

Archaeology and Economy in the Ancient World



54

Single Contributions

Sessions 4–5

Martin Bentz
Michael Heinzelmann (Eds.)

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

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19th International Congress of Classical Archaeology**

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Edited by

Martin Bentz and Michael Heinzelmann

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CONTENTS

Session 4: System of extraction: mining, pollution, technology

Panel 4.1: Roman Mining: Dimensions, Scale and Social and Territorial Implications

Marco Conti

La Gestione Mineraria Dell'asia Minore In Epoca Romana 5

Panel 4.5: Roman and Late Antique Industries

Dagmara Wielgosz-Rondolino

Marmora Asiatica. Polish Studies on Marbles from Asia Minor 19

Ameur Younès

Roman Marble Stone Quarries in Jbel Saïkha and Jbel Essouïnia
(Toujane – Tunisia): From Extraction to Uses 21

Zdravko Dimitrov

Travelling Stone Masons in Roman Thrace –
New Evidence for the Distribution of Marble, Architectural Traditions
and Sculptural Models during the Principate 35

Session 5: Distribution: trade and exchange, monetarization, credit, networks, transport, infrastructure (e.g. ports)

Panel 5.1: The Friction of Connectivity – Greco-Roman Trade in Archaeology and Texts

Peter F. Bang – Mark L. Lawall – John Lund

Introduction 53

Mark L. Lawall

Friction in Aegean-Pontic Trade: Transport Amphoras, Geography
and Economy (Late 6th through 4th Centuries BC) 57

Kristian Göransson	
Cyrenaica and the Neighbours: Evidence of Trade and Absence of Evidence	67
Roberta Tomber	
Trade beyond the Empire: the Quantification of Roman Amphorae and the Implications for Indo-Mediterranean Trade	77
Panel 5.2: Tolls and Ancient Economies	
Peter Kritzinger	
Handelsprotektionismus im römischen Kaiserreich?	85
Panel 5.6: Distribution of Greek Vases	
Eleni Zimi	
Change and Continuity in the Consumption of Attic Pottery in Cyrenaica in Classical Times: The Case of Euesperides	97
Marcella Accolla	
Le importazioni di vasi attici a figure nere e a figure rosse a Gela nel secondo venticinquennio del V sec. a. C.	119
Bettina Kreuzer	
The Leagros Group and the Mechanisms of Trade: Trademarks Revisited	133
Panel 5.13: Networks at Work: Trade and Transport of Roman Building Materials in the Mediterranean	
Elizabeth Jane Shepherd	
Selling Tiles by the Thousands. Roman CBM Cargoes in the Mediterranean	149
Francesca Diosono	
The Timber Trade and Transport in Roman Italy	153
Lynne C. Lancaster	
Transport and Trade of Volcanic Building Materials in the Mediterranean: State of the Question	171
Justin Leidwanger	
Contextualizing the Late Antique Stone Trade: The Marzamemi “Church Wreck” Reconsidered	175

Panel 5.14: Trade and Commerce in the Harbour Town of Ostia

Alice Landskron – Mariarosaria Barbera

Introduction 181

Simone Ciambelli

Il patronato dei *collegia* professionali e l'ascesa sociale dei *collegiati*
ad Ostia (II–III secolo d. C.) 183

Ghislaine van der Ploeg

Identity, Trade, and Mobility in Ostia Antica 187

Paola Baldassarri

Spain – Ostia – Rome: Evidence of Economic and Artistic Relationships
from the Excavations of the Palazzo Valentini in Rome 191

Ria Berg

Il *modius* ostiense – simbolo dell'unità e della diversità economica dell'Impero 195

Marcello Turci

The Development of the Maritime District of Ostia
from the 3rd to the Beginning of the 6th Century AD 199

Panel 5.19: Roman Transport Systems I: New Insights on the Roman Transportation Systems. New Applications and Methodologies for a Better Understanding of the Transportation Networks and the Movement of Commodities

Cristina Corsi

Nodes. New Perspectives on Road- and River-Stations
and Communication Networks in Roman Italy 207

Panel 5.20: Roman Transport Systems

Koenraad Verboven

Rivers and Lakes in the Roman Transport Economy 223

Jean-Paul Bravard

Changing Rivers during the Roman Period: Climate and Human Action 227

Tyler Franconi The Environmental Context of Riverine Trade in the Roman World	231
Mark R. Groenhuijzen – Philip Verhagen How Central are Local Centres? Testing Archaeological Hypotheses of the Dutch Part of the Roman Limes through Spatial Analysis and Network Science	235
Panel 5.21: Trade and Cultural Contact in the Iron Age and Archaic Mediterranean	
Andrea Celestino Montanaro Cultural Processes and Circulation of Prestige Goods in Pre-Roman Apulia. The Influences of the Orientalizing Period and the Relations with Greeks and Etruscans	243
Enrico Giovanelli Aegyptiaca in Central Tyrrhenian Italy: Sea Routes, Traders and Ideas	267
Lorenzo Zamboni Trading in the Multicultural <i>Emporia</i> of the Po Valley. Weighing Systems and Proto-Currencies	279
Martina Čelhar – Igor Borzić – Gregory Zaro Pottery as an Indicator of Trade Dynamics and Cultural Contacts in the Eastern Adriatic	301
Francisco B. Gomes Trade and Consumption of Mediterranean Perfumes in the Iron Age Iberian Peninsula: An Overview	317
Chiara Tarditi Use and Function of Greek Bronze Vessels in Indigenous Societies	327
Panel 5.23: Transport Amphorae	
Rebecca Klug Transport Amphorae and the Historical Space: Similarities and Differences in the Distribution of Transport Amphorae in Sicily and South Italy	343

Daniel Mateo Corredor The Trade of Adriatic Wine in the Southern Iberian Peninsula and its Connection with the Economic and Social Transformations in the Context of the Roman Civil Wars	357
Daniel J. Martín-Arroyo Sánchez Trade and Institution from Alexandria to Rome: The Amphorae from Pompeii	369
Pablo Ozcáriz-Gil Los grafitos “ante cocturam” de las ánforas Dressel 20. Propuesta de sistematización para la elaboración de un corpus	385
Marta Bajtler Who in Antiquity Sealed Amphorae and Stamped Stoppers? An Attempt to Understand the Process Based on Examples of Finds from Berenike (Egypt) and Risan (Montenegro)	397
Panel 5.24: Greek Coinage	
José Miguel Puebla Morón El ataque cartaginés a Acragante en 406 a. C.: Análisis numismático	403
Antonia G. Nikolakopoulou Burial Coins in the Peloponnese: Testimonies of Monetary Relations and Coin Circulation	411
Nadia Coutsinas – Vassiliki E. Stefanaki Defence and Coinage in Late Classical and Hellenistic Crete	423
Panel 5.25: Roman Coinage	
Renata Cantilena – Federico Carbone – Giacomo Pardini Paestum, Velia, Pompeii: Monetary Policies in Tyrrhenian Campania from the 2 nd Century BC to the 1 st Century AD	441
Barbara Zając Coin Evidence for the Integration of the Cities of Bithynia and Pontus during the Reign of Trajan?	445

Zakia Ben Hadj Naceur Loum Le trésor de Sbiba (Tunisie) : un autre témoignage du monnayage vandale en Afrique	455
Hristo Preshlenov City Supplies, Currency and Payments along the Pontic Coast of the Roman Provinces Moesia Inferior and Thracia	467
Noé Conejo Monnaie et marchandise : la consommation dans les <i>villae</i> romaines de la Lusitanie	487
Johannes Eberhardt Accessing Italian Cast Coinage	497
George Azzopardi Common Concerns, Assimilated Cults: an Assimilation of Tanit with Ceres in Early Roman Melite	511
Steven Hijmans Art and Economy: Images on Roman Coins	521

PREFACE

On behalf of the 'Associazione Internazionale di Archeologia 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 economy 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 takes place in two ways: larger panels are presented as independent volumes (vol. 1–52). All other contributions – papers and posters – are published in four larger joint volumes (vol. 53–56).

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 Heinzemann

SESSION 4

**System of extraction:
mining, pollution, technology**

Roman Mining: Dimensions, Scale and Social and Territorial Implications

Panel 4.1

Organized by

Brais X. Currás – Oscar Bonilla Santander

La Gestione Mineraria Dell'asia Minore In Epoca Romana

Marco Conti

Durante il progetto di dottorato portato a termine da chi scrive nel 2016 è stato esaminato lo sfruttamento minerario in Asia Minore sotto il dominio romano e bizantino, tra il I ed il VII sec. d. C., allo scopo di identificare i siti di estrazione mineraria e comprendere se le autorità romane impiantarono in Asia Minore un sistema di *metalla* come quello delle province occidentali.

Lo spoglio delle fonti letterarie è stato deludente: la *Geografia* di Tolomeo non fornisce dati utili all'identificazione di siti di estrazione, mentre nella *Geografia* di Strabone è stato possibile rintracciare solo 12 attestazioni di siti, di cui 5 riguardano notazioni generiche su intere regioni. Inoltre, la maggior parte delle miniere ricordate da Strabone erano esaurite quando scrisse la sua opera. Per quanto riguarda la *Naturalis Historia*, nemmeno dal testo pliniano si ricavano informazioni utili ad identificare i siti di estrazione. A parte le opere dei geografi o dei naturalisti, gli accenni alla localizzazione delle miniere sono del tutto sporadici.¹

Si è proceduto poi alla creazione di un catalogo² dei siti minerari noti in Anatolia: a questo fine sono state usate le opere di carattere generale³ più importanti riguardo alla penisola anatolica insieme a studi concentrati su aree più circoscritte dell'Asia Minore.

