politics of Meaning in Archaic Greece* (Princeton 1999).

Le Rider 1989

G. Le Rider, À propos d'un passage des *Poroi* de Xénophon: la question du change et les monnaies incuses d'Italie du Sud, in: G. Le Rider – O. Mørkholm – C. M. Kraay (eds.), *Kraay-Mørkholm Essays: Numismatic Studies in Memory of C. M. Kraay and O. Mørkholm* (Louvain-la-Neuve 1989) 159–172.

Macaluso 2008

R. Macaluso, *La Sicilia e la moneta: dai mezzi di scambio premonetari alla coniazione in argento dell'unità ponderale indigena* (Pisa 2008).

Marazzo et al. 2004

V. Marrazzo – D. Romagnoli – A. Stazio – M. Taliercio Mensitieri (eds.), *Presenza e funzioni della moneta nelle chorai delle colonie greche dall'Iberia al Mar Nero. Atti del XII convegno organizzato dall'Università Federico II e dal Centro internazionale di studi numismatici, Napoli 16–17 giugno 2000* (Rome 2004).

Meadows 2009

A. Meadows, Money in an Ideal World: Plato's Laws and the Dual Nature of Coinage, in: S. Drougou – D. Eugenidou – C. Kritzás (eds.), *Kermatia Philias. Timetikos tomos gia ton Ioanne Touratsoglou* (Athens 2009) 56–61.

Meadows 2011

A. Meadows, The Chian Revolution: Changing Patterns of Hoarding in 4th-century BC Western Asia Minor, in: T. Faucher – M.-C. Marcellesi – O. Picard (eds.), *Nomisma. La circulation monétaire dans le monde grec antique. Actes du colloque international, Athènes 14–17 avril 2010* (Athens 2011) 273–295.

Melitz 2017

J. Melitz, A Model of the Beginnings of Coinage in Antiquity, *European Review of Economic History* 21.1, 2017, 83–103.

Morel 1974

J.-P. Morel, Garaguso (Lucanie): traditions indigènes et influences grecques, CRAI 118.2, 1974, 370–395.

Parise 1973

N. Parise, Struttura e funzione delle monetazioni arcaiche di Magna Grecia. Appunti per un riesame dei dati e degli orientamenti attuali, in: *Economia e società in Magna Grecia. Atti del dodicesimo Convegno di studi sulla Magna Grecia (Taranto, 8–14 ottobre 1972) (Naples 1973)* 87–129.

Parise 1990

N. Parise, Moneta e società in Magna Grecia: L'esempio di Crotone, in: *Crise et transformation des sociétés archaïques de l'Italie antique au Ve siècle av. JC. Actes de la table ronde de Rome (19–21 novembre 1987) (Rome 1990)* 299–306.

Parise 1996

N. Parise, Lo statere italiota fra Sibari e Turi, *NumAntCl* 25, 1996, 97–103.

Parise 2009

N. Parise, Pesi e monete dalla Sibaritide, *ASAtene* 87, 2009, 523–529.

Picard 1984

O. Picard, Sur deux termes des inscriptions de la trésorerie d'Aï Khanoum, in: H. Walter (ed.), *Hommages à Lucien Lerat (Paris 1984)* 679–690.

Polosa 2009

A. Polosa, Museo archeologico nazionale della Sibaritide: Il medagliere (Paestum 2009).

Pozzi Paolini 1962–1964

E. Pozzi Paolini, Ripostigli di monete greche rinvenute a Paestum, *AnnIstItNum* 9–11, 1962–1964, 75–160.

Pozzi Paolini 1974

E. Pozzi Paolini, Per lo studio della circolazione monetale in età greca nel territorio dell'odierna Calabria, *PP* 29, 1974, 40–69.

Puglisi 2009

M. Puglisi, La Sicilia da Dionisio I a Sesto Pompeo: circolazione e funzione della moneta (Messina 2009).

Rowan 2013

C. Rowan, Coinage as Commodity and Bullion in the Western Mediterranean, ca. 550–100 BC, *Mediterranean Historical Review* 28.2, 2013, 105–127.

Schaps 2004

D. M. Schaps, *The Invention of Coinage and the Monetization of Ancient Greece (Ann Arbor 2004)*.

Seaford 2004

R. Seaford, *Money and the Early Greek Mind (Cambridge 2004)*.

Siciliano et al. 2016

A. Siciliano – L. Giardino – S. Montanero, Ripostiglio di monete incuse dall'abitato messapico di Muro Leccese, in: M. Asolati – B. Callegher – A. Saccocci (eds.), *Suadente nummo vetere. Studi in onore di Giovanni Gorini (Padova 2016)* 23–36.

Sole 2010

L. Sole, La via dei metalli in Sicilia. Un contributo dai ripostigli per lo studio delle fonti di approvvigionamento, in: R. Panvini – C. Guzzone – L. Sole (eds.), *Traffici, commerci e vie di distribuzione nel Mediterraneo tra Protostoria e V secolo a.C. Atti del Convegno Internazionale Gela, 27–28–29 maggio 2009 (Palermo 2010)* 185–192.

Spagnoli 2013

E. Spagnoli, La prima moneta in Magna Grecia. Il caso di Sibari (Pomigliano d'Arco 2013).

Tirabassi 1998

J. Tirabassi, Valori ponderali nei ripostigli dell'Età del Bronzo Recente e Fiale dell'Italia settentrionale: considerazioni e congetture, in: G. Ambrosetti – R. Macellari – J. Tirabassi (eds.), *Pagine di archeologia – Studi e materiali. 1997. Comune di Reggio Emilia Civici Musei (Reggio Emilia 1998)* 1–23.

Travaglini 1973

A. Travaglini, Il tesoretto monetale da Valesio, *AnnIstItNum* 20, 1973, 9–30.

Tselekas 2015

P. Tselekas, From the Aegean to the Mediterranean: Northern Greek Silver in Southern Italy and Sicily in the 5th century BC, in: P. Adam-Veleni – D. Tsangari (eds.), *Greek Colonisation: New Data, Current Approaches (Athens 2015)* 193–205.

van Alfen 2012

P. G. van Alfen, Problems in the Political Economy of Archaic Greek Coinage, *Notae Numismaticae* = *Zapiski Numizmatyczn* 7, 2012, 13–32.

van Buren 1961

A.W. van Buren, News Letter from Rome, *AJA* 65.4, 1961, 377–388.

Vickers – Gill 1994

M. Vickers – D. Gill, *Artful Crafts. Ancient Greek Silverware and Pottery* (Oxford 1994).

Vlasto 1922

M. P. Vlasto, Taras Oikistes, *NNM* 15, 1922, 1–234.

Zancani Montuoro 1965–1967

P. Zancani Montuoro, Un peso di bronzo e l'argento di Sibari, *AnnIstItNum* 12–14, 1965–1967, 21–30.

The Adoption of Coinage by Non-State Societies. Two Case Studies from Iron-Age Northern Europe

David Wigg-Wolf

Abstract

This paper considers the adoption and use of coinage in two very different environments on the northern perimeter of the Mediterranean world: on the one hand the peoples who entered the literary record of the ancient world as the *Celtae* or *Κελτοί*; on the other hand the groupings of the Roman Iron Age who lived to the north of the Rhine-Danube limes and are described by Tacitus in his *Germania*. The two scenarios provide contrasting examples of the ways in which the peoples from the north could react to and adopt (or not) coinage upon coming into contact with Mediterranean coin-producing and coin-using societies. The contrasts and similarities between the two scenarios serve to throw light on the differing social, political and economic environments of the *Κελτοί* and *Germani*.

Introduction

In this paper, the author revisits a topic that he worked on some ten years ago, revising and extending the conclusions presented there in the light of new evidence.¹ It considers the adoption and use of coinage in two very different environments on the northern perimeter of the Mediterranean world where the kind of state structures that are found in the Graeco-Roman world did not exist: on the one hand the peoples who entered the literary record of the ancient world as the *Celtae* or *Κελτοί*; on the other hand the groupings of the Roman Iron Age who lived to the north of the Rhine-Danube limes and are described by Tacitus in his *Germania*, and who are referred to here as *Germani*.

The paper is divided into three parts: after a review of the role of Roman coinage of AD 14 to 238 among the peoples living beyond the limes during the Roman Iron Age, developments in the Celtic world, in particular in northern Gaul, will be presented. A comparison follows of the way in which coinage was used and developed in the two environments, as well as how the new medium was incorporated, while a consideration of what this can tell us about the social, political and economic structures and constraints of the two worlds forms the conclusion.

Coinage and the *Germani*

In the past, evaluations of coin finds from the Roman Iron Age in northern Europe have tended to concentrate on coin hoards, neglecting single or stray finds, since there was no comprehensive inventory of all coin finds from the region.² This situation has

changed with the publication of large-scale corpora, which allow us to look in detail at the evidence of spatial and temporal patterns across an extensive area of northwest and central Europe.³ The availability of figures for stray or single finds, and not just hoards, is important since, although single finds are themselves subject to a number of taphonomic filters between use, deposition and recovery, hoards are by their very nature a deliberate selection and are therefore a less representative cross-section of the spectrum of coinage.⁴ The focus of the first part of this paper lies on the part of the *Barbaricum* within the borders of the Federal Republic of Germany, for which there is optimal coverage of the coin finds.

A frequently quoted ancient text concerning the use of Roman coin by those living beyond the *limes* is provided by Tacitus in his *Germania*.⁵ The main points Tacitus makes are:

- The *proximi* (those who inhabited areas closer to the frontier) used gold and silver for commerce.
- The *interiores*, who lived further away, relied on barter rather than coins for their transactions.
- The *Germani* preferred silver to gold, as it was better for everyday, small-scale transactions.

But to what extent are ancient ethnological texts such as this, with their colonial perspective, reliable? Is it a sound summary of the situation in central-northern Europe in the second century AD or not? Looking first at Tacitus' claim that the *Germani* preferred silver: for this study nearly 2000 single/stray finds (excluding the hoards) from the German *Barbaricum* were analysed. The proportions of the various coin denominations and metals indicate that, just as the historian says, there is indeed a strong preference for silver, in this case denarii (fig. 1a). In the hoards the dominance of silver is particularly extreme (fig. 1b). But what about the claim that there was a difference in coin use across the *Barbaricum*? This can be checked by looking at coin finds from two areas: Thüringen, which is closer to the *limes* and represents the *proximi*, and Mecklenburg-Vorpommern on the Baltic coast representing the *interiores* (fig. 2). While there are some differences in the spectrum of denominations in the coin finds from the late first to the mid-third century AD in the two areas, in particular in the proportion of sestertii, such differences are relatively small. Overall the two areas are remarkably similar.

The proportion of denominations among the single finds is significant as it can reveal something about how coins were being used: in a market economy based on the regular use of low-value coins for everyday, small-scale transactions, we might expect the finds to include large numbers of smaller denomination coins. However, when the figures for the *Barbaricum* are compared with the neighbouring province of *Germania Inferior* (fig. 3) a very different picture emerges.⁶ Looking at different contexts in *Germania Inferior*, low denomination coins are more common in the towns, less common in the smaller towns, and even less common in rural

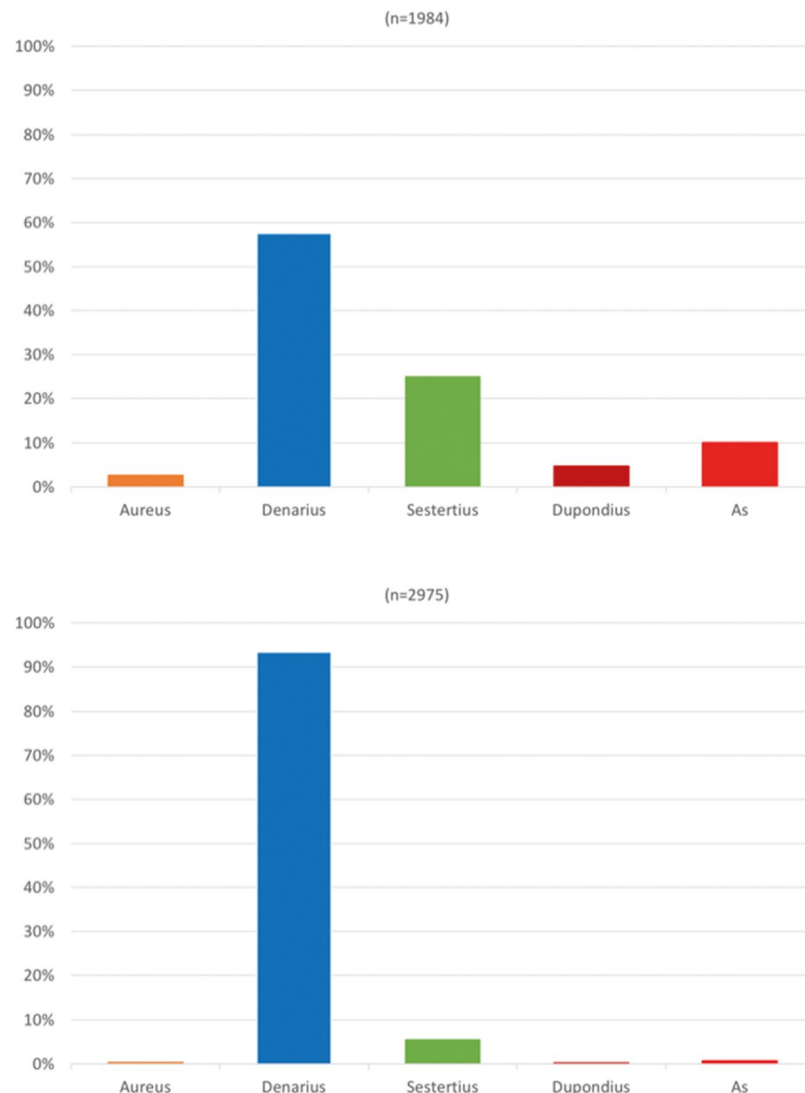


Fig. 1: The proportion of denominations in coin finds of AD 14–238 in the German *Barbaricum*; a (top): single finds – b (bottom): hoards.

settlements and villas.⁷ Clearly, within the Empire the smaller denominations were being more widely used, and therefore more frequently lost, in the market environment of towns than in the countryside. However, in the *Barbaricum* low-value coins are significantly rarer than even in rural areas of the northwestern provinces, indicating that the intensity of the use of small denominations was much lower outside the Empire, and that there was by no means a monetized economy in any sense of the phrase that might be understood today. When the coins left the Roman Empire, their function underwent a transformation and they were used very differently.