Si è cercato di inquadrare i dati noti nel contesto amministrativo antico. Insostituibile a tal fine il «Barrington Atlas of the Greek and Roman World» e la «Tabula Imperii Byzantinii», a cui fa riferimento la cartografia fruibile online del «Digital Atlas of Roman and Medieval Civilizations» e del «Digital Atlas of the Roman Empire». Le carte geografiche della «Brill's New Pauly Encyclopaedia of the Ancient World» sono state utilizzate per integrare i dati mancanti nelle altre due risorse. Per ovviare ai problemi creati dai cambiamenti della moderna toponomastica turca è stato utilizzato il database dell'«Index Anatolicus».⁴

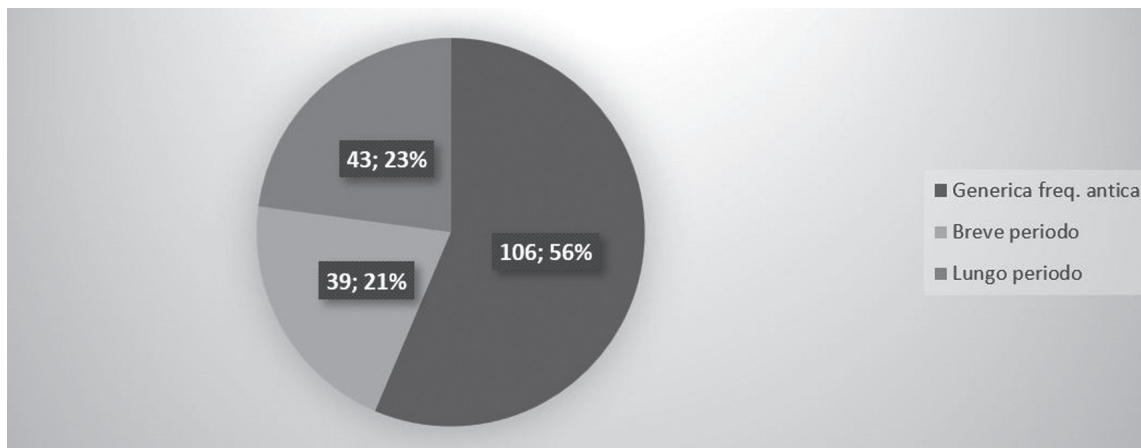


Fig. 1: Miniere anatoliche coltivate in antico

Il campione esaminato è composto da 742 siti (fig. 1 e 3). La selezione è limitata alle occorrenze di piombo, zinco, oro, argento, rame, stagno e ferro. Solo per 187 siti sappiamo di una loro coltivazione in antico. Nel campione preso in esame le miniere coltivate anticamente sono dunque una su quattro.

Nell'analisi del campione sono state adottate undici differenti periodizzazioni, sul modello del Barrington Atlas. Per sfruttamento di «lungo periodo» si intendono tutti quei siti in cui l'attività di coltivazione e raffinazione del minerale ebbe luogo per due o più scansioni temporali consecutive.

Sulla scorta di Momenzadeh-Sadighi e della Pitarakis⁵ è stata condotta un'analisi dei toponimi dei 555 siti indicati come coltivati solamente in epoca moderna, al fine di stabilire se parte di essi potesse essere inclusa nel gruppo di quelli classificati come «genericamente frequentati in antico». Sono stati così individuati 44 siti. I criteri di valutazione impiegati sono sei:

1. La presenza nel toponimo di elementi che esplicitamente richiama all'attività mineraria (i. e. Maden, «miniera» in turco);
2. la vicinanza del giacimento ad un insediamento antico o la sua appartenenza ad una regione nota per la sua attività mineraria;
3. l'esistenza di una monetazione attribuibile al sito antico più vicino al giacimento in questione;
4. la vicinanza ad una fortificazione;⁶
5. la presenza nei pressi del giacimento di un sito di estrazione o raffinazione antiche confermato da altri studiosi;
6. la presenza di scorie di estrazione o di fusione nel territorio circostante al giacimento.

Con l'intento di evitare di fornire percentuali di probabilità approssimative ci si è limitati a registrare il numero di condizioni che si verificano per ogni sito. I siti in cui è più probabile che si siano effettivamente intraprese operazioni estrattive sono Demirtepe e Kurşunlu, in cui si manifesta la ricorrenza di quattro condizioni diagnostiche su sei. Se tutti i siti evidenziati dall'analisi toponomastica si rivelassero coltivati in antico, il totale delle miniere sfruttate in epoca non moderna passerebbe dal 25 al 30,9%.

Il Ponto è la regione in cui si concentra il numero maggiore di attestazioni di estrazioni antiche (fig. 2). Se si prendono in considerazione le miniere ed i giacimenti coltivati per brevi periodi (fig. 5), si constata la presenza di due picchi, uno in epoca romana e l'altro in epoca medievale. L'aspetto più interessante consiste nel fatto che l'impulso a trovare e sfruttare nuovi giacimenti in Anatolia è più forte in epoca medievale rispetto al periodo di dominazione romana. Questa impressione è confermata anche se si passa ad analizzare le miniere coltivate per un lungo periodo; utilizzando come paradigma il caso della Galazia (fig. 4) si osserva che il numero delle miniere attive in epoca protobizantina e medievale è addirittura quasi raddoppiato rispetto al periodo precedente. La Galazia non è un caso isolato, anzi in tutta la penisola anatolica si riscontra un incremento simile (fig. 6).

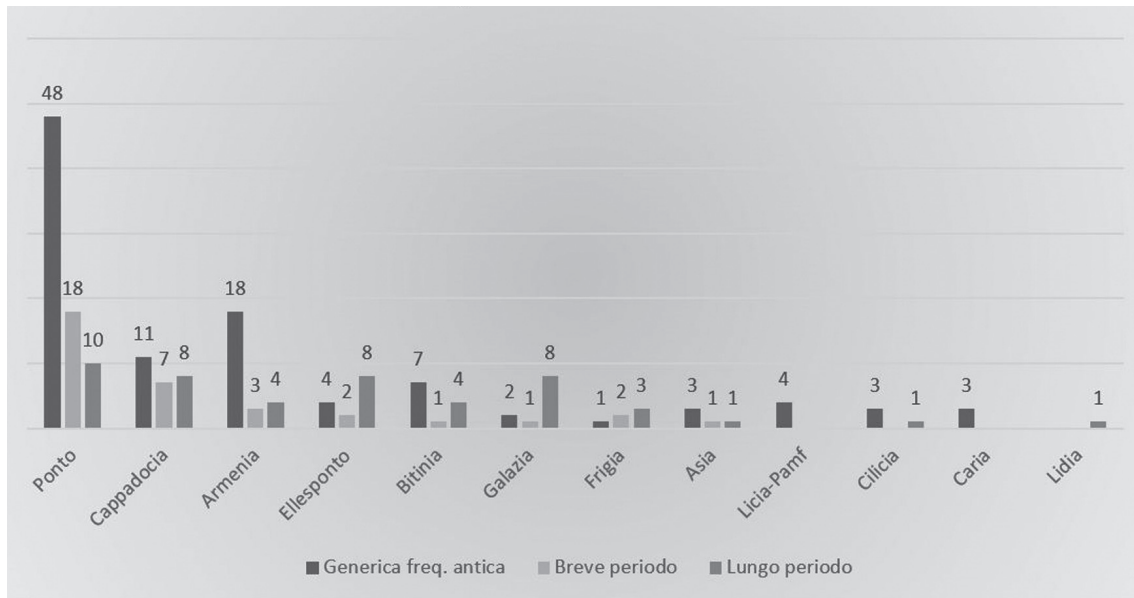


Fig. 2: Periodi di coltivazione/sfruttamento delle miniere anatoliche

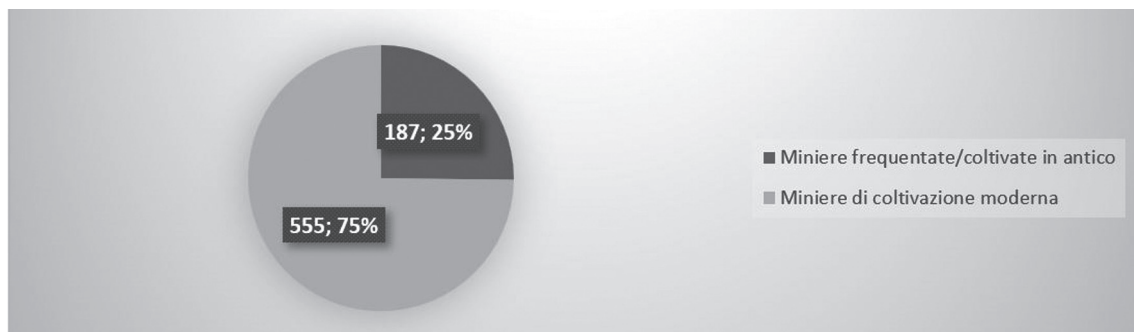


Fig. 3: Miniere anatoliche: frequentazione antica e moderna

Un fenomeno così diffuso nello spazio e così prolungato nel tempo contrasta fortemente con il quadro delineato dalle fonti letterarie in materia. Per la sua comprensione si deve considerare il contesto politico ed economico: dopo la perdita dell'Egitto e della Palestina e la mancata riconquista dell'Occidente, per i bizantini non resta altro che potenziare la ricerca mineraria nei territori ancora sotto il loro controllo. Per gli Arabi prima ed i Selgiuchidi poi era di sicuro vantaggioso sfruttare le materie prime dei territori conquistati, mantenendo attivi gli impianti di estrazione e continuando a sfruttare la manopera specializzata in tale attività.⁷ Per il periodo romano invece è possibile che la necessità di ricercare nuovi giacimenti in Anatolia sia stata minore, considerato il fatto che gli imperatori avevano il controllo di alcune tra le più ricche zone minerarie del Mediterraneo.

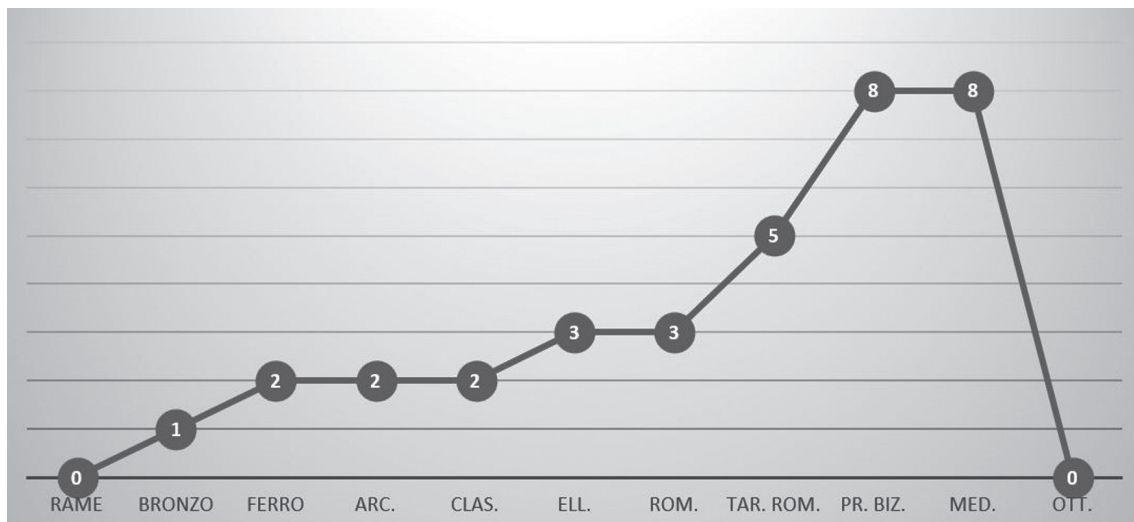


Fig. 4: Miniere di Galazia di breve coltivazione



Fig. 5: Miniere anatoliche coltivate in un singolo periodo

Con il confronto tra le fonti letterarie con le indagini geologiche ed archeologiche si può affermare che il panorama minerario anatolico fu largamente sottostimato dagli autori antichi, in merito sia all'estensione temporale delle operazioni estrattive che all'entità numerica dei giacimenti effettivamente coltivati.

Si è tentato poi di riscontrare nelle province anatoliche l'istituzione di distretti minerari (i *metalla*) posti sotto l'autorità di un procuratore imperiale, come noto per l'Occidente. A tal fine sono state prese in esame 323 epigrafi, tutte relative ai procuratori attivi in Asia Minore. Per l'analisi dei testi in greco antico è stata fondamentale la consultazione del database online del Packard Humanities Institute. Per le epigrafi in latino ci si è avvalsi dell'Europeana Ancient Greek and Latin Epigraphy (EAGLE) Project, anch'esso liberamente accessibile online.

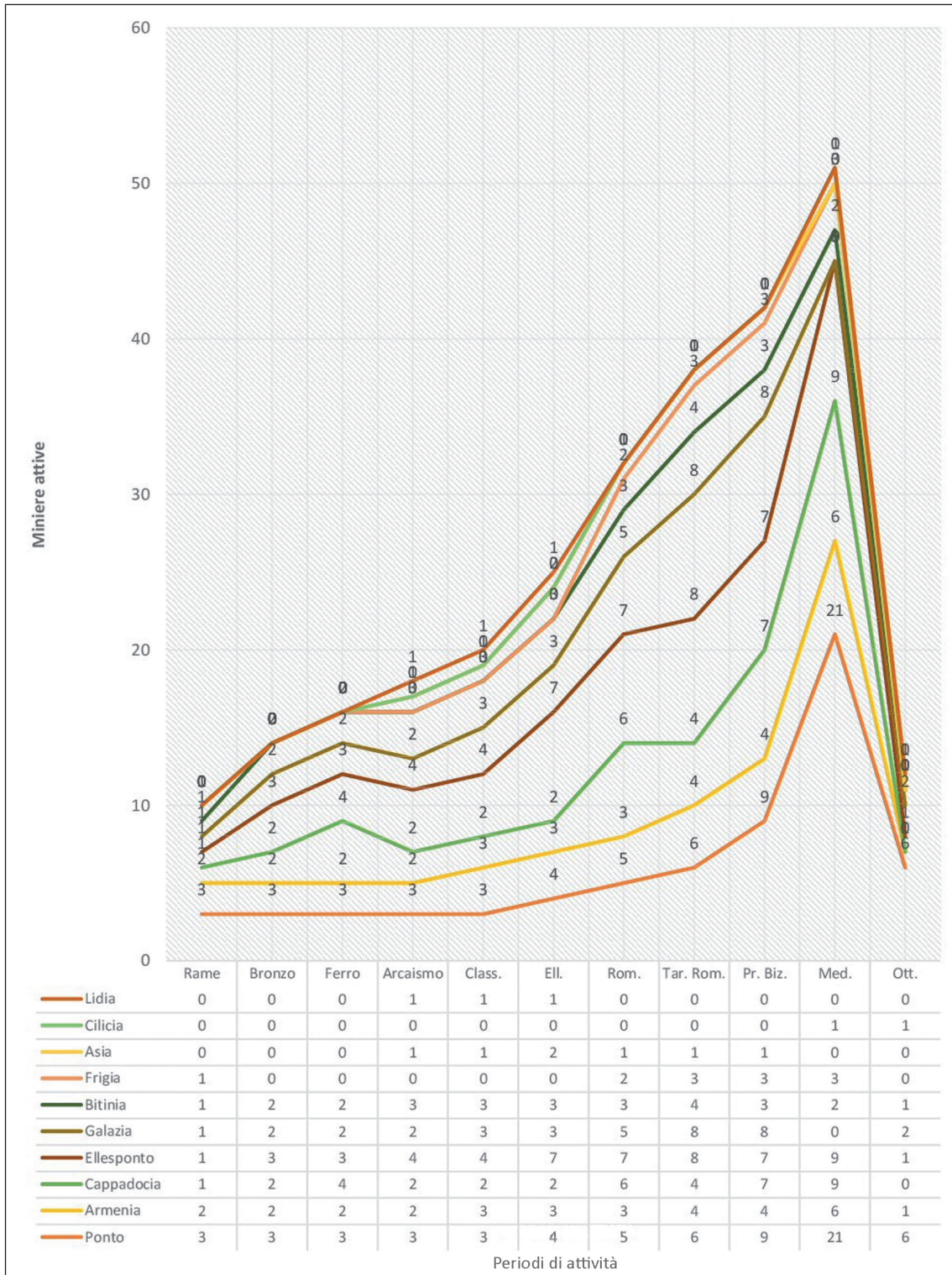


Fig. 6: Quadro riassuntivo delle miniere anatoliche di lunga coltivazione

Sono stati analizzati tutti i testi contenenti le parole *ἐπίτροπος* e *procurator*. Sono state classificate come non pertinenti le epigrafi anteriori al 30 a. C., quelle dei procuratori di privati cittadini, di città o dei complessi templari. Sono emerse 78 iscrizioni pertinenti a 61 procuratori che non indicano un'attribuzione specifica alla loro procuratela.

I testi esaminati sono compresi tra l'ultimo quarto del I a. C. ed il III d. C. Il numero maggiore di attestazioni procuratoriali (fig. 7) proviene dalla Ionia e dalla Frigia, dove sono noti solo 3 siti coltivati in epoca romana (Alibey, Dorylaeum e Gümüşköy) a fronte rispettivamente di 18 e 11 procuratori con titolatura «a-specifica». Nelle province più attive dal punto di vista minerario (Ponto, Armenia, Cappadocia ed Ellesponto) si registra invece una totale assenza di procuratori imperiali.

Su 61 procuratele «a-specifiche» solo il 10% può essere correlato ad attività minerarie. Si tratta di sei procuratori: un anonimo onorato dai cittadini di Apollonia sul Rindaco, M. Aurelius Lidius di Attouda, Lollio[s Lolli(?)]anos di Akmonia, Licinius Solicianus attestato ad Eskişehir, l'antica Dorylaion, T. Aelius Amiantus e Stephanus, che prestarono servizio presso Laodicea Combusta. Per i primi quattro l'identificazione della loro procuratela come mineraria si basa sulla vicinanza del sito di attestazione a miniere coltivate in antico, mentre per gli ultimi due (di condizione libertina) l'identificazione è proposta solo grazie all'epiteto «combusta» di Laodicea, che ricorda le antiche operazioni estrattive di rame e cinabro. Si tratta dunque di «prove» puramente indiziarie.

Il dato più importante ricavato dall'analisi delle iscrizioni procuratoriali è un altro: tra il I al III d. C. in Anatolia sono sicuramente accertati solo due procuratori minerari, che però hanno svolto il loro incarico in una provincia occidentale. Si tratta di Saturninus di Pergamo, *procurator metallorum Vipascensium*,⁸ e L. Crepereius Paulus⁹ di Attaleia, *procurator argentariae Pannonicarum*. Si avanza dunque l'ipotesi che nelle province anatoliche non fu istituita una rete di *metalla*. Sembra improbabile infatti che un'assenza di attestazioni procuratoriali in un'area così vasta e per un periodo di tempo così pro-

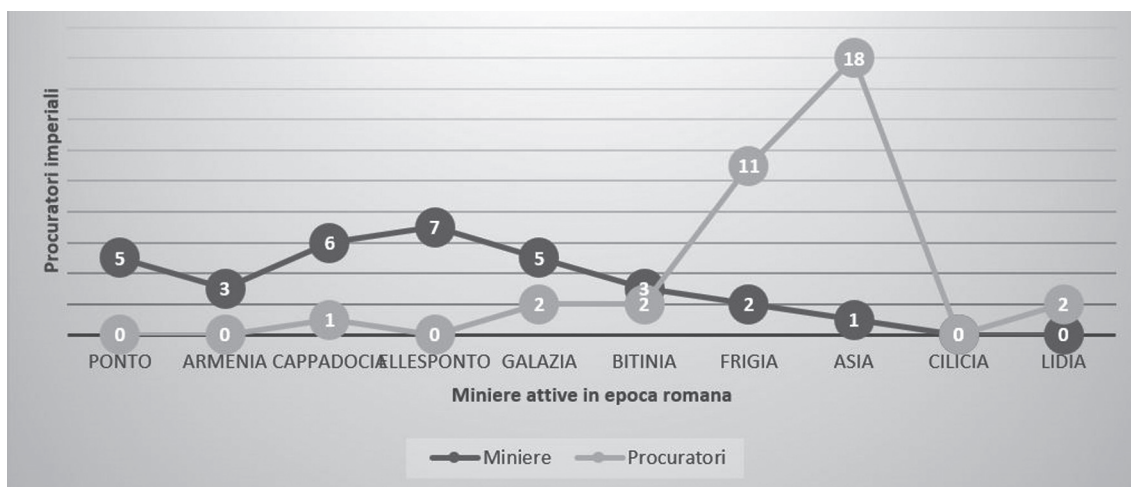


Fig. 7: Confronto tra miniere e procuratori imperiale in epoca romana

lungato non sia il risultato di una precisa volontà imperiale. Le ragioni di questo minore coinvolgimento si devono al fatto che in epoca romana il controllo imperiale dei giacimenti della penisola iberica, dei monti della Dacia e delle regioni balcaniche fu più che sufficiente a coprire le necessità dei sovrani. Poichè abbiamo dati che testimoniano la prosecuzione in Anatolia delle operazioni estrattive prima, durante e dopo la dominazione romana e bizantina chi scrive ritiene che la coltivazione dei giacimenti anatolici sia stata condotta dalle autorità locali.