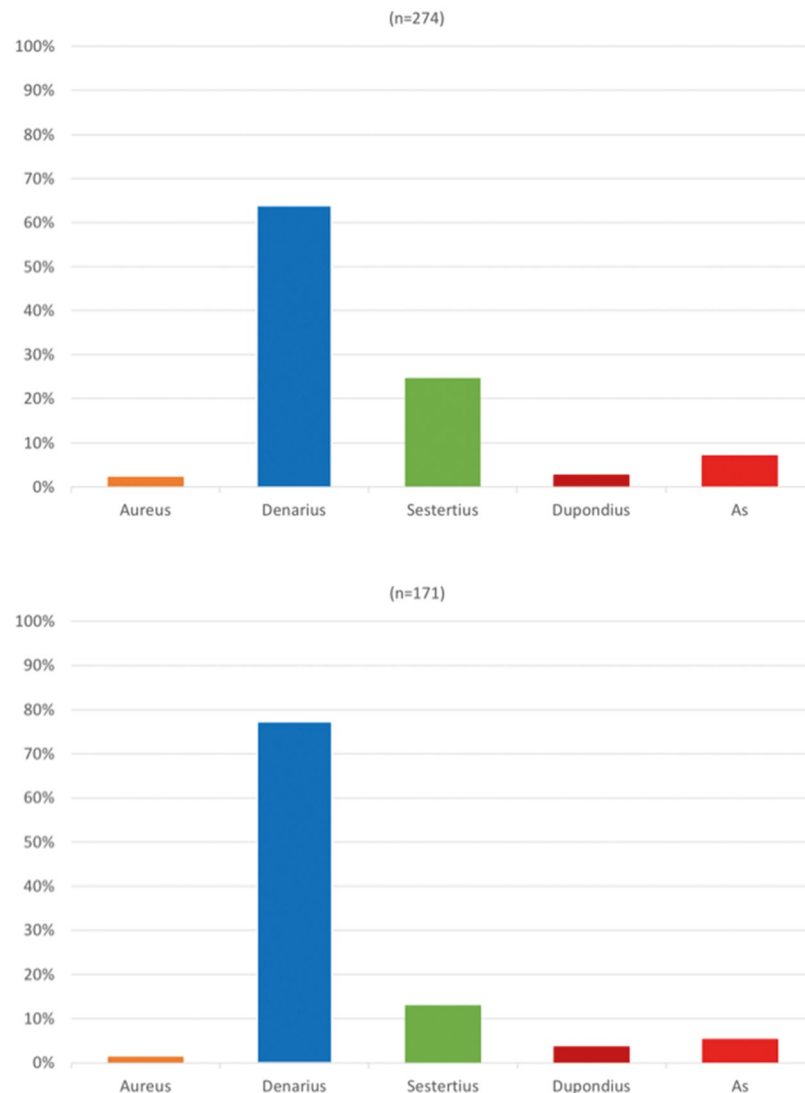


Fig. 2: The proportion of denominations in coin finds of AD 14–238; a (top): Thüringen – b (bottom): Mecklenburg-Vorpommern.

The coins from the bog deposit of Illerup Ådal in Denmark can provide an insight into this transformation. Here, in the early third century AD, the equipment of a defeated Germanic war band was offered to the gods and deposited in the bog by the victors. This equipment included 198 denarii (including four imitations) and one sestertius, which were generally found in groups that had probably been contained in small purses (fig. 4).⁸ As Aleksander Bursche has convincingly argued, the coins are evidence not for commercial activity, but for the redistribution of wealth within the structures of barbarian martial elites and war bands.

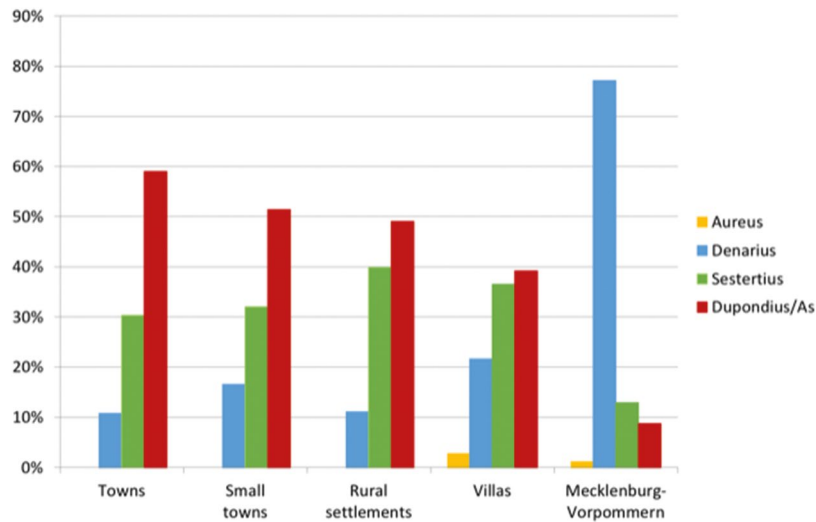


Fig. 3: The proportion of denominations in coin finds of the 1st to mid-3rd century AD from different environments in *Germania Inferior*.

Further light on how the denarii were used is reflected in the large number of denarius hoards that are known from northwestern Germany indicating that they functioned extensively as a store of wealth.⁹ It is also clear from the presence of denarii in hoards of the mid- to late-fourth century AD, such as Laatzen and Lengerich, that outside the Empire in the North silver coins were still available for a very long time, for well over a century after they had disappeared from circulation within the Empire.¹⁰ The most extreme example of this longevity is provided by the grave of Childerich, the Frankish king who was buried in Tournai in Belgium in AD 481 or 482, which included 41 denarii among the coins it contained.¹¹ That the denarii survived so long and in such numbers indicates that they were not circulating intensively; if they had been passing more often from hand to hand in everyday transactions, then we would expect them to have been subjected to more intensive loss, and so to have disappeared from circulation more quickly. Such slow circulation is exactly what is to be expected of the kind of high-status exchange that is indicated by the evidence of the coins from Illerup-Ådal. It was not as a medium for market exchange in a monetized economy that the *Germani* employed Roman silver coins.

Tacitus also noted that gold was not the metal of choice for the *Germani*, and in this context it is significant that gold coins could be treated differently to silver. Once they left the Empire they were frequently used as jewellery, and were often pierced or mounted in order to be worn as personal adornments (fig. 5). Interestingly, silver coins were rarely used in this way during the Roman Iron Age, suggesting that the two metals



Fig. 4: Illerup-Ådal: Concentration 41/73 with denarii and the remains of a purse.

were circulating in different spheres: silver as an object of material value, gold more as a prestige good and marker of status.

Thus, the denarii were no longer the ‘general-purpose money’ of the Empire that could be used across a wide range of transactions and functions, from the market place and tavern to the purchase of the imperial throne. In the *Barbaricum* their role was more restricted: silver was now used primarily as a means of storing and transferring wealth within a specific milieu and will have been used mainly in high-status exchange, for example as diplomatic payments, tribute, dowries, etc. Gold, on the other hand, could be used as a visible badge of status. As such, coins became an integral element of the power structures of Germanic society, and will have played a significant part in maintaining and transforming them.

The use of coins and their role within Germanic power structures is closely related to the question of why and when the denarii left the Empire. The long-standing view was that the influx was a commercial or economic phenomenon with the denarii leaving mainly as a result of trade, very much as Tacitus saw the use of coins outside the Empire in market terms.¹² However, more recently scholars such as Aleksander Bursche and Peter Kehne have emphasized the role of Rome’s external politics, and in particular diplomatic payments and subsidies.¹³ They see the coins as payments by Rome to Germanic groupings to ensure the security of the northern frontier, and thus as an important tool of Rome’s external politics. In this way, the coins would have entered the *Barbaricum* as payments to build and cement alliances with Rome as the active agent.



Fig. 5: Aureus of Antoninus Pius from a mid-3rd cent. AD burial at Haßleben, Thüringen.

Coinage and the *Κελτοί*

The situation with the *Κελτοί* of northwestern and southern central Europe was very different. Whereas in the period and region under consideration here the *Germani* relied almost exclusively on imported Roman coin, producing only a few imitations and not initiating a coinage of their own, the inhabitants of pre-Roman Iron Age Europe north of the Alps produced a series of quite characteristic coinages. Inspired initially by contacts with the Mediterranean world, these coinages underwent intensive changes in material, iconography and use during the three centuries or so that they were produced.

Close contacts had existed between the Celts and the Mediterranean world long before the former adopted the use and production of coins. In areas of direct contact at the edge of the Mediterranean coins will already have been known from the fourth century BC and employed to a limited extent as a medium of exchange in contacts with Mediterranean traders.¹⁴ Further north it is clear that virtually no coins at all reached the area.¹⁵ Here it was probably in the course of service as mercenaries in the armies of the major powers in the Mediterranean world that Celtic warriors experienced their first contacts with the use of coinage. Within this context coinage had a very specific meaning: it functioned as a means of cementing the relationship between a leader and his entourage – in this case between a group of mercenaries and the person who had engaged them.¹⁶ A leader's ability to secure such employment ensured his position within his entourage, and coinage became a new means of securing his position and power. This mechanism was then to become a central feature of the manner in which coinage functioned north of the Alps.

The earliest Celtic coins to be produced were faithful imitations of Hellenistic gold coins. They were produced soon after their prototypes at the end of the fourth and the beginning of the third centuries BC.¹⁷ During the third and early second

centuries BC mainly large denominations were produced: gold staters and their fractions. They are relatively rare and were struck only in small numbers. Such small quantities of high-value coins were not intended as a medium of exchange in a monetized economy involving frequent low-value transactions. Rather, they were ‘special-purpose money’, the primary purpose of which was to fulfill the needs of the martial elites: either for exchange between elite groups in the form of tribute, diplomatic payments, dowries etc., or in order to secure the loyalty to a leader of a following of warriors, just as the Celtic mercenaries in their forays to the south had experienced coinage as a means of securing their loyalty to their employers. The presence in numerous hoards of gold coins together with torques and other objects of prestige and value indicates that the coins were integrated into existing traditional spheres of exchange that involved such items.¹⁸

The second half of the second century BC then saw an important development in the form and function of coinage in Gaul. Although the earliest imitations often enjoyed very widespread distribution, soon coinages of a more regional nature developed. They had their own imagery, which had little to do with the original Hellenistic prototypes. Smaller denominations also appeared alongside the high-value gold issues, first of all in silver and cast tin-bronze (potin), later in struck bronze. The emergence of smaller denominations coincided with the emergence of the proto-urban oppida such as the Titelberg, where the low-value coins appear in huge numbers (table 1). The nature of this final phase of Celtic coinages was very different to the exclusively high-value coinage of the first century and a half of their production, for the low-value coins could now fulfil a broader spectrum of functions than the large gold units, including trade and exchange involving smaller values.

	Gold	Silver	Cast bronze (potin)	Struck bronze
c. 125–80 BC	1 0.63 %	15 9.38 %	137 85.63 %	7 4.38 %
c. 80–50 BC	7 1.34 %	217 41.57 %	275 52.68 %	23 4.41 %
c. 50–20 BC	5 0.27 %	22 1.21 %	4 0.22 %	1788 98.30 %

Table 1: Number/percentage of gold, silver, potin and struck bronze coins found at the Titelberg oppidum by period.

But even if coins were now available to a wider social spectrum and their economic use was more extended, the coinage itself still remained an instrument of the self-representation and exercise of power for the aristocratic elites. This is best illustrated by the legends found on coins in Gaul from the late second century, which on the whole refer to individuals.¹⁹ Although for the most part we do not know who the individuals concerned were, generally they will have been *nobiles*, members of the aristocratic elite.

Apart from such references to individuals in the legends found on the coins, the iconography of the last Celtic coinages in northern Gaul also tells us a great deal about the ways in which coinage could be used for self-representation by individuals and elites in order to cement their claims to power. After the Gallic War, bronze coinages started to appear in large numbers, many of which incorporate classical 'Roman' elements in their iconography or directly imitate Roman coin types.²⁰ This use of Roman elements was an important aspect of the language of power following the Roman conquest whereby the Gallic elites demonstrated their loyalty to Rome and so secured their own position within their tribal groupings, a position that depended to a great extent on Rome's favor.

A picture of the late Iron Age world of Gaul emerges, in which coinage was much more than just a measure of value that could be useful in exchange or for the storage of wealth. It was also a potent medium of the exercise of power and the formation of identity on the part of the elites.

Conclusions

Although coins were used in both the Germanic and Celtic environments, there were clearly significant differences. The two societies were introduced to coinage in different ways, and the subsequent development of how coinage was employed took very different courses. The most striking difference is in the use of imported coin. Whereas the coin in use in the *Barbaricum* consisted almost exclusively of Roman coin with very few locally produced imitations, the situation in pre-Roman Gaul was different: coins from the Mediterranean powers hardly reached the area during the first three centuries BC,²¹ and Roman coins only made an impact in north Gaul with the stationing of the Roman army along the Rhine in preparation for the German campaigns of Augustus.²²

The role of the indigenous societies in the mechanisms and events that led to them encountering and using coinage was also very different. In the environment of contact between Rome and her northern neighbours, Rome can be seen very much as the active partner: while a certain amount of coinage will have left the Empire as a result of commercial exchange and direct cross-border contacts, in some cases even as booty from Germanic raids, most of the coins of the first two and a half centuries AD entered Germania in the form of payments made by Rome to ensure the security of her northern frontier. This contrasts with the situation in the pre-Roman Iron Age. Although on the margins of the Mediterranean world commercial contacts will have played a role,

for the inhabitants of more northerly regions it will have been as mercenaries in the Mediterranean that they first encountered coinage. Their role was more active than that of their Germanic counterparts.

Significant differences are also to be seen in the ways in which coinage evolved within the two environments. The *Germani* of northwestern Europe never developed their own coinage beyond mere imitation, and even then only in small numbers in the period under consideration here. No original imagery appeared comparable to that of the Celtic coinages. Nor did the use of coinage among the *Germani* lead to the level of monetization that can be seen in the milieu of the oppida of Gaul in the first century BC. To some extent this reflects differences in social and political organisation: the kind of centralized communities and polities that we find in Gaul, and which found their ultimate expression in the oppida, are not to be found north of the limes during the Early and High Empire. As a result, Germanic society did not feature the sort of power structures that led to the adoption and production of coinage visible in late La Tène communities.

A similar contrast between the two environments can be seen in the use of coins to create tribal or local identities. Within the context of La Tène communities we find regional coinages that can be associated with individual polities. The spectrum of coin across the North German *Barbaricum* during the first two and a half centuries AD, on the other hand, was remarkably homogenous, with few differences between regions. Nor can the limited imitation of Roman coins by the *Germani* be compared with the subtle use of iconography by Gallic elites subsequent to Caesar's conquest of Gaul in order to proclaim loyalties and to cement their position within their own communities.

The use of Roman coin north of the limes was more similar to that of the early stages of Celtic coinage, centered on elite exchange and the storage of wealth rather than market exchange. There is, however, one significant difference: while the hoards combining Celtic gold coins with torques indicate that the coins were integrated into existing traditional spheres of exchange,²³ the denarius hoards of the first two and a half centuries AD in northern Germany consist almost exclusively of coins. The Roman coinage provided a new, even intrusive element into the sphere of exchange and power structures. The *Germani* seem also to have differentiated between silver and gold: the two metals assumed different functions and were not integrated into the kind of complex monetary system evidenced by the tri-metallic coinages of late-first century BC Gaul.

Notes

¹ Wigg-Wolf 2008.

² An exception is Bolin 1926, who included single finds.

³ E.g. FMRD; CRFB.

⁴ On the filters involved in the formation of coin finds Noeske 1979, Wigg-Wolf 2019.

⁵ Tacitus, *Germania* 5, 3–5.

⁶ The data are taken from Aarts 2000.

⁷ Aarts 2000.

⁸ Bursche 2011.

⁹ From Germany outside the limes alone some 48 hoards containing 10 or more denarii are known.

¹⁰ E.g. Laatz: FMRD VII 4033, Lengerich: VII 1033.

¹¹ R.-Alföldi – Stribrny 1998; Martin 2004; Fischer – Lind 2015.

¹² Eggers 1951; Wheeler 1954.

¹³ Bursche 1996, 105; 2011, 85–87; Kehne 2008; Dymowski – Myzgin 2014.

¹⁴ See, for example, Bats 2011; García-Bellido 2011.

¹⁵ For example, John Sills, in his exhaustive study of early Celtic gold coinage in Gaul and Britain, records only twelve Macedonian Philippus staters of the late fourth century BC in all of Gaul, only two to the north of the Loire: Sills 2003, 7, map 1.

¹⁶ Wigg-Wolf 2011.

¹⁷ Polenz 1982; Sills 2003, 123, fig. 26.

¹⁸ Fitzpatrick 2005; Nick 2005.

¹⁹ Colbert de Beaulieu et al. 1998.

²⁰ Creighton 2005; Loscheider 2005; Wigg-Wolf 2011.

²¹ See note 15.

²² Wigg 1999; Martin 2016.

²³ Fitzpatrick 2005; Nick 2005.

Image Credits

Fig. 1–2: by the author. – Fig. 3: Aarts 2000. – Fig. 4: Bursche 2001 Abb. 66. – Fig. 5: Landesamt für Denkmalpflege, Thüringen. – Table 1: Reding 1972.

References

Aarts 2000

J. Aarts, *Coins or Money? Exploring the Monetization and Functions of Roman Coinage in Belgic Gaul and Lower Germany 50 BC–AD 450* (Ph.D. diss. Vrije Universiteit te Amsterdam, Amsterdam 2000).

Bolin 1926

S. Bolin, *Fynden av romerska mynt i det fria Germanien: Studier i romersk och äldre germansk historia* (Lund 1926).

Bats 2011

M. Bats, *Métal, objets précieux et monnaie dans les échanges en Gaule méridionale protohistorique (7e-2e s. a.C.)*, in: M. P. García-Bellido – L. Callegarin – A. Jiménez Díez (eds.), *Barter, Money and*

Coinage in the Ancient Mediterranean (10th–1st centuries BC), *Actas del IV Encuentro peninsular de Numismática antigua (EPNA) Madrid 2010 (Madrid 2011)* 97–109.

Bursche 1996

A. Bursche, *Later Roman-barbarian Contacts in Central Europe, Numismatic Evidence: Spätromische Münzfunde aus Mitteleuropa. Ein Beitrag zur Geschichte der Beziehungen zwischen Rom und den Barbaricum im 3. und 4. Jh. n. Chr. Studien zu Fundmünzen der Antike* 11 (Berlin 1996).

Bursche 2011

A. Bursche, *Illerup Ådal 14. Die Münzen, Jutland Archaeological Society Publications* 25 (Århus 2011).

Creighton 2005

J. Creighton, *Links Between the Classical Imagery in Post-Caesarean Belgica and the Rest of the Roman World*, in: J. Metzler – D. Wigg-Wolf (eds.), *Die Kelten und Rom: neue numismatische Forschungen (Fond de Gras/Titelberg, Luxemburg, 30.4.–3.5.1998)*, *Studien zu Fundmünzen der Antike* 19 (Mainz 2005) 87–107.

Colbert de Beaulieu et al. 1998

J.-B. Colbert Beaulieu – B. Fischer – P.-M. Duval, *Les légendes monétaires*, *Gallia Suppl.* 45 (Paris 1998).

CRFB

Corpus der römischen Funde im europäischen Barbaricum (Bonn 1994).

Dymowski – Myzgin 2014

A. Dymowski – K. Myzgin, *Inflow and Redistribution of Roman Imperial Denarii in the Area of Przeworsk, Wielbark and Chernyakhiv Cultures and in the Baltic Islands in the Light of Chronological Structure of Coin Hoards*, *Notae Numismaticae* 9, 2014, 39–69.

Eggers 1951

H.J. Eggers, *Der römische Import im freien Germanien*, *Atlas der Urgeschichte* 1 (Hamburg 1951).

Fischer – Lind 2015

S. Fischer – L. Lind, *The Coins in the Grave of King Childeric*, *Journal of Archaeology and Ancient History* 14, 2015, 1–36.

Fitzpatrick 2005

A. P. Fitzpatrick, *Gifts for the Golden Gods: Iron Age Hoards of Torques and Coins*, in: C. C. Haselgrove – D. Wigg-Wolf (eds.), *Iron Age Coinage and Ritual Practices*, *Studien zu Fundmünzen der Antike* 20 (Mainz 2005) 157–182.

FMRD

Die Fundmünzen der römischen Zeit in Deutschland (Berlin/Mainz/Bonn 1960–2015).

García-Bellido 2011

M. P. García-Bellido, *Hackgold and Hacksilber in Protomonetary Iberia*, in: M. P. García-Bellido – L. Callegarin – A. Jiménez Díez (eds.), *Barter, Money and Coinage in the Ancient Mediterranean (10th–1st centuries BC)*, *Actas del IV Encuentro peninsular de Numismática antigua (EPNA) Madrid 2010 (Madrid 2011)* 121–135.

Kehne 2008

P. Kehne, *Auskünfte antiker Schriftquellen zu Umständen und Größenordnungen des Abflusses*

römischer Münzen ins “Barbaricum” vom 1.–5. Jahrhundert n. Chr. Eine Problemskizze, in: A. Bursche – R. Ciolek (eds.), *Roman Coins Outside the Empire. Ways and Phases, Contexts and Functions: Proceedings of the ESF/SCH Exploratory Workshop Radziwill Palace, Nieborów (Poland) 3–6 September 2005*, *Moneta* 82 (Wetteren 2008) 75–88.

Loscheider 2005

R. Loscheider, Militär und Romanisierung. Zum Münzwesen der Treverer nach dem Gallischen Krieg, in: J. Metzler – D. Wigg-Wolf (eds.), *Die Kelten und Rom. Neue numismatische Forschungen* (Fond de Gras/Titelberg, Luxemburg, 30.4.–3.5.1998), *Studien zu Fundmünzen der Antike* 19 (Mainz 2005) 109–127.

Martin 2004

M. Martin, Childerichs Denare. Zum Rückstrom römischer Silbermünzen ins Merowingerreich, in: H. Friesinger – A. Stuppner (eds.), *Zentrum und Peripherie. Gesellschaftliche Phänomene in der Frühgeschichte. Materialien des 13. Internationalen Symposiums ‘Grundprobleme der frühgeschichtlichen Entwicklung im mittleren Donauraum’ Zwettl, 4.–8. Dezember 2000* (Vienna 2004) 241–278.

Martin 2016

S. Martin, Du statère au sesterce: monnaie et romanisation dans la Gaule du Nord et de l’Est (IIIe s. a.C. / Ier s. p.C.), *Scripta antiqua* 8 (Bordeaux 2016).

Nick 2005

M. Nick, Am Ende des Regenbogens...Ein Interpretationsversuch von Hortfunden mit keltischen Goldmünzen, in: C. C. Haselgrove – D. Wigg-Wolf (eds.), *Iron Age Coinage and Ritual Practices*, *Studien zu Fundmünzen der Antike* 20 (Mainz 2005) 115–155.

Noeske 1979

H.-C. Noeske, Bemerkungen zur Problematik der Siedlungsfunde, in: M. R.-Alföldi (ed.), *Ergebnisse des FMRD-Colloquiums vom 8.–13. Februar 1976 in Frankfurt am Main und Bad Homburg v.d.H.*, *Studien zu Fundmünzen der Antike* 1 (Berlin 1979) 157–165.

Polenz 1982

H. Polenz, Münzen in latènezeitlichen Gräbern Mitteleuropas aus der Zeit zwischen 300 und 50 vor Christi Geburt, *BayVgBl.* 45, 1982, 27–222.