Una conferma indiretta si trova nella *Notitia Dignitatum*: vi si legge infatti che esisteva un *comes metallorum per Illyricum*¹⁰ alle dipendenze del *comes sacrarum largitionum*, ma nel testo non si menziona un corrispettivo *comes metallorum per Orientem*. L'assenza di un funzionario specializzato per le miniere anatoliche continua a sussistere anche successivamente alla *Notitia* (V sec. d. C.) e si riscontra anche nel *Klerotologion* di Filoteo, un corrispettivo della *Notitia Dignitatum* del IX secolo.¹¹

Se dunque in epoca romana la coltivazione delle miniere anatoliche fu lasciata alla gestione locale, i soggetti che più beneficiarono di questa decisione potrebbero essere stati i notabili micrasiatici e le comunità cittadine stesse. Riguardo al rapporto tra città ed aristocrazia terriera è interessante lo studio di Hendy. Grazie all'accurata analisi delle fonti a disposizione egli non solo afferma che la distribuzione delle città nella penisola anatolica nel V secolo ricalca molto da vicino la situazione ellenistica,¹² ma ritiene anche che l'assetto insediativo del V secolo sia riflesso con poche distorsioni nella distribuzione geografica degli abitati riscontrabile nel IX,¹³ postulando quindi una continuità insediativa di durata millenaria. Hendy esamina anche i luoghi d'origine delle famiglie aristocratiche bizantine del X secolo: tre quinti del totale dei casati nobili dell'impero bizantino risultano originari (e proprietari di latifondi) dei tre temi di più antica formazione, vale a dire l'Anatolikon, la Kappadokia e la Paphlagonia, i temi in cui si riscontra la minore concentrazione di città. Altrettanto significativo è il fatto che la maggior parte dei territori compresi nei temi di Seleukeia, Kilikia, Sebasteia e Melitene, quelli oggetto della riconquista bizantina, siano quelli in cui è minore la presenza dei magnati: una volta riconquistati questi territori infatti gli imperatori vi impiantano delle tenute di loro proprietà (*kouratoreia*).

Già con Costantino le terre delle città furono poste sotto il controllo della *ratio privata*, mentre le tasse cittadine furono assorbite dall'ufficio delle *sacrae largitiones*. La gestione della fiscalità statale a livello municipale passò nelle mani dei *curatores* o *patres civitatis* di nomina imperiale. In seguito Anastasio assegnò dei *vindices* ad ogni città, incaricandoli della supervisione della raccolta delle entrate imperiali in ogni centro. Questi sviluppi erano già in opera nel V secolo, periodo in cui il ruolo dei vescovi quali protettori della città e della sua popolazione dagli abusi dei nobili e dei funzionari statali è confermata da una legge di Zenone, poi confluita nel *Codex Iustinianus*.¹⁴ Questi cambiamenti hanno un chiaro risultato: verso la fine del VI secolo le città perdono l'indipendenza economica a favore dello stato, mentre il corpo legislativo cittadino non è più composto dai soli *curiales*. Con l'inizio del VII secolo, per causa di trasformazioni

strutturali decadono le connotazioni tardo-antiche delle città, che diventano centri senza autonomia economica e senza alcun ruolo attivo nel sistema amministrativo e fiscale. In questo scenario l'aristocrazia terriera è, dal VII secolo in poi, il soggetto economico più attivo e dinamico nell'interazione tra amministrazione imperiale, ricchi possidenti e comunità urbane.¹⁵

Ci si è chiesti dunque se questa «landed aristocracy» fosse in qualche modo coinvolta nelle operazioni estrattive: proprio in tal senso si è espresso il Matschke nella *Economic History of Byzantium*, dove afferma infatti che «(...) come già evidente nel primo periodo bizantino (...) le operazioni estrattive sono di nuovo connesse con la proprietà terriera (...). Lo Stato si ritira quasi del tutto dal ruolo di imprenditore minerario e si limita essenzialmente al controllo della tassazione e alla regolamentazione del commercio dei metalli preziosi.»¹⁶ Matschke non annovera l'Anatolia tra le regioni più fertili dal punto di vista minerario, e considera l'istituzione di un *comes metallorum* per Illyricum come frutto di uno specifico interesse della corte bizantina per le risorse minerarie della penisola balcanica. La mancata creazione di un funzionario specifico per le miniere anatoliche può essere dovuta ad una redditività dei giacimenti micrasiatici percepita come inferiore a quella di altre regioni, e per questo lasciata allo sfruttamento da parte dei locali. Oppure potremo trovarci di fronte ad una precisa volontà di lasciare a tali soggetti (i proprietari terrieri e, in misura minore, le città) la facoltà di sfruttare le proprie risorse autonomamente, in virtù di antichi privilegi e consuetudini.

Il fatto che tra IV e V secolo le imprese minerarie anatoliche diventino appannaggio dei possidenti terrieri è un fenomeno indagato già in passato. Ad esempio, Edmondson asserisce che la «landed aristocracy», dopo il terzo secolo d. C. è virtualmente l'unico soggetto ad avere a disposizione i capitali necessari per coltivare delle miniere.¹⁷ Egli afferma anche che nel IV e nel V secolo d. C., il modo di coltivazione mineraria più diffuso è quello delle piccole imprese gestite dai proprietari terrieri. Alcuni provvedimenti legislativi¹⁸ (la *praestatio auraria, aeraria e ferraria*)¹⁹ testimoniano appunto l'esistenza nel V secolo di miniere in mano a proprietari privati. La legislazione mineraria di V secolo lascia intravedere la volontà dello stato di evitare la gestione diretta delle operazioni estrattive, preferendo affidare la fase coltivazione mineraria all'aristocrazia provinciale.²⁰

Per concludere, tenuto conto di tutti i dati raccolti sinora, si propone il seguente modello gestionale per ciò che riguarda il patrimonio minerario dell'Anatolia romana e protobizantina: in epoca alto-imperiale gli imperatori non impiantano in Asia Minore un sistema di distretti minerari controllati dai procuratori come accade in Occidente, lasciando la coltivazione delle miniere anatoliche alle autorità locali. Vari i fattori che possono aver determinato tale scelta: la maggiore redditività delle miniere spagnole, balcaniche e daciche, la maggiore possibilità di controllo di quei territori da parte imperiale, la volontà di non ledere gli interessi economici delle città e della popolazione microasiatica (al fine di accattivarsene la fedeltà ed il consenso più ampi) sono tutti elementi che possono aver giocato un ruolo importante in tale processo. Una conseguenza non

banale di tale fenomeno è costituita da una scarsissima presenza nelle province anatoliche di operazioni estrattive di grandi dimensioni come quelle spagnole. Affidata dunque la coltivazione dei giacimenti anatolici alle città ed ai notabili, saranno proprio questi ultimi che ne acquisiranno il controllo pressoché esclusivo tra III e VII d. C., i secoli in cui dalle fila del notabilato tardoantico nasce l'aristocrazia terriera protobizantina, che continuerà a sfruttare il patrimonio minerario micrasiatico attraverso una rete di unità di modeste dimensioni, diffuse per tutto il territorio anatolico, ma con una maggiore concentrazione nella regione pontica, che anche in epoca medievale sarà una delle zone più attive dal punto di vista minerario.

Notes

¹ Per le miniere di Ergasteria vedi Galeno (Gal. 9, 3, 22): sono identificate (Shepherd 1993, 224) con l'attuale Balya Maden. Lo Shepherd non fornisce bibliografia a supporto di tale identificazione. Per le miniere di Cilicia vedi Eusebio (Eusebius, *De Martyribus Palaestinae*, 11, 6). Per Metallon sul Pattolo vedi Foss 1978, 37–39; contra vedi la nota a p. 246 delle Dionisiache nella traduzione di Vian 1995. Tuttavia, non sembra che il Vian abbia consultato il lavoro del Foss, e le sue argomentazioni sono solo di natura letteraria.

² Per il catalogo completo dei siti esaminati, per l'elenco delle epigrafi consultate e la bibliografia di riferimento vedi la tesi di dottorato ad opera di Conti 2016.

³ Per le opere generali vedi Ryan 1957, Vryonis 1962, de Jesus 1980, Pitarakis 1998, Wagner 2003. Per gli ambiti regionali vedi ad es. Bryer 1982, Kaptan 1986, Yener – Özbal 1987.

⁴ L' «Index Anatolicus» è raggiungibile tramite il link <http://nisanyanmap.com/>. Devo al Prof. Muharrem Oral dell'Università di Ankara la comunicazione dell'esistenza di questo strumento di ricerca.

⁵ Momenzadeh – Sadighi 1989, 313; Pitarakis 1998, 145, nota 222, e Tavola 3 a p. 184.

⁶ Cfr. Pitarakis 1998, 148, nota 31.

⁷ Vryonis rileva che fino all'inizio del XX sec., prima dell'instaurazione della Repubblica di Turchia la minoranza greca del Ponto era molto apprezzata dal governo della Sublime Porta proprio per l'abilità e la competenza dimostrata nelle attività minerarie: vedi Vryonis 1962, 10 e note 48 e 49.

⁸ Pflaum 1970; Le Roux 1985; Christol – Demougin 1990. Per M. Aurelius Lidius vedi PIR2 I, n. 1544. Per Lollios vedi Pflaum 1960/1: 1102 e PIR2 V, n. 316. Per Licinius Solicianus vedi PIR2 VII, n. 766. Per T. Aelius Amantus e Stephanus vedi Calder, W. M., *Eastern Phrygia, Monumenta Asiae Minoris Antiqua* vol. 1, Manchester 1928, nn. 21 e 23.

⁹ AE 1915, n. 46; Pflaum 1960/1961, n. 146; PIR² II, n. 1569.

¹⁰ Not. Dig. Or. 13, 11. Cfr. anche Matschke 2002, 115–117.

¹¹ Per l'assenza di un funzionario minerario nel Klerotogion vedi Haldon 1986 e Haldon 1990, 189, nota 65.

¹² Hendy 1985, 68.

¹³ Hendy 1985, 100.

¹⁴ Cod. Ius. 1, 3, 3, 5, Jones 1964, vol. II, 726. 727 per il *curator civitatis* e Jones 1964, vol. II 759 per i *vindices*.

¹⁵ Cfr. Haldon 1990, 92–114.

¹⁶ Matschke 2002, 117, note 17 e 18. Traduzione e tagli ad opera di chi scrive.

¹⁷ Edmondson 1989, 95.

¹⁸ Codex Theodosianus 11, 20, 6 (430 d. C.).

¹⁹ Codex Theodosianus 11, 21, 3 (424 d. C.).

²⁰ Sulla concessione di appalti ai privati da parte dello stato per la coltivazione di miniere vedi Edmondson 1989, 98, 99, note 120 e 121.

Image Credits

Fig. 1–7: all the images were produced by the author of the contribution.