R.-Alföldi – Stribrny 1998

M. R.-Alföldi – K. Stribrny, Zu den Münzbeigaben im Childerichgrab, in: M. Müller-Wille, *Zwei religiöse Welten: Bestattungen der fränkischen Könige Childerich und Chlodwig* (Stuttgart 1998) 37–45.

Reding 1972

L. Reding, *Les monnaies gauloises du Tetelberg* (Luxemburg 1972).

Sills 2003

J. Sills, *Gaulish and Early British Gold Coinage* (London 2003).

Wheeler 1954

M. Wheeler, *Rome Beyond the Imperial Frontiers* (London 1954).

Wigg 1999

D. G. Wigg, *The Development of the Monetary Economy in N. Gaul in the Late La Tène and Early*

Roman Periods, in: J. D. Creighton – R. J. A. Wilson (eds.), *Roman Germany, Studies in Cultural Interaction*, JRA Suppl. 32 (Portsmouth 1999) 99–124.

Wigg-Wolf 2008

D. Wigg-Wolf, *Coinage on the periphery*, in: A. Bursche – R. Ciolek (eds.), *Roman Coins Outside the Empire. Ways and Phases, Contexts and Functions: Proceedings of the ESF/SCH Exploratory Workshop Radziwill Palace, Nieborów (Poland) 3–6 September 2005*, *Moneta* 82 (Wetteren 2008) 35–47.

Wigg-Wolf 2011

D. Wigg-Wolf, *The Function of Celtic Coinages in Northern Gaul*, in: M. P. García-Bellido – L. Callegarin – A. Jiménez Díez (eds.), *Barter, Money and Coinage in the Ancient Mediterranean (10th–1st centuries BC)*, *Actas del IV Encuentro peninsular de Numismática antigua (EPNA) Madrid 2010* (Madrid 2011) 301–314.

Wigg-Wolf 2019

D. Wigg-Wolf, *Rethinking Coin Finds as a Process*, in: S. Krmnicek – J. Chameroy (eds.), *Fundmünzen - Trouvailles monétaires - Coin Finds: Aktuelle Forschungen zu Geld in der antiken Welt*, *Tübinger Numismatische Studien* 2 (Tübingen 2019).

Between Lumps and Coins. Italy in the First Millennium BC

Andreas M. Murgan

Abstract

Although the Greek cities in southern Italy were already minting coins in the sixth century BC, Italic peoples did not adopt coinage before the third century BC and used raw and formless pieces of copper alloy instead. In the third century BC, heavy cast bronze bars and *aes grave* as well as smaller bronze and silver coins were added as currencies.

This raises the question why and how this change occurred. In order to get a better understanding of the different types of money and their use, contextual analyses will be applied to a few significant examples. In relation to the historical context of the Punic wars it becomes visible how aspects of authority and identity contrasted with those of anonymity, thus affecting the choice which sort of money was appropriate in different circumstances.

Introduction

It is well known that coins developed in Asia Minor in the seventh century BC and spread very soon through the Greeks to the west. At the end of the sixth century BC, several Greek cities in southern Italy were emitting coins. The number of cities increased in the fifth century BC¹ Despite the arrival of Greek coins in the southern regions of Italy and intensive trade between many Greek and Italian cities, the Italic peoples used so-called premonetary objects made out of copper alloy instead.

Cast pieces of copper alloy with no proper or only a rough shape, called *aes rude* (fig. 1), were in use in the first millennium BC. They quite often show signs of breaking or cutting, sometimes also markings with a meaning unknown today. References in ancient texts support the assumption that these lumps served monetary functions: Pliny the Elder quotes Timaeus who reported that the use of *aes* was established before coins in Rome.² Proof of their use as a means of payment as well as a measure of value may be found in legal texts dating back to the fifth century BC, where fines were fixed in *aes* instead of cattle.³ In contrast to the lumps, the cast bars that appeared in the sixth century BC have a more defined form. They commonly bear signs on one or both sides that are known in literature as the pattern “*a ramo secco*”, a dry branch (fig. 2). These pieces still had no standardized weight and were chopped as the need arose. These bars are usually quite ferriferous and are connected with Etruria. In and around Latium, another kind of bars (fig. 3) developed in the third



Fig. 1: Piece of aes rude.



Fig. 2: Cast bar with ramo secco pattern.



Fig. 3: Cast bar with tripod and anchor.

century BC They were made out of different alloys containing copper and tin and carried different pictures like objects or animals. Again, no weight standard had been established and chopping was very common. Additionally, Rome produced the heavy cast bronze coins, the *aes grave* (fig. 4), which were based on the Roman pound, and therefore easier to compare. Soon after their introduction, a reduction in weight and size took place, which implies that a shift from its intrinsic value to an extrinsic value occurred. In parallel to the heavy cast coins, several issues of struck silver and bronze coins were added to the Roman coinage.⁴ At the end of the third century BC, Rome established a very successful money system with the denarius, which replaced almost all other Italian silver coins and influenced societies for a time far longer than the Roman Empire existed.⁵

Prior to the introduction of the denarius, the different types of money did not replace each other but were used simultaneously, as is shown in the record of hoards and sanctuaries. This raises the question why different seemingly incompatible money systems remained in use for centuries. The meaning and functions of money are the key element to answering this question. Even nowadays it would be quite difficult to provide an all-encompassing definition of money, bearing in mind the different kinds



Fig. 4: Aes grave coin with prow.

and shapes like coins, banknotes, e-cash or even cryptocurrencies. For ancient Italy, it becomes an even more challenging task. On the one hand, the functions of money are of an economic nature: a medium of exchange, a means of payment, a store and a measure of value. On the other hand, there are also social aspects that influence the use of money, depending on its range of use in market situations or in social obligations like ceremonies, dedications, taxes or fines. These social practices may affect whether objects are accepted or rejected by all participants of society or only by certain groups.⁶

In the following, contextual analyses will be applied to a few significant examples, in order to get a better understanding of the character of the different types of money and their use within society.

Contextualization

Hoard

The first type of context discussed here, hoards, is the most difficult to work with. In most cases, hoards are buried in isolation and therefore lack a wider context. But the assemblage can be seen as a context in itself. Depending on its composition, one can think of a treasure, a ritual deposition or the stock of a merchant or a metalworker. Its interpretation is therefore not easy. Another hindrance is that most of the hoards are found by chance, for instance during agricultural activities or construction work, since they are usually not visibly marked. Many finds were therefore not properly excavated or published.

One case may serve as an example for the phenomenon of depositing *aes* in hoards. This hoard was found in 1940 near Ardea about 30 km south of Rome by a farmer.⁷ Parts of the hoard could be saved and put on record, before all of the material was sold on the black market. Due to that, it was possible to rescue 31 pieces of *aes rude* weighing from 1 g to 459 g, 160 *aes grave* coins, and 17 struck bronze coins, dating the deposit into the third century BC. As the hoard was disturbed and looted, its full content has not been recorded. Nevertheless, the accumulated deposition of lumps, as well as cast and struck coins together in one place may prove its function as a store of value.

Graves

The second context is the grave. In 1987, Giovanna Bergonzi and Paola Piana Agostinetti wrote an article with the title “L’obolo di Caronte”, which provided a framework for the study of coins in graves.⁸ Although incomplete data and the lack of sufficient publications affected their work, they carried out statistical analysis on the graveyards of the classical and transalpine world. Due to the limitations of the dataset, caution is advised when interpreting these numbers.

Σ graves	Chronology			Burial type		Grave type						Sex/Age			Σ of <i>aes</i> in graves			
1180 in 21 Necro- poleis	8 th century B.C.	7 th – 5 th centuries B.C.	4 th – 3 rd centuries B.C.	cremation	inhumation	a pozzetto	a fossa	a camera	a cassone	a cappuccina	n.a.	male	female	child	1 piece	2 pieces	3 pieces	>3 pieces
Σ graves with <i>aes</i>																		
87 7.4 %																		
Σ	8	51	28	8	21	5	4	56	14	1	6	9	8	1	38	21	7	19
%	9.2 %	58.6 %	32.2 %	9.2 %	24.1 %	5.7 %	4.6 %	64.4 %	16.1 %	1.1 %	6.9 %	10.3 %	9.2 %	1.1 %	43.7 %	24.1 %	8.0 %	21.8 %
															Σ of <i>aes</i> in total: 286			

Table 1: Aes in graves in Central Italy.

From Central Italy, 21 necropoleis were taken into account, containing 1180 graves. The graves chronologically span six centuries, dating from the eighth until the third century BC. Only 87 tombs (7.4 %) contained *aes*, clustering mainly in the seventh to sixth centuries BC. The rate does not seem to be very high, but it is well comparable to coins in graves. For instance, 16.6 % of the graves in Central Italy contained coins,⁹ only 0.5 % in Sicily and 4.0 % in Magna Grecia,¹⁰ and 14.0 % in mainland Greece.¹¹ In 9.2 %

of the graves with *aes*, the deceased were cremated, 24.1 % were inhumations. For the remaining two thirds information was not available. *Aes* appeared in different tomb types as well as in graves for males, females and children. Frequently one specimen of *aes* was deposited, but two, three, or even more pieces were also common as grave goods. The amount of metal cannot be estimated and compared, because information concerning the weight is missing.

The custom shows no clear correlation with sex, age or condition of the dead, and the differences of the grave type and type of burial were surely more a reflection of the fashion of the time. Although the data have to be treated with caution, it becomes clear that *aes* was put into graves as a gift over a period of 600 years. The lumps, as well as coins, were a recurrent form of grave furniture, although they were far from prominent. If we follow Bergonzi and Piana Agostinetti in interpreting the coins and lumps as pay for the ferryman, these pieces served as a socially constructed means of payment within a framework of rituals, with an ambivalent function both as gift and as money.

Sanctuaries

Hoards and graves are usually closed contexts that provide a spotlight on a certain moment in time. In contrast, the third context, sanctuaries, can provide information over a longer period, which makes them all the more interesting for long-term studies.

A good case study is provided by the sanctuary of Mater Matuta in Satricum (Latium), where cultic activities can be traced from the beginning of the first millennium BC to Hellenistic times. Satricum was situated to the southeast of Rome and is mainly known for the temple of Mater Matuta on the acropolis. Cultic activities can be identified there from the ninth/eighth century B.C on, if not earlier.¹² Several temple buildings, one on top of the other, indicate a long tradition of use and destruction.¹³

Three large votive deposits are known: The first one¹⁴ was situated somewhere under the temple building and contained different objects of the seventh and sixth centuries BC, amongst others a great amount of pottery and metal objects like jewellery, bronze sheet figurines, tools, vessels, and *aes rude*. Due to its very early excavation in the 1890s, very little additional information is available about the context of this feature.

In contrast to this, the second deposit¹⁵ was unearthed much later in the 1980s, so the state of knowledge is much better. The feature was situated in an elongated natural pit west of the temple building. The pit was remarkably large (ca. 50 m long and 15 m wide) and contained a very large amount of pottery, weaving tools and figurines, bronze jewellery, weapons, vessels, tools, sheet figurines, and *aes rude* from the fifth and fourth centuries BC in twelve partially overlapping strata with different characteristics: some of them included carefully placed depositions, others consisted of secondarily relocated dump, and yet again others were founding or sealing layers. The detailed documentation shows that the votives, and amongst them *aes rude*, were deposited directly in closed assemblages, as well as in secondary depositions.



Fig. 5: Cast bar with Umbrian inscription.

The third deposit¹⁶ was also found very early at the end of the nineteenth century. Therefore much information is lost. It was re-excavated in the 1980s to solve open questions, but a comprehensive publication is still lacking. It was situated directly opposite to the temple entrance in an old water basin about 12 m wide. The content dates from the third to the first centuries BC and consists of pottery, terracotta statues, and anatomical votives. The metal objects consisted of pieces of jewellery, weapons, vessels, tools, sheet figurines, aes rude, and a few cast and struck coins. Several modifications to the feature before, during and after its replenishment show diverse manners of treating votives.

The three features prove the use of aes rude over a time longer than half a millennium. Especially the joint utilization of aes rude and coins in the third votive deposit stands as a bridge builder between coinage and the lumps, which both were taken out of the daily routine and sacralized. It is an interesting question why the quite anonymous coins and lumps were chosen as a votive, since one would expect in a sanctuary the selection of an object with a special meaning. Following the anthropological theory of the short-term and long-term transactional orders by Maurice Bloch and Jonathan Parry,¹⁷ adapted by Joris Aarts¹⁸ for Roman archaeology, the transition from the profane market situation with short-term transactions into the ritualized temple surroundings took place within a personalized ritual to establish a long-term connection between dedicant and deity beyond the anonymous character of money. By passing into the ownership of the deity they lost their economic functions in favor of a



Fig. 6: Roman quinarius with attacking Dioscuri.

conversion to a votive. These objects could not leave the sanctuary anymore and were, when needed, dumped within the boundaries of the sacred precinct.

The Bar with an Inscription

Interestingly, it seems that some of these coins or lumps with former functions of money made their way back from the sanctuary to the profane market, when they were used in the interest of the deity, for instance to pay repairs and renovations to the temple. So sanctuaries could benefit from the possibility to recirculate valuable items.¹⁹ The find of a cast bar of the type bull left/bull right (fig. 5) at ancient Tifernum Tiberinum, nowadays Città di Castello in Umbria, supports this theory.²⁰ It was discovered very early in 1899 by charcoal burners directly beneath the surface without further context. An Umbrian inscription was added after the original production of the bar on one side in retrograde letters, reading: FUKES SESTINES. The exact translation is still a matter of debate, but the general meaning seems clear: FUKES is linguistically related to the Latin word *focus* or *lucus*, meaning fire/hearth or grove. SESTINES refers to Sestinum, nowadays Sestino, a settlement quite close to Tifernum Tiberinum.²¹ It is assumed that the phrase stands for a sacred place in a sanctuary, meaning '[object] of the hearth or grove of the Sestines'. This might be an example of an object intentionally leaving a sanctuary, and being marked as such, also to clarify that the bar had not been stolen. Taking this idea one step further, one could think of the sanctuary not only in the role of a bank²² but, beyond that, in the role of an issuer or at least a re-issuer of money by marking them with an inscription. But as long as this object is unique and nothing is known about its context, the question remains a matter of speculation.



Fig. 7: Brettian bronze coin with attacking goddess.

Between Lumps and Coins, between Anonymity and Authority

Summing up the information gathered from the different features, the contextual analyses show the different monetary roles of aes and its relation to coins. The hoards testify to its use as a store of value, the ancient texts to its function as a means of payment and a measure of value. The presence in sanctuaries and graves documents its significance in sacred contexts as a gift for deities or the deceased. Depending on the interpretation of the role of the pieces in graves, a function as a ritual means of payment becomes visible. Having looked at the different contexts, one still wonders why the Italic peoples continued to use the lumps for so long and did not adopt the idea of coinage from the Greek cities before the third century BC.

Interestingly, the upswing of cast and struck coins happened when Rome was fighting with Carthage for the hegemony in the Mediterranean basin. In those troubled times, the requirements for a store of value apparently lay on countable coins, which concentrated value more than aes could do on the basis of weight, also to pay the mercenaries²³ in the often changing political alliances. The value of coins was directly connected with aspects of identity and authority, as was recently pointed out by Clare Rowan for the coinage of the second half of the third century BC²⁴. This also becomes visible due to the new iconographical emphasis on the representation of weapons and fighting. Roman coins of that time for instance show the prow (fig. 4),²⁵ Victoria with the *tropaeum*,²⁶ or attacking Dioscuri (fig. 6).²⁷ It also becomes apparent in the coinage of other stakeholders in Italy. Especially the coinage of the tribes, the Brettii,²⁸ the Lukani²⁹ and the Mamertini,³⁰ flourished with an emphasis on different fighting deities (fig. 7) and depictions of fighting



Fig. 8: Brettian bronze coin with warrior.

(fig. 8). The fact that all these coin productions ceased when Rome had gained victory shows the importance of coins as a tool for communication, as official information carriers concerning authority and identity.

In contrast, the bronze lumps were totally anonymous, without any iconography or legend, thus being a non-official sort of money. The unattributed character of *aes* might have been a reason for its long and continuous use in parallel to coins because they could meet a certain requirement that coins could not. In special circumstances like ritual acts, it could have been undesirable to use a store of value that was strongly connected to the authority and identity of a political unit, to avoid an overlay of the personal connection between the dedicant and the deity with a political statement. This could for instance explain why the Hellenistic votive deposit of the Mater Matuta sanctuary of Satricum contained comparably few coins but a lot of *aes rude*. Considering furthermore that the decline of Satricum happened in times of war in direct connection with the rise of Rome,³¹ one could imagine that the local dedicants preferred not to take coins that stood for these hostile authorities, but used *aes* instead as a statement. Finally, the conservative character of cultic activities could also have urged the use of the traditional lumps and to refuse the modern coins.

In conclusion, the reasons how and why coins and lumps both remained in use for centuries seem to be manifold, influenced by different social, political and practical aspects. With the success of the *denarius*, the use of the anonymous lumps ended, as well as the production of non-Roman coins in Italy. This gave the Romans the possibility to fully control this medium of communication with implications on all previously mentioned aspects within the societies in the growing Roman Empire.

Acknowledgements

The research for this article was made possible by the research projects, ‘Coinage and the Dynamics of Power: the Western Mediterranean 500–100 BC’, funded by the VolkswagenStiftung, and ‘NumFAU. Online database for numismatics’ funded by the Federal Ministry of Education and Research (BMBF). I wish to thank the respective project leaders Fleur Kemmers and Martin Boss for their encouragement. Additionally, I like to thank the organizers of the session Marleen Termeer and Elon Heymans for the fruitful discussion that enhanced this article. Furthermore, I want to thank Hannah Eginton, Lars Hochreuther and Carolin Murgan for providing me linguistic support.

Notes

¹ Rutter 2001, 1–6.

² Plin. *HN* 33, 42–47.

³ Kunkel – Wittmann 1995, 158–160.

⁴ A short introduction with further references is provided by Rutter 2001, 44–50.

⁵ Still nowadays, several countries use the nominals “denar” or “dinar”, as for instance: Algeria, Iraq, Republic of Macedonia, Serbia, and Tunisia.

⁶ Seaford 2004, 16–20; Murgan – Kemmers 2016, 278–279.

⁷ Cesano 1942.

⁸ Bergonzi – Piana Agostinetti 1987.

⁹ Bergonzi – Piana Agostinetti 1987, 192.

¹⁰ Bergonzi – Piana Agostinetti 1987, 186.

¹¹ Bergonzi – Piana Agostinetti 1987, 182.

¹² Stobbe 2007.

¹³ Waele 1981a; Waele 1981b; Waele 1997.

¹⁴ Graillot 1896, 135; Barnabei – Cozza 1896, 29; Barnabei – Mengarelli 1896, 190–192; Murgan – Kemmers 2016, 281–282 with further references.

¹⁵ Beijer 1987, 280. 283–284.; Bouma 1996a; Bouma 1996b.

¹⁶ Barnabei 1896, 99–101; Barnabei – Mengarelli 1896, 191–193; Petersen 1896, 161. 173; Mengarelli 1904, 268; Murgan – Kemmers 2016, 282–283 with further references.

¹⁷ Bloch – Parry 1989.

¹⁸ Aarts 2005.

¹⁹ Smith 2001, 19–20.

²⁰ Haeberlin 1910, 143–144 no. 2. For the bar type see Crawford 1974, 132 No. 5, 1 <<http://numismatics.org/crro/id/rrc-5.1>>.

²¹ Untermann 2000, 439–440; Crawford 2011, 93.

²² Bromberg 1940.

²³ Rutter 2001, 7–9.

²⁴ Rowan 2014.

²⁵ For instance Crawford 1974, 147–148 No. 35, 1 <<http://numismatics.org/crro/id/rrc-35.1>>.

²⁶ For instance Crawford 1974, 154 No. 44, 1 <<http://numismatics.org/crro/id/rrc-44.1>>.

²⁷ For instance Crawford 1974, 154–155 No. 44, 6 <<http://numismatics.org/crro/id/rrc-44.6>>.

²⁸ Rutter 2001, 157–161.

²⁹ Rutter 2001, 129–130.

³⁰ SNG Copenhagen No. 428–470.

³¹ Stibbe 1982, 20–21.

Image Credits

Fig. 1: Münzkabinett der Staatlichen Museen zu Berlin, 18200876. Photographer: D. Sonnenwald. <<https://ikmk.smb.museum/object?id=18200876>> – Fig. 2: Münzkabinett der Staatlichen Museen zu Berlin, 18202529. Photographer: L.-J. Lübke. <<https://ikmk.smb.museum/object?id=18202529>>. – Fig. 3: Münzkabinett der Staatlichen Museen zu Berlin, 18202537. Photographer: L.-J. Lübke. <<https://ikmk.smb.museum/object?id=18202537>>. – Fig. 4: Antikensammlung der Friedrich-Alexander-Universität Erlangen-Nürnberg, H 213. Photographer: A. Murgan. <<http://www.numid.phil.fau.de/object?id=ID213>>. – Fig. 5: Münzkabinett der Staatlichen Museen zu Berlin, 18201103. Photographer: D. Sonnenwald. <<https://ikmk.smb.museum/object?id=18201103>>. – Fig. 6: Antikensammlung der Friedrich-Alexander-Universität Erlangen-Nürnberg, H 221. Photographer: A. Murgan. <<http://www.numid.phil.fau.de/object?id=ID221>>. – Fig. 7: Antikensammlung der Friedrich-Alexander-Universität Erlangen-Nürnberg, H 31. Photographer: A. Murgan. <<http://www.numid.phil.fau.de/object?id=ID31>>. – Fig. 8: Antikensammlung der Friedrich-Alexander-Universität Erlangen-Nürnberg, H 32. Photographer: A. Murgan. <<http://www.numid.phil.fau.de/object?id=ID32>>. – Table 1: after Bergonzi – Piana Agostinetti 1987, 174.

References

Aarts 2005

J. Aarts, Coins, Money and Exchange in the Roman World. A Cultural-economic Perspective, *Archaeological Dialogues* 12, 2005, 1–28.

Barnabei 1896

F. Barnabei, Conca — Nuove scoperte nell’area dell’antico tempio presso le Ferriere, *NSc*, 1896, 99–102.

Barnabei – Cozza 1896

F. Barnabei – A. Cozza, Conca — Di un antico tempio scoperto presso le Ferriere nella tenuta di Conca, dove si pone la sede della città di Satricum, *NSc*, 1896, 23–48.

Barnabei – Mengarelli 1896

F. Barnabei – R. Mengarelli, Conca — Nuovi scavi nel tempio satricano di Mater Matuta, scoperto sulla collina presso le Ferriere di Conca, *NSc*, 1896, 190–200.

Beijer 1987

A. J. Beijer, Scavi a Le Ferriere ("Satricum") 1983–1985, in: S. Quilici Gigli (eds.), *Archeologia Laziale VIII. Ottavo incontro di studio del comitato per l'archeologia Laziale, Quaderni del centro di studio per l'archeologia etrusco-italica* 14 (Rome 1987) 278–284.

Bergonzi – Piana Agostinetti 1987

G. Bergonzi – P. Piana Agostinetti, L'«obolo di caronte». «Aes rude» e monete nelle tombe: la pianura padana tra mondo classico e ambito transalpino nella seconda età del ferro, *ScAnt* 1, 1987, 161–223.

Bloch – Parry 1989

M. Bloch – J. Parry, Introduction: Money and the Morality of Exchange, in: J. Parry – M. Bloch (eds.), *Money and the Morality of Exchange* (Cambridge 1989) 1–32.

Bouma 1996a

J. W. Bouma, *Religio Votiva 1: The Archaeology of Latial Votive Religion. The 5th–3rd c. BC Votive Deposit South West of the Main Temple at 'Satricum' Borgo Le Ferriere. The Votive Deposit in a Diachronic and Synchronic Perspective. Votive Gifts as an Entire Social Experience* (Groningen 1996).

Bouma 1996b

J. W. Bouma, *Religio Votiva 2: The Archaeology of Latial Votive Religion. The 5th–3rd c. BC Votive Deposit South West of the Main Temple at 'Satricum' Borgo Le Ferriere. Report on the Excavations. Strata and Assemblages of the Votive Deposit* (Groningen 1996).

Bromberg 1940

B. Bromberg, Temple Banking in Rome, *The Economic History Review* 10, 1940, 128–131.

Crawford 1974

M. H. Crawford, *Roman Republican Coinage 1. Introduction and Catalogue* (Cambridge 1974).

Crawford 2011

M.H. Crawford (ed.), *Imagines Italicae. A Corpus of Italic Inscriptions* (London 2011).

Graillot 1896

H. Graillot, Le temple de Conca, *MEFRA* 16, 1896, 131–164.

Haeberlin 1910

E. J. Haeberlin, *Aes Grave. Das Schwergeld Roms und Mittelitaliens einschließlich der ihm vorausgehenden Rohbronzewährung. Textband und Tafelatlas* (Frankfurt 1910).

Kunkel – Wittmann 1995

W. Kunkel – R. Wittmann, *Staatsordnung und Staatspraxis der römischen Republik*, *HAW* 10, 3, 2 (Munich 1995).

Mengarelli 1904

R. Mengarelli, Gli scavi di Satricum (Ferriere di Conca) e la necropoli di Caracupa (presso Sermoneta e Norma), in: *Atti del congresso internazionale di scienze storiche 1–9 aprile 1903 Roma* (Rome 1904) 267–275.