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Roman and Late Antique Industries

Panel 4.5

Marmora Asiatica.

Polish Studies on Marbles from Asia Minor

Dagmara Wielgosz-Rondolino

The Institute of Archaeology of the University of Warsaw (today Faculty of Archaeology) has launched the interdisciplinary project “Marmora Asiatica. Towards Archaeopetrology in Poland”. This project is intended as an archaeo-geological investigation, whose main goal is to document white and grey/black marble quarries of Antiquity in Asia Minor.

The long-term research programme is intended as an international collaboration between Classical archaeologists, geologists, and material culture experts from Poland, Turkey, Italy, and the United States. It is financed by the National Science Centre of the Republic of Poland (decision number DEC-2012/07/E/HS3/03971), and is supported by the Ministry of Culture and Tourism of the Republic of Turkey, as well as by the General Directorate of Mineral Research and Exploration of the Republic of Turkey.

Thus far, the joint mission has carried out four seasons of field reconnaissance. The first, in 2014, focused on the quarries of İsehisar (or ancient Dokimeion) in the province of Afyonkarahisar, and the quarries of Göktepe in the province of Muğla. In 2015, during the second season of fieldwork, the quarries of the ancient city of Aphrodisias in the province of Aydın, and those of Altıntaş in the province of Kütahya were researched. In 2016, we surveyed Marmara Island (ancient Prokonnesos) in the province of Balıkesir, and finally, in 2017, the quarries located in the territories of Ephesus in the province of İzmir.

The fieldwork consisted of three separate components: systematic geological and archaeological investigation, mapping, and an extensive sampling program.

With the goal of locating and recording as many quarries as possible, we used the published results of previously conducted fieldwork and satellite imagery.¹ The mapping of the quarries was done with a total station and GPS-equipment, although the most important and useful tool for this kind of documentation was a 3-D laser scanner. The scanner allowed us to estimate the volume of stone extracted and to make accurate three-dimensional models of the quarries. The volumetric measurements were carried out based on the DTM (Digital Terrain Models) tin surface extracted from laser scans and reference plane.

Another important objective of the project is to develop an extensive database of petrographic and geochemical characteristics of white and grey crystalline marbles. This database is a GIS-based Internet application accessible to all scholars.² A large number of samples collected in the quarries have already been subjected to microscopic examination of thin sections, XRD, carbon and oxygen isotopes, as well as strontium isotopes analysis, etc. The exact location of the samples within the quarry was documented by means of a total station, GPS receiver, and the 3-D laser scanner.

The fieldwork conducted as part of the *Marmora Asiatica* project has added significantly to previous studies.³ At present, over 50 new individual quarries have been identified. Their discovery demonstrates the viability of using extensive survey as a method for locating new quarries and underscores the general fact that not all ancient quarries have been discovered or documented. This has important implications for existing scientific databases used to determine the provenance of artefacts. For archaeometric investigation, approximately 1200 samples were taken from the quarries. Preliminary results of petrographic and geochemical analyses from our study add a significant amount of new data. It is likely that other sources of white and coloured marble remain undetected. In addition to the scientific results, maps, 3-D models of individual quarries, are available in our database. Together they should serve to answer broader questions about the nature and scale of the marble quarrying industry in Asia Minor and across the Roman Empire. The importance of our survey and of geological and archaeological documentation, especially 3-D scanning, is all the more crucial since much of the evidence for ancient quarries has been lost as a result of extremely intensive modern exploitation.

Notes

¹ For example: Attanasio et al. 2008; Attanasio et al. 2009; Long 2012.

² <www.marmoraasiatica.uw.edu.pl> (14. 12. 2021).

³ See, e.g., Wielgosz-Rondolino et al. 2020.

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Roman Marble Stone Quarries in Jbel Saïkha and Jbel Essouïnia (Toujane – Tunisia): From Extraction to Uses

Ameur Younès

Abstract

During the field-walking survey in the region of Toujane, five ancient quarries were discovered in the mountainous sector. Four coloured calcareous alabaster quarries were registered in Jbel Saïkha, and one grey limestone quarry was identified in Jbel Essouïnia. The quarries, belonging to the Upper Permian unity constituted of small mountain chains, are accessible by a road connecting the town of Medenine to the Berber town of Matmata. In the quarries, which were exploited in the open air, two different techniques of extraction were identified: the channelling technique and the splitting technique. These two techniques were similar to those identified at other Roman quarries in the Roman Empire. Some of the large-sized extracted blocks were split inside the quarry area. The results of the macroscopic and microscopic analyses revealed that the coloured calcareous alabaster blocks extracted from the quarries were not only used in the walls of the rural ancient constructions, but also employed in the *aedifici publici* of the Roman towns of *Gigthi* and *Meninx*. These data allowed us to date the exploitation of the quarries from the Roman period, in particular from the 2nd century AD.

Introduction

Despite the few studies that have been published on Tunisian marbles and marble stones up to the recent decades, these natural materials remain relatively little-known.¹ Among these marble stones, two types of calcareous alabasters (also known as “faux onyx” or hydrothermal travertine stone)² have been identified in Tunisia: the white calcareous alabaster and the coloured calcareous alabaster. The first one is unknown by the searchers, but the second one could be identified by geologists and archaeologists as the material used to decorate the public constructions in the towns of Carthage and *Uthina* during the Roman period.³ According to these authors, the ancient quarries of Jbel Oust supplied the coloured calcareous alabaster.⁴ Nevertheless, this thesis needed to be confirmed by further analytical analyses (microscopic, chemical, and isotopic), because ancient quarries of coloured calcareous alabaster also have been identified in Jbel Rouas, a few kilometres from the quarries in Jbel Oust. Besides these ancient quarries located in the northern part of Tunisia, others have been discovered in the south of the country during our field-walking survey, namely in the region of Toujane in the governorate of Medenine. The identified quarries belong to the Permian period and consist

of coloured calcareous alabaster rock as well as grey limestone rock in the mountains called Jbel Saïkha and Jbel Essouïnia. During our field-walking survey we registered five ancient quarries. The preserved traces left on the quarry faces allowed us to identify both the exploitation and extraction techniques. To know where the blocks extracted from these quarries were employed, we prospected the ancient rural sites situated nearby the quarries, and we visited the archaeological sites of the two Roman towns of *Gigthi* and *Meninx*. A comparative study based on macroscopic and microscopic analyses⁵ was carried out on samples taken from the calcareous alabaster quarries. Additionally, samples were taken from fragments of architectonic elements belonging to the constructions of the two Roman towns. This study will not only highlight unknown Roman quarries of calcareous alabaster and grey limestone situated in southern Tunisia, but also will identify the places where the extracted blocks were employed.

Geographical and Geological Setting

During the field-walking survey conducted on March 2015 in several sectors of Jbel Tebaga at Toujane, five Roman quarries were identified in an area covering nearly 10 km² of Jbel Saïkha and Jbel Essouïnia. This area is characterised by low altitudes (the peak of Jbel Saïkha does not exceed 302 m), by watercourses that are functional only after heavy rains (such as oued en Nagueb), and by a low vegetation cover. The quarries are accessible by an E-S-E/W-N-W rural road connecting the Berber town of Matmata with the town of Medenine, passing by the village of Toujane (fig. 1).

Geologically, the quarries belong to the Permian Unity comprise small mountain chains outcropping on the Northern edge of the Saharan Platform.⁶ From east to west, the unity comprises Jbel Saïkha, Jbel Essouïnia and Jbel Tebaga (fig. 2). This 13 km-long monoclonal structure is oriented N80° and dips 20° to 30° southward with angular unconformity by Jurassic and Cretaceous strata.⁷ The quarries are located in limestone and dolomite outcrops belonging to the Upper biohermal complex of the Permian period situated in Jbel Saïkha and Jbel Essouïnia.

Extraction Technique

The five quarries were exploited in the open air because the bedrock of calcareous alabaster or grey limestone was very compact (fig. 2). Hence, the quarry workers did not need to exploit them in galleries. This is contrary to the ancient oolitic sandstone underground quarries from the Tyrrhenian formation located in eastern *Byzacium* (Sahel-Tunisia), where the upper layer of the rock was very thick and unsuitable for building.⁸ The five open air quarries are small-sized due to the presence of horizontal or vertical beds of calcareous alabaster in the dolomite rock of the Upper Permian period (table 1).