Murgan – Kemmers 2016

A. M. Murgan – F. Kemmers, Temples, Hoards and Pre(?)monetary Practices – Case Studies from Mainland Italy and Sicily in the 1st Millennium BC, in: H. Baitinger (eds.), *Materielle Kultur und Identität im Spannungsfeld zwischen mediterraner Welt und Mitteleuropa. Material Culture and*

Identity between the Mediterranean World and Central Europe. Abschlusstagung des DFG-Projekts «Metallfunde als Zeugnis für die Interaktion zwischen Griechen und Indigenen auf Sizilien zwischen dem 8. und 5. Jahrhundert v. Chr.». Akten der Internationalen Tagung am Römisch-Germanischen Zentralmuseum Mainz, RGZM-Tagungen 27 (Mainz 2016) 277–290.

Petersen 1896

E. Petersen, *Funde*, RM 11, 1896, 157–192.

Rowan 2014

C. Rowan, The Value of Coinage in the Second Punic War and After, in: A. Bokern – C. Rowan (eds.), *Embodying Value? The Transformation of Objects in and from the Ancient World*, BARIntSer 2592 (Oxford 2014) 77–88.

Rutter 2001

N. K. Rutter (ed.), *Historia Numorum. Italy* (London 2001).

Seaford 2004

R. Seaford, *Money and the Early Greek Mind. Homer, Philosophy, Tragedy* (Cambridge 2004).

Smith 2001

C. J. Smith, Ritualising the Economy, in: A. J. Nijboer (ed.), *Interpreting Deposits: Linking Ritual with Economy. Papers on Mediterranean Archaeology*, *Caeculus* 4 (Groningen 2001) 17–23.

SNG Copenhagen

Sylloge Nummorum Graecorum. The Royal Collection of Coins and Medals. Danish National Museum. Sicily Part I: Abacaenum-Petra (Copenhagen 1942).

Stibbe 1982

C. M. Stibbe, La storia della città, in: C. M. Stibbe (ed.), *Satricum. Una città latina* (Florence 1982) 19–22.

Stobbe 2007

J. A. Stobbe, L'inizio di una comunità sull'acropoli, in: M. Gnade (ed.), *Satricum. Trenta anni di scavi olandesi* (Amsterdam 2007) 20–28.

Untermann 2000

J. Untermann, *Wörterbuch des Oskisch-Umbrischen, Handbuch der italischen Dialekte* 3 (Heidelberg 2000).

Waele 1981

J. A. K. E. de Waele, I templi della Mater Matuta a Satricum, *MededRom* 43, 1981, 7–68.

Waele 1981b

J. A. K. E. de Waele, Satricum nel VI e V secolo A.C.: L'architettura templare, in: S. Quilici Gigli (ed.), *Archeologia Laziale IV. Quarto incontro di studio del comitato per l'archeologia Laziale*, *Quaderni del centro di studio per l'archeologia etrusco-italica (QuadAEI)* 5 (Rome 1981) 310–316.

Waele 1997

J. A. K. E. de Waele, Cronologia ed architettura dei templi della Mater Matuta di Satricum, *MededRom* 56, 1997, 69–83.

How Money Defined the Romans

Merav Haklai

Abstract

Scholarly discussions often focus on what money is and how to define it. This paper, however, does not pursue the question of how the Romans defined money, but rather how money defined the Romans. The importance of money in Roman political tradition was not initiated by Roman imperialism, nor by Roman familiarity with the Greek invention of coinage. Centuries before the Romans knew coins, established their empire, or founded the *res publica*, the Roman state used money to define members of its community. This paper argues in favour of an umbilical relation between money and the Roman state; more specifically, between money, the state's established system for reckoning wealth, the *census*, and the centuriate assembly. It focuses on the archaic Roman state and the revolutionary Servian reforms, which redefined money while simultaneously using it to define who was a Roman and what his civilian obligations were.

Theoretical Framework

Money is a social convention.¹ It is a general agreement to use a system of symbols in order to represent a scale of magnitude that signifies value. As such, money provides a standard according to which all goods and services can be evaluated and compared. Thus, in its essence money is abstract. It is a theoretical notion derived from human numerical capacities. Physical manifestation is not a prerequisite for choosing monetary symbols. However, more often than not the symbols that represent money are materialized in specific objects, by their nature tangible and concrete. These physical monetary instruments indicate the units of measurement that we call money. Thus, money has a Janus-faced oddity, it is simultaneously both an abstract and a corporeal thing.

In the Mesopotamian and Mediterranean worlds of the first millennium BC metals have typically been used as monetary instruments, and from the sixth century BC onwards, money often has been associated with coinage. While metal, whether or not coined, is corporeal, units of weight and account used to measure metal are abstract. The relation between metal and money, as between coin and money, is that which exists between symbol and value, between signifier and signified. The nature of this relation is dictated, among other things, by numerical patterns of thought. That is, common use of certain numbers, number series, and ratios, and the familiarity of wide segments of a society with using these, affects the relation between money and the monetary objects representing it.

To conclude, it is with 1) a definition of money as abstract, 2) an appreciation that money can be manifested in various ways, and 3) an acknowledgement of the importance of numerical thinking in creating and using money that I approach the specific historical issue of the relation between money and the archaic Roman state.

The Servian Reforms

This paper is dedicated to the reforms of Rome's sixth king, Servius Tullius, who according to traditional chronology ruled the city for approximately 40 years starting from 578 BC² Roman tradition as preserved in late Republican sources – mainly in the works of Livy and Dionysius of Halicarnassus – ascribes to Servius Tullius a series of reforms that set the organization of Rome's citizen body for centuries to come.³ According to tradition, Servius founded two citizen assemblies: the *comitia tributa* based initially on a territorial division of the citizens, and the *comitia centuriata* based on a timocratic division. He also initiated the *census*, an institution intended to organize military recruits and probably the collection of tax or tribute.⁴ In addition, he passed a monetary reform, on which the sources give different reports.⁵ According to Pliny "King Servius was the first to stamp a design on bronze", while Varro states that "it is said that Servius Tullius was the first to strike silver coins".⁶ Together, these elements touch upon almost every aspect of Roman governance: military organization, taxation, regulation of measurements, citizenship, voting assemblies, and political power.

This paper claims that the Servian reforms redefined money while simultaneously using it in a revolutionary way to define who was a Roman and what his civilian obligations were. It was the Servian system, as it is often called, which set the long lasting umbilical relation between money and the Roman state, based on the *census* and its use of monetary units of account to organize the timocratic *comitia centuriata*, which became one of the Republic's most dominant assemblies.

The Numismatic Evidence

The frame of the numismatic debate was set more than a generation ago by Michael Crawford.⁷ A summary of his observations follows: Rome did not produce coinage of any sort before the end of the fourth century BC, and its archaeological record "is devoid of coin finds earlier than the third century".⁸ Yet, this does not mean that Rome had no money. Archaic Rome, like contemporary Apennine communities, used bronze as monetary instrument.

The fact that Roman tradition ascribed to Servius Tullius a monetary reform supports the claim that from an early age the community's authorities were involved in overseeing a

standard of bronze as commodity money. This was the famous Roman pound (*libra*) known from archaic time as the *as*. The archaic *as* was divided into twelve *unciae* and represented a basic unit for both weight and territorial measurement.⁹ This archaic unit should not be confused with later coins called *asses*, though our mid and late Republican sources sometimes tend to interpret it as such. Thus, Servius' reform must have established a certain weight standard, which acted as a monetary unit of account, or re-evaluated an existing one. It could have set a new weight standard to the *as* or the *uncia*. Other than that, the exact nature of Servius' monetary reform remains uncertain.

What is certain, though, is that in later periods the Roman monetary unit of account called an *as* went through several re-evaluations. When Rome began to cast its own bronze coinage, probably during the 280s BC, she had done so on a standard of about 324g, known as the 'libral' *as*.¹⁰ Just before or at the start of the First Punic War, Rome started casting bronze at a lower standard of about 265g, the so-called 'sub-libral' *as*, weighing ten *unciae* rather than twelve.¹¹ During the Hannibal War, Rome introduced, probably in 212/1 BC, her new long-lasting monetary system based on the *denarius*. It re-tariffed the *as* at a lower weight standard of two *unciae* per *as*, the so-called 'sextantal' *as*, while preserving its traditional division as a monetary unit into twelve *unciae*. Ten such new *asses* officially equalled a *denarius*. Finally, around 140 BC another reform was passed. A lower weight standard of one *uncia* per *as* known as the 'uncial' *as*, perhaps sporadically used earlier that century, became binding. And, it was combined with a re-evaluation of the *denarius* as a monetary unit, which now equalled sixteen new *asses* rather than ten.

While the re-tariffings of the monetary unit called an *as* in terms of a weight unit called an *uncia* is important for understanding the numerical information preserved in the written sources, it tells us little about the Servian reform. Whatever the precise nature of Servius' monetary reform was, it had to be connected with other major reforms, which the sources ascribe to him. Perhaps detecting patterns of numerical categorization, mainly in the timocratic *comitia centuriata*, might be of help.

The *comitia centuriata*

The *comitia centuriata*, being a timocratic assembly, demanded assessing the quantifiable wealth of citizens according to a unit of measurement, which was set and regulated by the state. It categorized citizens in units, originally for military recruitments, which acted as voting units for political as well as fiscal purposes. According to Roman tradition, this institutional and conceptual framework for defining and organizing the Roman citizen body was founded in the sixth century by king Servius Tullius.

In the fullest traditional narrative, preserved in Livy (1, 43) and Dionysius of Halicarnassus (4, 16–21), Servius established the *comitia centuriata* as a one-time

constitutional act, creating at once its complex organization of 193 centuries. These were timocratically divided into five *classes*, in a sophisticated organization well known from the late Republican sources. Both Livy and Dionysius report a similar formation, and the information is repeated in table 1. Beside a difference in the minimum *census* required for the fifth *classis*, Livy and Dionysius show minor differences in the armor description of the fourth and fifth *classes*, and in the assignment into *classes* of the two centuries of engineers (first *classis* in Livy, second in Dionysius), and the two of horn-blowers and trumpeters (fifth in Livy, fourth in Dionysius). Other than that their reports give the same information.¹²

Class	Livy 1, 43		Dion. Hal. 4, 16–18		Dion. Hal. figures in <i>asses</i> ¹³
1	≥ 100,000 asses	43, 1	≥ 10,000 drachmas	16, 1	≥ 100,000 asses
2	≥ 75,000 asses	43, 4	≥ 7,500 drachmas	16, 3	≥ 75,000 asses
3	≥ 50,000 asses	43, 5	≥ 5,000 drachmas	16, 4	≥ 50,000 asses
4	≥ 25,000 asses	43, 6	≥ 2,500 drachmas	17, 1	≥ 25,000 asses
5	≥ 11,000 asses	43, 7	≥ 1,250 drachmas	17, 2	≥ 12,500 asses
<i>proletarii</i>					

Table 1: Minimum *census* requirement in Livy and Dionysius of Halicarnassus.

Differences between Livy and Dionysius are commonly seen as evidence for their use of independent sources, though general agreement regarding the main details indicates that their sources were relying on the same now-lost source. As noted already by Theodor Mommsen, late Republican and early Imperial sources suggest that this lost source was an official legislative document traditionally ascribed to Servius Tullius, which existed in Augustan Rome and regulated the organization of centuries and *classes*.¹⁴ What it prescribed and when it was written is unknown, but there are reasons to doubt that it was written under king Servius. In fact, it is widely agreed that the complex division of the Roman people into 193 centuries was not created instantaneously. Rather, it was a historical process by which the *comitia centuriata* developed into its fullest organization, observed in late Republican sources.

Changes in the *comitia centuriata*

Roman antiquarian tradition preserves evidence of an early twofold division of the archaic *comitia centuriata* into *classici* (those within the *classis*) and *infra classem*.¹⁵ Presumably, only the former could afford to fully equip themselves for battle with hoplite weaponry and were recruited regularly to the Servian legion.¹⁶ This dual system is probably the one to have existed in the time of Servius. The fact that our sources preserve no trail of an explicit additional reform suggests that there was never such a reform. Instead there was a long and slow series of changes, which eventually brought about the five *classes* system. There are several possibilities to reconstruct this development.

One may presume that an archaic division would allow for the richest, the *patres*/patricians, to be distinguished from the rest of the citizen body, especially if they were to serve as *equites* and not as infantry. Taking into account what we know of hoplite armies, it is unlikely that only the *classici* were recruited to the legion if this group was comprised only of those holding the high *census* of the first *classis*. We can speculate that initially the *comitia centuriata* included both *classici* and *infra classem*, the division being between a majority of infantry hoplite recruits (the latter) and an elite of *equites*, perhaps the *patres*/patricians (the former).