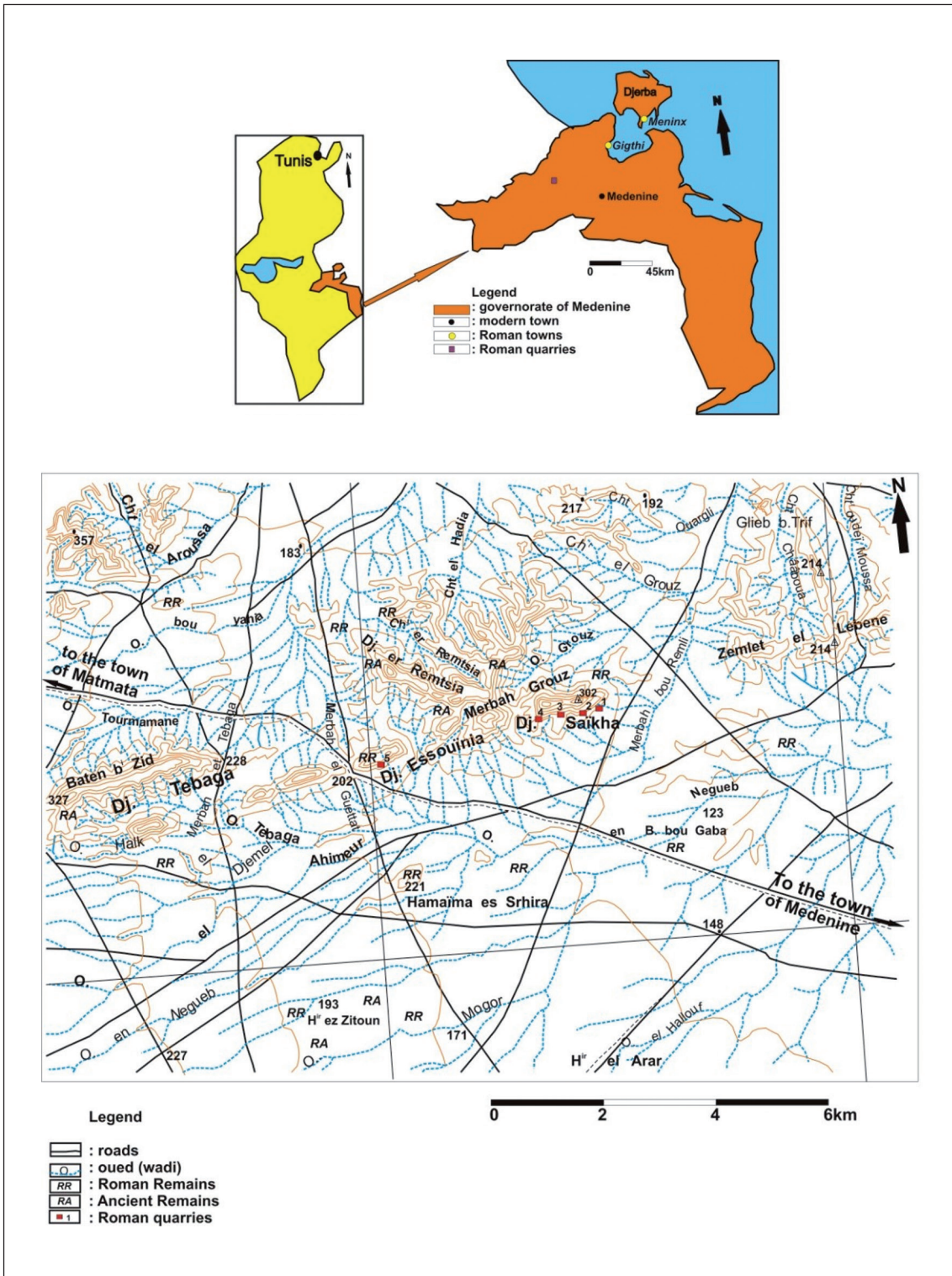


Fig. 1: Geographical map of the Roman quarry areas.

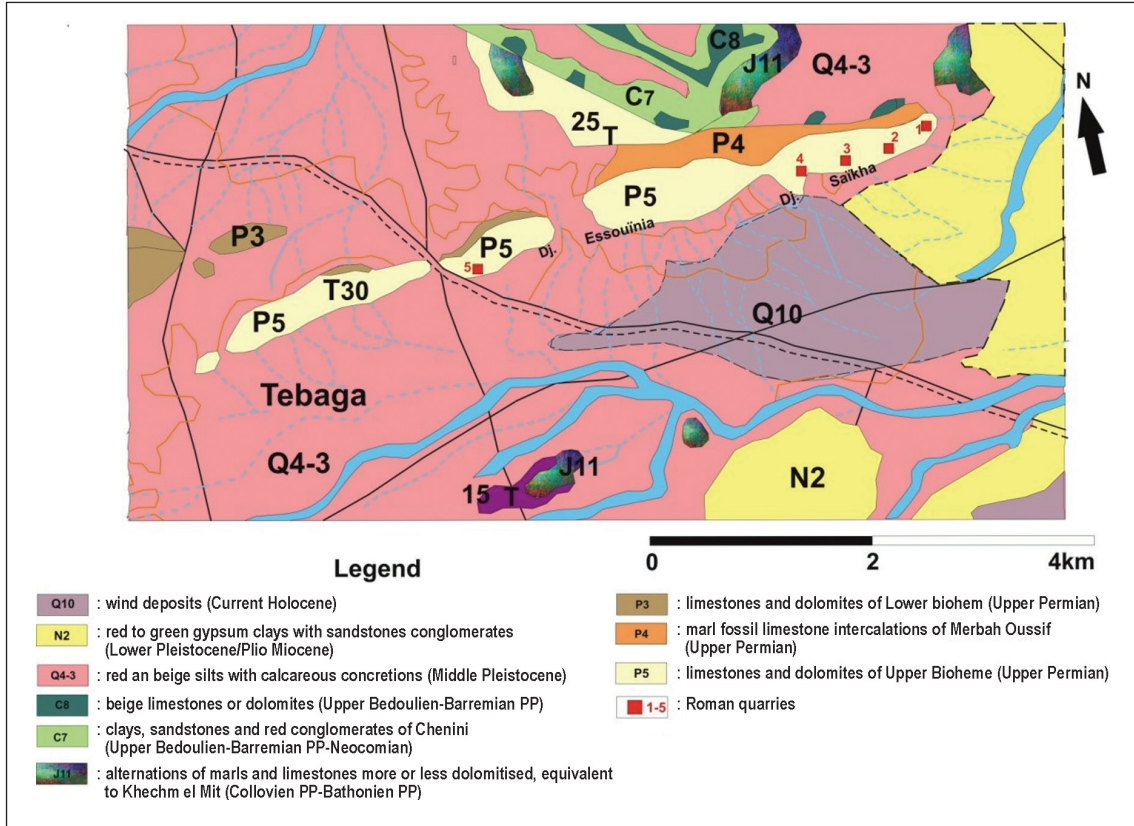


Fig. 2: Geological map of the Roman quarry areas.

Quarry N°	Approximate sizes of the quarries				Approximate amount of extracted blocks (m ³)
	Length (m)	Width (m)	Height (m)	Area (m ²)	
1	25	10.5	4	262.5	1050
2	16	13	4.50	208	936
3	18	13.5	3	243	729
4	16	15	3.20	240	768
5	25	15.5	1.50	387.5	581.25
					Total: 4064.25

Table 1: Approximate sizes of the 5 quarries and approximate amount of the extracted blocks.

The traces of extracted blocks left on the five quarry faces allowed us to identify two different extraction techniques used by the quarry workers. In the first one, called the splitting technique, the quarry workers started widening the natural lines of weakness (*diaklasis*), as well as the stratigraphic levels within the calcareous alabaster and grey limestone rocks. Then, they made holes in the upper part in order to insert iron wedges which were hammered in so as to break the block apart (fig. 3; table 2). Most of the extracted blocks were large-sized and allowed the stone carvers to shape them into architectural elements (e.g. columns, capitals, friezes) or to cut them into small and medium-sized blocks. The splitting technique has been identified in the Roman marble limestone quarries at *Thugga* (Dougga).⁹ The second one, the channelling technique, has been identified in a few calcareous alabaster quarries for the extraction of blocks and column shafts (fig. 3; table 2). This technique consisted in more phases of quarrying operations than the first one. Indeed, when *diaklasis* and stratigraphic levels were missing in the bedrock, the quarry workers took off the upper layer of sand and vegetation covering the surface. Then, they outlined the block to be cut with a pick by making slits, which were widened and deepened with the use of an awl and a sledgehammer. This created extraction trenches whose width corresponded to the thickness of the block to be cut. Finally, the quarry workers made a line of rupture at the lower forward side of the block where holes were made to insert iron wedges to extract the block from the bedrock. Sometimes, when this last step was not successfully done, a part of the block remained attached to the bedrock. The sizes of the extraction trenches and of the holes vary (table 2). The width of the measured extraction trenches allows the quarry workers to move the awl easily when widening and deepening the trenches. The cutting marks left on the quarry faces give them a stepped profile. The channelling technique has been attested in several Roman quarries in Tunisia (Dougga, Chemtou, *Thapsus*, Sallakta),¹⁰ in Spain (Tarragona),¹¹ and in France (Marseille).¹²

Thanks to the numerous pieces of debris of calcareous alabaster and grey limestone lying in the areas of quarries 2, 4 and 5, we can deduce that the quarry workers cut and

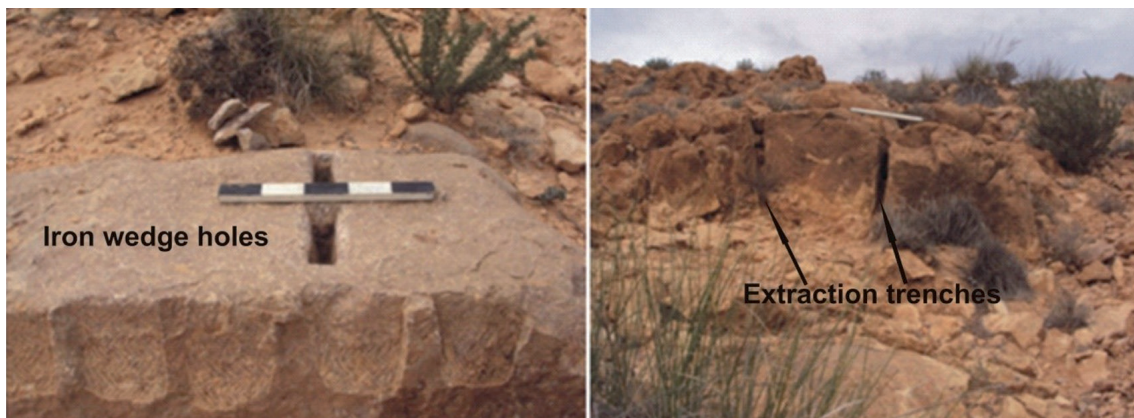


Fig. 3: Marks of extraction techniques.

Quarry N°	Sizes of the extraction trenches length × width × depth(cm)	Sizes of the wedge holes length × width × depth (cm)
1	10 × 30 × 110 12 × 25 × 150 14 × 52 × 100	-----
2	12 × 65 × 90 9 × 40 × 70	8 × 3 × 7 (7 wedge holes) 12 × 3 × 7
3	7 × 15 × 70 10 × 20 × 60	-----
4	10 × 27 × 40 12 × 15 × 30 12 × 50 × 90	10 × 3 × 7 12 × 3 × 7.5 10 × 3 × 7.2
5	-----	15 × 6 × 20 (3 wedge holes) 15 × 6 × 17 15 × 6 × 13 15 × 6 × 10

Table 2: Sizes of the extraction trenches and wedge holes.

carved the large-sized extracted blocks inside the quarry areas to facilitate their transport to the building sites. At present, no quarry-road has been identified in the five quarry areas.