A reform that might have introduced a three *classes* system – perhaps with a *census* of above 100,000 *asses*, between 100,000 and 50,000, and below 50,000¹⁷ – fits the reports of Livy and Dionysius on the similarities in weaponry of the first three *classes*. It corresponds with the division of the legion into 60 centuries, as opposed to the 40 centuries of *iuniores* of the first *classis*, and reconciles with Fraccaro's reconstruction of the monarchic hoplite army as consisting of the first three *classes*.¹⁸

Another reform might have introduced a four *classes* system whose existence is supported, first, by the *census* figures for the first to fourth *classes* in both Livy and Dionysius, which form a numerical series, for which the following figure should be zero.¹⁹ Neither Livy's nor Dionysius' figure for the fifth *classis* fit this series. Second, Polybius, while giving the same minimum *census* as Livy and Dionysius for the first *classis*, gives a figure of 400 drachmas (=4,000 'sextantal' *asses*), mentioned by neither Livy nor Dionysius, for the minimum *census* required to serve in the infantry, which in the mid-second century BC can only relate to the fifth *classis*.²⁰ The three different *census* assessments for the fifth *classis*, together with additional less straight forward evidence regarding early Republican penalties and rewards,²¹ leads to the conclusion that the fifth *classis* was a later amendment. Prior to it, the *comitia centuriata* consisted of only four *classes*.

A last reform, which was the end of the development, introduced the five *classes* system, and is the only one that can be roughly dated to the fifth or fourth century. Prominent scholars align it with the introduction of the *stipendium*, Roman military pay, during the long siege on Veii (406 BC),²² and connect it with the start of Roman collection of the *tributum*.²³

To end, one may postulate that this series of changes was embedded in the context of the patrician-plebeian struggle, and that repeated reforms might have given some relief to the growing demands of the plebeians.

Within this long trail of adjustments, the only reform that made a real difference was the first, that of Servius. It set the rules of the game for the *comitia centuriata* as a timocratic assembly, establishing already in the sixth century the framework for Roman public life. Even though the practicalities of the *comitia centuriata* went through considerable changes, its essence as a timocratic assembly was not altered for centuries.

The Servian Monetary Reform

We are left with the question of the nature of Servius' monetary reform. Can anything be established beyond the condense report by the anonymous fourth-century A.D. writer of the *liber de viris illustribus urbis romae*, which states that Servius Tullius "establishes the measures, the weights, the classes, and the centuries"²⁴? To our aid come numerical patterns in our evidence, summarized below.

We know that the Roman *libra* was divided into twelve *unciae*, following a duodecimal system. Also, we know of three occasions when a re-tariffing of the *as* took place: In the third century the *as* was re-tariffed at a weight of ten *unciae*, the so-called 'sub-libral' *as*. In the Second Punic War it was re-tariffed at a weight of two *unciae*, the so-called 'sextantal' *as*, ten of which equalled a *denarius*. And, after 140 BC it was re-tariffed at a weight of one *uncia*, known as the 'uncial' *as*, sixteen of which equalled a *denarius*. These re-tariffings show a mixture of duodecimal and decimal systems of reckoning together with a hexadecimal one.

Secondly, *census* categorizations of the *comitia centuriata* show several numerical patterns. The four *classes* system can be seen as quaternary, which might fit with Polybius' 400 drachmas *census* qualification for infantry. However, the *census* of the first four *classes* is a numerical series of a decimal or quinary nature; a reckoning system ascribed by Plutarch also to archaic penalties.²⁵ Republican military pay norms, not discussed here, show patterns of a ternary system.²⁶ Finally, Columella's division of the *iugerum*, Rome's land measurement, exhibits a mixture of duodecimal and decimal/quinary elements.²⁷

Clearly, archaic Rome knew both quinary/decimal and senary/duodecimal systems of reckoning, and in the mid Republic the two systems were habitually integrated. Could it be that the Servian monetary reform was responsible for a formal integration of the two reckoning scales? Contemporary Etruscan evidence, slim as it is, might suggest that some conceptual numerical change perhaps took place in the sixth century. For example, a recent study of Etruscan dice evidence shows that in the early seventh- to fifth century BC a new combination (namely, 1-6, 2-5, 3-4) had become the norm.²⁸ The Servian monetary reform might have been part of a more general shift, that organized

the use of different numerical systems in an officially binding relation, re-tariffing an existing duodecimal system and combining it with a decimal one, known from the calculations of penalties, and in the third century used also for the so-called ‘sub-libral’ *as*. The current state of the evidence, alas, allows no decisive conclusion.

It is clear, however, that the Servian monetary reform was just one element of a much wider re-organization of the archaic Roman state. Combined with the introduction of the *census*, the *comitia tributa*, and the *comitia centuriata*, it created institutional mechanisms, which allowed the state to supervise its populace, distribute its members into units and classes and in accordance decide their privileges and obligations. Setting an official monetary standard to assess citizens’ wealth was a crucial factor in this fabric.

Acknowledgements

I wish to thank the organizers of the panel, Marleen Termeer and Elon Heymans, for inviting me and for all their helpful comments.

Notes

¹ Objects representing money derive their value, partly or wholly, from the social convention that designates them as money; Tobin 2008.

² Thomsen 1980; Cornell 1995, 119–126.

³ Servius is credited also with expanding the city’s territory, fortifying it with a wall, and dedicating a temple to Diana to be a center of worship for all Latins.

⁴ This line of interpretation follows Last 1945; Cornell 1995, 179–197 esp. 190–194, who shows how the combination of the two *comitiae* enabled a proficient mechanism to carry out the *census*.

⁵ Mattingly 1943.

⁶ Plin. *HN* 33, 43; also, Cassiod. *Var.* 7.32.4. Varro, *Annal.* 3 apud Charisius, *Gramm.* ed. K. Barwick (1964²): 0134 (= Keil, *Gramm. Lat.* 1, 105). Neither reconciles with the numismatic evidence.

⁷ Crawford 1974, 35–46, table in 44–45.; 1985, esp. 17–24.

⁸ Crawford 1985, 20.

⁹ Colum. 5, 1, 8–13.

¹⁰ Which slightly shifted upwards in the 270s to about 334g and 331g; Rutter 2001, 46–47.

¹¹ Plin. *HN* 33, 42; Coarelli 2013.

¹² Liv. 1, 43, 1–13; Dion. Hal. ant. 4, 16, 1–17, 4; Cornell 1995, 179–180.

¹³ Assuming: (1) Attic/Alexandrian drachma = denarius; (2) denarius = 10 ‘sextantal’ asses.

¹⁴ Festus (290 L), who relies on Varro’s lost *rerum humanarum*; Cic. *orat.* 46, 155–156.; Varro *ling.* 6, 86–87.; Liv. 1, 60, 4. Mommsen 1887, 245; Cornell 1995, 180.

¹⁵ Plin. *HN* 33, 43; Gell. *A.* 6, 13; Festus (100 L); Cornell 1995, 183–184.

¹⁶ As inferred from the verb *calare*, ‘to call’ or ‘to summon’; Thomsen 1980, 176–177; Cornell 1995, 184.

- ¹⁷ Rathbone 1993, 133, 136–137.
¹⁸ Fraccaro 1931; Cornell 1995, 181–185.
¹⁹ Rathbone 1993, 140.
²⁰ Pol. 6, 23, 15, for the *prima classis*. 6, 19, 3, for the infantry.
²¹ Rathbone 1993.
²² Liv. 4, 59, 11–60, 8; Diod. 14, 16, 5; Crawford 1985, 21–23; Cornell 1995, 185–189.
²³ Nicolet 1976, 27–29.
²⁴ Ps.-Aur. Vict. vir. ill. 7, 8.
²⁵ Plut. Vit. Publ. 11.
²⁶ Pol. 6, 39, 2; Rathbone 1993, 151–152.
²⁷ Colum. 5, 1, 8–13.
²⁸ Artioli et al. 2011; Maras 2013.

Image Credits

Table 1 by the author.

References

Artioli et al. 2011

G. Artioli – V. Nociti – I. Angelini, Gambling with Etruscan dice: a tale of numbers and letters, *Archaeometry* 53, 5, 2011, 1031–1043.

Barwick 1964²

K. Barwick (ed.), *Flavii Sosipatri Charisii Artis grammaticae libri V*. 2nd ed. (Lipsig 1964).

Coarelli 2013

F. Coarelli, *Argentum signatum. Le origini della moneta d'argento a Roma* (Rome 2013).

Cornell 1995

T. J. Cornell, *The Beginnings of Rome. Italy and Rome from the Bronze Age to the Punic Wars (c. 1000 – 264 BC)* (London 1995).

Crawford 1974

M. H. Crawford, *Roman Republican Coinage 1* (London 1974).

Crawford 1985

M. H. Crawford, *Coinage and Money Under the Roman Republic: Italy and the Mediterranean Economy* (London 1985).

Fraccaro 1931

P. Fraccaro, *La Storia dell'Antichissimo Esercito Romano e l'Età dell'Ordinamento Centuriato*, Atti II Congresso Nazionale di Studi Romani 3, 1931, 91–97. [= P. Fraccaro, *Opuscula 2. studi sull'età della rivoluzione romana, scritti di diritto pubblico, militare* (Pavia 1957) 287–292].

Last 1945

H. Last, The Servian Reforms, JRS 35, 1945, 30–48.

Maras 2013

D. F. Maras, Numbers and Reckoning: A Whole Civilization Founded Upon Divisions, in: J. MacIntosh Turfa (ed.), *The Etruscan World* (Abingdon 2013) 478–491.

Mattingly 1943

H. Mattingly, „Aes“ and „Pecunia“ Records of Roman Currency Down to 269 BC, *NumChron* (Sixth Series) 3, 1/4, 1943, 21–39.

Mommsen 1887

T. Mommsen, *Römisches Staatsrecht* 3. Bürgerschaft und Senat. 1. Abteilung (Leipzig 1887).

Nicolet 1976

C. Nicolet, *Tributum. Recherches sur la fiscalite directe sous la republique romaine* (Bonn 1976).

Rathbone 1993

D. Rathbone, The Census Qualifications of the assidui and the prima classis, in: H. Sancisi-Weerdenburg (ed.), *De agricultura. In memoriam Pieter Willem de Neeve (1945–1990)* (Amsterdam 1993) 121–152.

Rutter 2001

N. K. Rutter, *Historia Numorum, Italy* (London 2001).

Thomsen 1980

R. Thomsen, *King Servius Tullius. A Historical Synthesis* (Copenhagen 1980).

Tobin 2008

J. Tobin, Money, in: S. N. Durlauf – L. E. Blume (eds.), *The New Palgrave Dictionary of Economics* 2 (Palgrave MacMillan 2008).

Discussion

Nicola Terrenato

Abstract

The paper offers a critical appraisal and discussion of the theme of the session, based on the papers contained in this section. Correspondences are identified across different cultural contexts and they are tied back to the broader debate about the nature and jurisdiction of early states.

The state has a long history of being essentialized, when not idolized, as an institution in Western European political thought. At least since Niccolò Machiavelli made it the center of his theoretical edifice,¹ the presence of the state has been considered an indispensable precondition for any number of complex social traits, such as urbanism, professional armies, literacy, laws and, case in point, money.² For centuries, European scholars and politicians embedded within early modern monarchies, budding nations and, later, colonial empires have naturally tended to project the nature and attributes of their own polities back onto much earlier stages of state development. Rome, in particular, was identified as a model of all-powerful and all-encompassing political structure, under whose aegis highly regulated collective institutions would emerge and thrive.³ Specifically in the area of economy and exchange, influential theorizations envisioned a rigid top-down state-centered taxation system as the primary driver of development.⁴ Interestingly, a widespread skepticism about the economic rationality of premodern Mediterranean people⁵ went hand-in-hand with a firm belief that a state like the Roman one had a tight control on production, exchange and, consequently, money. In parallel, the long tradition of classical numismatics, with its interminable catalogues of dies, types, moneymen and emperors, further contributed to cement an institutionalized notion of coinage, one in which the seigniorage of the state was absolute and unquestioned.