A Preliminary Characterisation of the Quarry-Stones

Macroscopic analyses were carried out on calcareous alabaster and grey limestone fragments taken from the quarries. These were based on the colour and the grain size, together with mineralogical and chemical analyses. The results show that macroscopically, the calcareous alabaster fragment is characterised by a coarse-grained texture (superior to 5 mm) and by different colours (beige, grey, yellow, honey, pinkish, brick-red, brown) (fig. 4). The mineralogical (XRD) and chemical results reveal that calcite is the main component of the calcareous alabaster sample, but there are also traces of oxides (iron, magnesium and aluminium).¹³ The grey limestone fragment is medium-grained (between 2 and 4 mm) and is characterised by a dark grey colour with the presence of small white spots (fig. 4). The mineralogical (XRD) and chemical results reveal a high content of calcite, with traces of silica and oxides.¹⁴

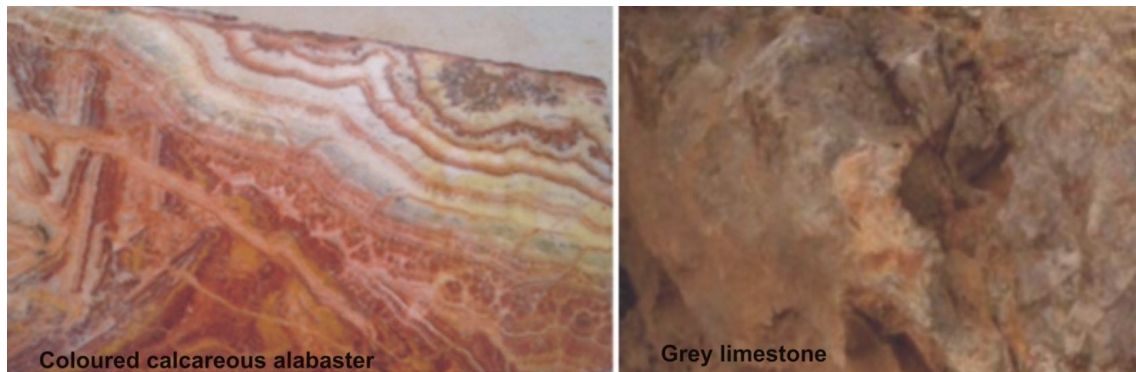


Fig. 4: Photos of coloured calcareous alabaster and grey limestone samples.

Uses and Provenance of the Blocks

Among the 18 rural archaeological sites denoted by the letters “RR” and “RA” (“Roman Remains” and “Ancient Remains”) in the topographic map of Matmata (scale: 1:100,000), 6 are situated near the quarries. These sites contain the remains of rural constructions built with small blocks and rubble stones of calcareous alabaster and grey limestone.¹⁵ The remaining walls of the rural constructions located at four sites were made of calcareous alabaster rubble stones and small blocks (fig. 5). At the other two sites, the few foundations of the still-visible walls were built with grey limestone rubble stones and

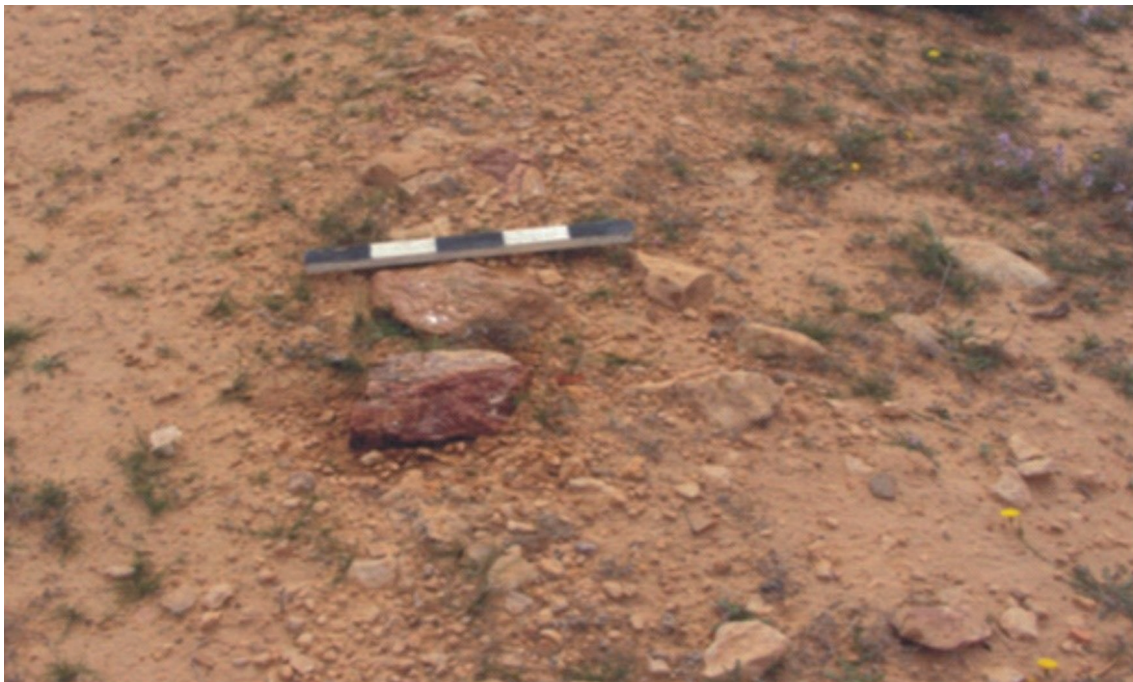


Fig. 5: View of the Roman rural archaeological sites.

blocks of small and medium sizes. According to the few Roman ceramic sherds found in the sites, it is very likely that these rural constructions date to the Roman period.

These two types of marble stones were used not only for building these rural constructions, but they were also used for the construction and the decoration of the monuments located in the Roman towns of Meninx and Gigthi, situated not very far from the quarries.

In the archaeological site of Meninx, situated roughly 75 km to the north-east of the quarries (fig. 1), large-sized blocks were discovered together with several fragments of architectural elements (fig. 6).¹⁶ The large blocks are much altered.¹⁷ Despite the few carvings still visible on the blocks, it is difficult to assert whether the stone carver left their work unfinished or whether the extended exposure to sand and sea water has eradicated most of the carvings. The fragments of the architectural elements come from column shafts,¹⁸ from an architrave,¹⁹ and from a capital, all of which belonging to edifices situated in the public place of the Roman town.²⁰

The archaeological site of the town of Gigthi,²¹ lying about 45 km north-north-east of the quarries, is better preserved than the archaeological site of *Meninx* (fig. 1). At Gigthi there are public constructions decorated with coloured calcareous alabaster stone. Panels of coloured calcareous alabaster covered the walls of the *ephebeum* in the *palestra* of the Roman baths, and column shafts²² of the same coloured stone were very likely used to decorate the *Capitolium* and the *forum* (fig. 6).²³ These three monuments might have been built in the 2nd century AD.²⁴

To identify the provenance of the coloured calcareous alabaster used for the architectural elements at both sites, some fragments were sampled and analysed in terms of their composition and provenance. The results of the macroscopic analyses (colour and grain size), together with the mineralogical (XRD) and chemical analyses revealed that the coloured calcareous alabaster stone came from the quarries of Jbel Saïkha.²⁵



Fig. 6: Fragments of architectural elements at the sites of Meninx and Gigthi.

Attempts to Date the Quarries

It is difficult to date precisely the exploitation of the quarries because of a lack of epigraphic data. Nevertheless, archaeologists have proposed a relative dating thanks to the inherent features of the quarries, together with data concerning the uses of the extracted stone blocks. Hence, the techniques of extraction used in Jbel Saïkha's quarries for the exploitation of coloured calcareous alabaster were similar to those used in other Roman quarries in Africa Proconsularis,²⁶ in Catalonia,²⁷ and in southern Gaul.²⁸ At Meninx, the monuments decorated with architectonic elements made of coloured calcareous alabaster stone extracted from Jbel Saïkha's quarries date back to the earlier Roman Empire, while the same quarry was exploited in the 2nd century AD for the monuments at Gighi.

In the quarry providing grey limestone, the extraction technique (splitting technique) used by the quarry workers also was well developed in the Roman quarries of calcareous marbles in Dougga²⁹ and in Tortosa.³⁰ Moreover, the grey limestone was employed in the construction of the two rural sites dating very likely from the Roman period. Consequently, on the basis of all these data it is very probable that this quarry was exploited during the Roman period, in particular during the 2nd century AD.

Conclusions

This study on coloured calcareous alabaster, together with the grey limestone extracted from Jbel Saïkha and Jbel Essouïnia in the region of Toujane in Medenine (southern Tunisia) led us to identify five ancient quarries. We registered four coloured calcareous alabaster quarries in Jbel Saïkha, and one quarry of grey limestone was identified in Jbel Essouïnia. The quarries, exploited in the open air, are located in limestone and dolomite outcrops belonging to the upper biohermal complex of the Permian period.

Two types of extraction techniques have been identified: the channelling technique and the splitting technique. These two different extraction techniques were also identified in other Roman quarries in the north and in the centre of Tunisia, in the southeast of France, and in the northeast of Spain. The extracted blocks were medium to large-sized. Some of the large blocks were split and carved inside the quarry-area.

The results of the macroscopic and microscopic analyses revealed that the extracted blocks, after being cut and carved, were used to build the walls of the constructions in the rural sites dating very likely from the Roman period. These blocks also decorated the public monuments located in the two Roman towns of *Meninx* and *Gighi*.

The techniques of extraction, together with the constructions in which the coloured calcareous alabaster was employed, allowed us to date the exploitation of the quarries from the Roman period, particularly in the 2nd century AD.

Notes

- ¹ Ferchiou 1973, 633–642; Lazzarini 2006, 59–70; Rakob 1993; Rakob 1995, 65–69; Younès 2014, 231–248; Younès 2014a, 161–192.
- ² Bruno 1998, 19–24; Herrmann et al. 2012; Dillmann et al. 2014; Lazzarini et al. 2012.
- ³ Agus et al. 2007, 375–394; Lazzarini et al. 2012.
- ⁴ Idem.
- ⁵ The student A. Amri was given the responsibility to carry out the petrographic, mineralogical, chemical and physico-mechanical analyses while preparing her mémoire of Master entitled “Les pierres décoratives de Jbel Tebaga de Médenine” which was submitted in 2016 under our direction.
- ⁶ Bouaziz 1955; Ouaja et al. 2002.
- ⁷ Bouaziz 1986; Chaouchi 1988; Amri 2015.
- ⁸ Younès et al. 2008, 55–82; Younès et al. 2009, 229–237 pl. 14. 15.
- ⁹ Younès 2018, 97–110.
- ¹⁰ Younès et al. 2008, 55–82; Gaied et al. 2010, 531–549; Younès 2014, 161–192; Younès 2018, 97–110.
- ¹¹ Gutierrez Garcia Moreno 2009.
- ¹² Guery et al. 1981, 18–27; Treziny 2009, 203–212.
- ¹³ Amri 2015.
- ¹⁴ Idem.
- ¹⁵ The visible archaeological remains at the sites are not numerous and most of them are in a bad state of preservation due to natural weathering and/or anthropic actions (fig. 5).
- ¹⁶ Drine 2000, 87–94; Drine 2007, 239–251; Fentress et al. 2009.
- ¹⁷ Three large-sized blocks of different dimensions have been discovered (Length × Width × Thickness in cm): 105 × 48 × 42; 125 × 47 × 45; 70 × 50 × 42.
- ¹⁸ Four fragments from three different-sized column shafts have been measured (Length × Diameter in cm): 184 × ?; 120 × 70; 101 × 40; 98 × 70.
- ¹⁹ Dimensions (Length × Height × Thickness in cm): 136 × 89 × 30.
- ²⁰ Nowadays, the remaining walls of the basilica and the presumed forum have nearly all been covered with beach sands.
- ²¹ Constans 1914, 267–286; Constans 1916; Drine 1996, 683–692; Troussset 1998, 3128–3134; Drine 2008.
- ²² Fourteen fragments of column shafts have been registered: seven are fluted, four are rudented-fluted, and three are rudented.
- ²³ Tlatli 1971, 62–71; Drine 2008, fig. 2 (plan of the site of Gigthi).
- ²⁴ Tlatli 1971, 67.
- ²⁵ Amri 2015, 35 f. 38.
- ²⁶ Younès 2008; Younès 2014a; Younès 2018.
- ²⁷ Gutierrez Garcia Moreno 2009.
- ²⁸ Guery et al. 1981.
- ²⁹ Younès 2018.
- ³⁰ Gutierrez Garcia Moreno 2009.