It is only in recent decades that monolithic views of ancient states have begun to be taken apart and deconstructed, making room for more nuanced formulations.⁶ The essential issue concerns the nature and reach of early political aggregations, especially vis-à-vis other power structures within the emerging polities. Lineages, clans, social and religious groups and other corporate entities can operate, at least in part or at times, outside the direct control of the state.⁷ Occasionally, they might even work explicitly against it. Elite families promoted strife, attempted coups and carried out assassinations, sometimes prompting a temporary collapse of the political machinery. By the same token, they could perform functions that are traditionally considered exclusive prerogatives of the state: for instance waging private wars, or administering their own internal justice. Seen in this perspective, the progressive institutionalization of money (or the absence of this phenomenon) should not be

automatically seen as a proxy of the degree of political centralization displayed by a polity. There is a multitude of disparate scenarios in which different kinds of money can be produced and used. The very appearance of money, whether in the form of minted coins or not, should be seen as just one of many facets that economic behaviors can take. As it is convincingly argued in the introduction, subscribing to classic formalist dichotomies, like the one between money as token vs. money as commodity, or the one between coined metal and bullion, is ultimately not helpful, and impossible to implement incontrovertibly in any case. In a similar way, barter vs. money exchange or, in terms of the whole economy, market-driven vs. socially embedded are further examples of polar oppositions that cannot but ultimately obscure the rich complexity of actual behaviors.⁸

There is, therefore, a promising convergence between deconstruction of classic state theory and of formalist economic analysis that has the potential to shake entrenched certainties and yield important new results. The papers collected in this session provide a fascinating cross-section of economic phenomena in this sense and, taken together, make a powerful case for a context-sensitive, unpreconceived approach to this set of problems. Perhaps not surprisingly, first millennium BC Italy receives the lion's share of the attention. This particular context is indeed eminently well suited to the illustration of the issues outlined above, precisely because in it money and state formation are blatantly uncoupled. Western central Italy in particular witnessed the emergence of dozens of city-based states that displayed a number of sophisticated traits, such as monumental construction, long-distance trade, constitutional reforms, a degree of literacy and much else, and yet for many centuries largely ignored the option of coinage (but not that of money), despite the widespread diffusion of the latter among peer neighboring Greek cities. It is clear from this regional trend, of which Rome is but one example, that states did not require minting as a *sine qua non*, just like, later in the case of Germany (as discussed by Wigg-Wolf, above), minting did not require state-level organization. Central Italian early polities, I have argued elsewhere, were in a sense "weak" states, dominated by powerful landed lineages that jealously retained many of the prerogatives they had had before the urbanization process.⁹ It makes sense that they were particularly unwilling to reify their political union by minting coins bearing the name of the political abstraction to which they only gingerly adhered.

Merav Haklai's paper is a perfect illustration of how, even when early central Italian states underwent constitutional reorganizations that revolved around wealth classes, coinage was far from indispensable. Whatever might be our assessment of the historical reliability of the narrative about Servius Tullius,¹⁰ there is a general consensus that timocratic systems were common in the region long before coinage was introduced. Bronze weights were allegedly used to determine wealth classes, to levy fines and in other ways, with little evidence that the state was in any way involved in the production of ingots or even in controlling their quality. It needs to

be remembered that weight standards could not be guaranteed by any independent authority, so that even the weighing of metal would have necessarily been a socially embedded act. States could try to enforce weights, but each actual transactional application would be determined by the forces at play. Furthermore, it appears unlikely that patrimonies were actually kept in this form, given the predominance of land and livestock as forms of accumulation. The hundreds and thousands of kilos of bronze described in the texts would only materially appear when they were needed to pay a fine or make a major purchase. A context-dependent picture of this kind is also supported by the work of Andreas Murgan, which focuses specifically on the limited record of bars and other pieces of metal that are attested for this period from archaeological findings. Once again, the picture is far from uniform, and it does not map well onto the known distribution of state governments. Bronze bars and other pieces were used without a clear pattern in tombs, votive offerings and craft-oriented hoards. No state role in their production or measurement is visible to us, nor any evolution towards more complex forms. Indeed, in one rare case of an inscribed piece, a sanctuary seems to be involved as a possible issuer, again underscoring the fluidity of money production and circulation at the time. It makes clear that states did not have a monopoly on the creation of marked currency.

The transition to coins in Italy is the focus of other contributions in the session. Marleen Termeer's case study retraces in the same deconstructionist perspective the emergence of coinage in the Roman state during the third and second centuries BC. What emerges clearly is that even at a time when a massive supra-ethnic territorial empire was coming together in Italy, tight state control on coinage was still not an absolute prerequisite. Indeed, a variety of *ad hoc* solutions to specific needs seem to have been routinely adopted. The value of coins was not guaranteed by the new empire, nor was their circulation tightly linked to its expanding political and military control. This is perfectly in line, by the way, with broader new theories about the nature of Roman expansion in Italy.¹¹ Nicholas Borek's paper, in a way, offers an illuminating counterpoint by looking at what was happening on the Greek side a few centuries before. The metrological analysis of hoards from southern Italy shows that, even in contexts where coinage was well established and states appeared to guarantee it, the actual practices around money were not necessarily all that different from what was happening further north. In many hoards, coins were clearly treated as lumps of metal that were only as valuable as their actual, rather than their nominal, weight. Despite striking them with beautiful dies, the issuing states could not determine how silver pieces were used, or what value was attributed to them in the different contexts in which they were used. This is particularly significant when one considers the paradigmatic role that has generally been attributed to Greek city-state governments as pioneers of moneying authority. If not even these states had a tight grip on currency use, one can only imagine what would happen everywhere else in the Mediterranean.

Elon Heymans indeed takes us to the eastern shores to see how interesting patterns are detectable in the use of silver between the Bronze and the early Iron Age. Here, it is remarkable that second millennium BC states show little evidence of wanting to standardize the use of money in any way, Ingots and bars are rare and heterogeneously combined with metal scraps of all kinds. It is instead at the transition with the first millennium, in a moment of global crisis and political deconstruction, that steps are taken towards a more universally shared practice of using silver pieces as money. The relationship with the state, in other words, is not only loose as in the other cases, but it is actually somewhat reversed in this particular instance, which of course is the one that sets the stage for the first introduction of struck coinage anywhere. So once again, in a highly significant historical context, the equation between state and money is falsified. A parallel conclusion can be drawn from the study of coinage in Germany and Gaul by David Wigg-Wolf. Expertly contrasting the situation in two northern peripheries of the Roman Empire, the paper offers incontrovertible evidence that articulated coinage systems could exist without strong state agency. The German case is particularly significant given the looseness of the prevailing local political structure at the time. The proximity to the Roman frontier was obviously a factor, but silver Roman denarii and their imitations were found deep into the region. Again, both in Gaul and in Germany, the social use of money varied by context, ranging from monetary exchange to hoarding and ornamentation. Political control, either Roman or local, had little role in shaping local practices.

With remarkable coherence in spite of the variability in time, space and context, the papers collected here together make a strong case for questioning the commonly assumed direct link between state and money. Both terms of the equation are in fact undergoing deconstruction, leading to the dissolution of any direct causal links. Behaviors connected with money, in this light, appear difficult to categorize narrowly, or to predict. In a way, at each economic transaction the rules of the game had to be renegotiated and redefined, and cannot be taken for granted. Money can be accepted at face value or at its weight, social and symbolic codes may be layered in, but they will not be necessarily espoused by all the participants. Early states not only have very limited tools at their disposal to determine or influence these kinds of behavior, but it is even doubtful that they would have any interest in doing so. Typically, their regulatory action was tentative and focused on other areas, primarily having to do with political interaction amongst elites, with military command and with the creation of public spaces. Even in those contexts in which money played a central role, such as the determination of wealth classes, the levying of fines or the adjudication of auctions, early states had to accept that people would count and produce money in a variety of forms. No objective mechanisms existed—not even in terms of weight standardization—so that each transaction would need to be individually negotiated and would always be open to controversy and possible conflict.

Our understanding of the nature of early states has been changing in many other areas. Money was not an isolated Achilles' heel of those early polities. There were a number of areas in which their power was limited and open to dispute. A few examples from early Italy will suffice. Their monopoly over legal violence within the city was impinged on by customary punishments within lineages and by elite unruliness in general. Outside the city, private wars could be waged and the public commands often devolved into warlordism.¹² The real jurisdiction of the legal system was limited to a sort of arbitration between powerful aristocrats, who could decide to ignore its outcome. Gentilicial cults challenged the theoretical predominance of public ones.¹³ The state as a whole could be "revoked" by powerful factions who considered mobs, coups, political assassinations and outright civil war as perfectly legitimate options when the results of the constitutional game were deemed unacceptable.¹⁴ The list could go on. The point is that there can be no surprise that a fairly peregrine and abstract concept like that of money was not treated with more adherence to rules by elite participants in early states. They naturally applied to it the same ambivalence and pragmatism with which they looked at any other civic institution of the time. In their innovative perspective, therefore, the papers on money collected here make a very significant contribution to the deconstruction of classic ideas of state, as well as to the creation of a new, more context-sensitive and socially embedded vision of early political and economic transactions.

Acknowledgements

I am very grateful to Marleen and Elon for the invitation to speak at the AIAC session they organized. It was an extremely instructive experience for a non-specialist like me. My comments are in part based on a paper I gave at the *Monetization in the Ancient World* Research Workshop organized in 2014 at the University of Auckland by Jeremy Armstrong, who is gratefully acknowledged here.

Notes

¹ Hörnqvist 2004.

² E.g. Service 1975; Haas 1982; Claessen – Oosten 1996.

³ Terrenato 2019, 1–31.

⁴ Hopkins 1980; van Wees 2013.

⁵ A stance known as economic primitivism; e.g. Finley 1973.

⁶ E.g. Yoffee 2005.

⁷ Blanton – Fargher 2008.

⁸ See the contributions in Humphrey – Hugh-Jones 1992.

⁹ Terrenato 2011.

¹⁰ Smith 1997; Vernole 2002; Martínez-Pinna 2009.

¹¹ Terrenato 2019.

¹² Drogula 2015.

¹³ Fiorentini 1988.

¹⁴ Massa-Pairault 2014.

References

Blanton – Fargher 2008

R. E. Blanton – L. Fargher, *Collective Action in the Formation of Pre-Modern States* (New York 2008).

Claessen – Oosten 1996

H. J. M. Claessen – J. G. Oosten, *Ideology and the Formation of Early States* (Leiden 1996).

Drogula 2015

F. K. Drogula, *Commanders & Command in the Roman Republic and Early Empire* (Chapel Hill 2015).

Finley 1973

M. I. Finley, *The Ancient Economy* (Berkeley 1973).

Fiorentini 1988

M. Fiorentini, *Ricerche sui culti gentilizi* (Roma 1988).

Haas 1982

J. Haas, *The Evolution of Prehistoric State* (New York 1982).

Hopkins 1980

K. Hopkins, *Taxes and Trade in the Roman Empire (200 B.C.–A.D. 400)*, JRS 70, 1980, 101–125.

Hörnqvist 2004

M. Hörnqvist, *Machiavelli and Empire* (Cambridge 2004).

Humphrey – Hugh-Jones 1992

C. Humphrey – S. Hugh-Jones (eds.), *Barter, Exchange, and Value: an Anthropological Approach* (Cambridge 1992).

Martínez-Pinna 2009

J. Martínez-Pinna, *La monarquía romana arcaica* (Barcelona 2009).

Massa-Pairault 2014

F.-H. Massa-Pairault, *La tombe François et la vision politique de l'Étrurie au IV^e siècle a. C.*, Ostraka 22/23, 2014, 47–91.

Service 1975

E. R. Service, *Origins of the State and Civilization: the Process of Cultural Evolution* (New York 1975).

Smith 1997

C. J. Smith, *Servius Tullius, Cleisthenes and the Emergence of the Polis in Central Italy*, in: L. G. Mitchell – P. J. Rhodes (eds.), *The Development of the Polis in Archaic Greece* (London 1997) 208–216.

Terrenato 2011

N. Terrenato, The Versatile Clans. The Nature of Power in Early Rome, in: N. Terrenato – D.C. Haggis (eds.), *State Formation in Italy and Greece* (Oxford 2011) 231–244.

Terrenato 2019

N. Terrenato, *The Early Roman Expansion into Italy* (Cambridge 2019).

van Wees 2013

H. van Wees, *Ships and Silver, Taxes and Tribute: a Fiscal History of Archaic Athens* (London 2013).

Vernole 2002

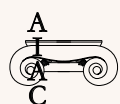
V. E. Vernole, *Servius Tullius* (Roma 2002).

Yoffee 2005

N. Yoffee, *Myths of the Archaic State: Evolution of the Earliest Cities, States and Civilizations* (Cambridge 2005).

As one of the most enduring icons of economic life, money has been a common feature and central focus in complex societies from Antiquity to the present. It gained weight as a key feature of Mediterranean economies in the course of the first millennium BCE, mostly in the form of coinage. But money is more than just coin, and its significance is more pervasive than just to the strict sphere of “the economy”.

In the ancient Mediterranean, money and its rise to prominence have been predominantly associated with the state. But can money only emerge under state authority? This volume questions the assumed relation between the spread of early forms of money and the state and draws attention to different ways in which money as an innovation could be anchored and socially embedded.



ASSOCIAZIONE INTERNAZIONALE
DI ARCHEOLOGIA CLASSICA
INTERNATIONAL ASSOCIATION *for* CLASSICAL ARCHAEOLOGY

ISBN 978-3-948465-03-2



9 783948 465032