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Travelling Stone Masons in Roman Thrace – New Evidence for the Distribution of Marble, Architectural Traditions and Sculptural Models during the Principate

Zdravko Dimitrov

For several decades scholars (e.g. M. Squarciapino, J. Toynbee, J. B. Ward-Perkins, K. T. Erim, T. Ivanov, Y. Mladenova and M. Tacheva) have devoted much of their time to studying the transfer of architectural and sculptural models in the Roman Empire by focusing on the distribution of marble.¹ The ideas and stone carving techniques were spread by travelling groups of stone masons, primarily from Asia Minor.² Masters from *Aphrodisias*, *Nicomedia*, *Ephesos*, and *Pergamum* worked on commission in various zones of the Roman world – Italy, Greece, North Africa. There is also plenty of evidence for this in Roman Thrace. Today we can trace this phenomenal distribution not only of stone materials, but also of architectural models, ideas and workmanship, by furthering the research through the analysis of a number of new finds unearthed during archaeological excavations in Bulgaria.

In Thrace, works of Anatolian masters were found in the Roman colonies of *Ulpia Raetiana* and *Ulpia Oescus*, in the Thracian cities of *Odessos*, *Tomis*, *Marcianopolis*, *Abritus*, *Augusta Traiana* and *Philippopolis*, and above all in Roman villas in Southern Bulgaria – Kasnakovo and Armira (fig. 1).

Prof. Theophil Ivanov and Prof. Yanka Mladenova started the archaeological studies in the present-day Bulgarian lands in the 1970s and 1980s.³ They focused on the archaeological excavations in the colony of *Ulpia Oescus*, in *Nicopolis ad Istrum*, and especially on the villa Armira. The latter was just discovered at the time of their investigations and is located near Ivaylovgrad, which is very close to *Hadrianopolis*.

The studies of Prof. J. B. Ward-Perkins along the western Pontus coast are of great importance. Trying to trace the distribution of marbles from Asia Minor to Thrace and other European territories of the Empire, he came across epigraphic and archaeological finds evidencing the presence of Anatolians in the following Roman cities: *Nicopolis ad Istrum*, *Marcianopolis*, *Odessos*, and *Tomis*.⁴ Similar data was found by Prof. Tacheva as well, who is interested particularly in the Anatolian settlers in Roman Thrace in the 2nd century AD.⁵

The newly uncovered archaeological finds confirm the prolific work of the travelling Anatolian masters who worked on commission. This is an essential aspect of the Roman economy in the 1st–3rd centuries and developed on the basis of the active distribution of stone materials, especially marble and limestone.

The problems examined in this paper are directly related to the above research. On the other hand, there is a good deal of new data available from archaeological excavations. Many new materials have been unearthed. This in turn opens new vistas to broaden the

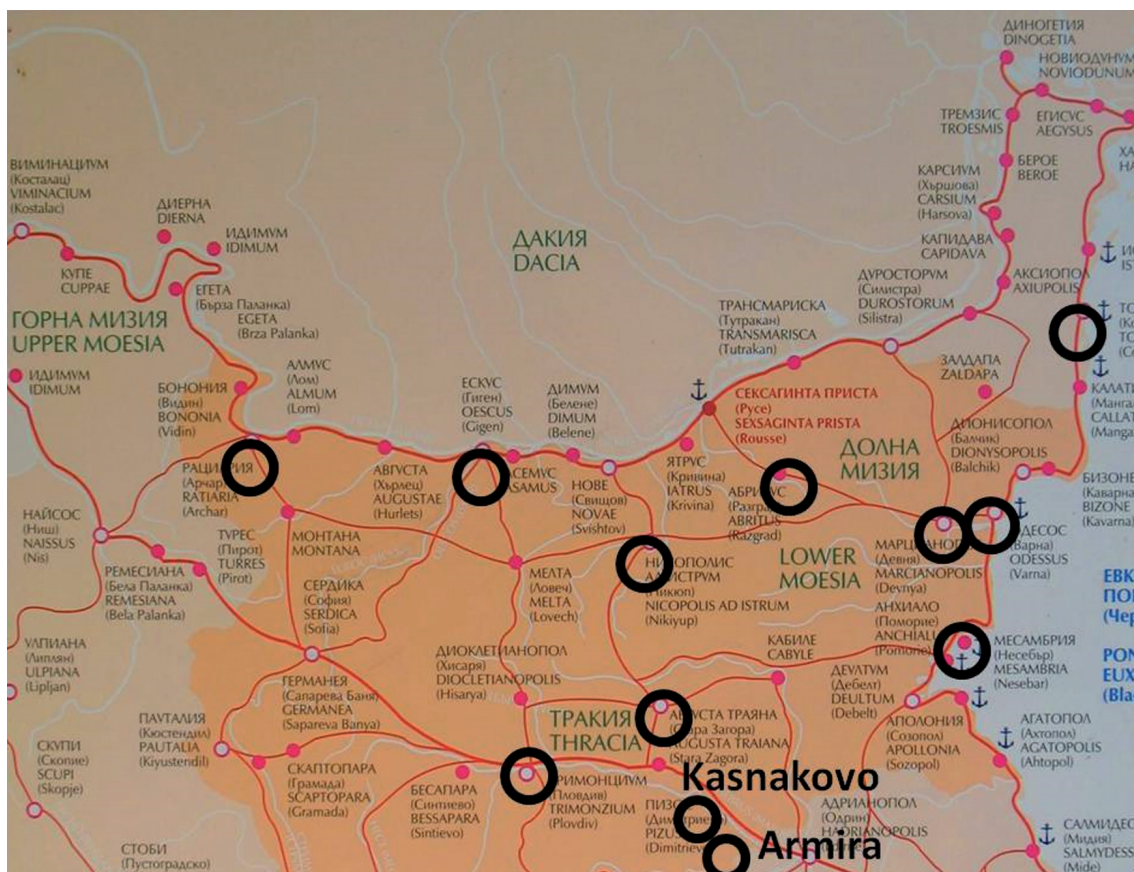


Fig. 1: Map of Roman Thracia with the towns and places with possible evidence of Anatolian stonemasons.

scope and further the progress of the research conducted by professors Squarciapino, Ivanov, Mladenova, Perkins, and Tacheva. Moreover, some of these early studies were presented at the Classical Archaeology congresses in the 1960s (for example, the study of the works of Anatolians in Roman *Leptis Magna*).⁶

The purpose of this study is first to highlight not only the existing architectural decorative monuments, but also the recently identified finds. These are predominantly architectural details after Anatolian models, and were most probably carved by Anatolian stonemasons. They had either settled in Roman Thracia or remained there only to produce the ordered details.

Secondly, the study attempts to shed light on certain imported materials – in particular marbles, which indicate the way in which the Anatolian craftsmen entered Thracia. A completely new project is in progress for the establishment of the origin of marbles in the province of Thracia.⁷

**Roman Monuments from the Lower Danube Limes Zone,
Produced by Anatolian Masters**

The most famous and most extensively explored Roman city (enjoying the rank of a colony) in the Bulgarian section of the Lower Danube is *Ulpia Oescus*. More than 200 architectural details have been found during the excavations at *Oescus*, which have been running for over 113 years.⁸ They are mainly in the Corinthian order.⁹ Their chronology is diverse. Moreover, many of them belonged to different architectural complexes, such as temples, a civil basilica, tombs, and mausoleums. But the central monumental buildings in *Oescus* date to the time of Trajan and Hadrian, when the city was already a Roman colony. Particularly important for our study is the architectural detail from *Oescus*, which is made of marble.

This is a corner acroterion from a temple building (or from a mausoleum complex) (fig. 2). It was published by Eugen von Mercklin in 1962 in the catalogue of figural capitals as an analogy of the images of figures of naked women in acanthus decoration from Asia Minor.¹⁰ There is no description or analysis of the monument. It was my pleasure to publish it with a complete analysis in 2011.¹¹ Beyond any doubt, this monument was made of imported marble and was carved by Anatolian masters – most likely Aphrodisians by origin. The acroterion consists of infinite compositions of acanthus



Fig. 2: Acroterion from *Ulpia Oescus* (Ghigen village, Pleven region).

leaves and stems, which are shaped in fine flutes and floral cups. The entire detail is carved around a central figure, which is the focus of the composition. This is a figure of a naked woman. The type of this architectural detail is well-known: these are details ornamented with floral motifs and human figures (peopled scroll works). These models are purely Anatolian by origin. They are best known from the Hadrianic thermae in *Aphrodisias*.¹²

The detail from *Oescus*, apart from being a decorative model, must have been produced by Aphrodisian masters, as exhibited by the craftsmanship of the work. There are three reasons substantiating this finding: the entire floral ornamentation and the female figure are three-dimensional; all the elements are shaped in fretwork and are carved with a drill at each centimeter; exact parallels are found in the works of Aphrodisian masters. These parallels are found precisely in the baths in *Aphrodisias*, in Rome, and in the monuments from the Severan Forum of *Leptis Magna* (again pillars decorated with human and animal figures in the acanthus decoration).¹³

The acroterion from *Ulpia Oescus* is an absolutely convincing example: this is an architectural detail belonging to a monumental complex from the reign of Hadrian, which was made of imported marble and by travelling stonemasons, most likely coming from *Aphrodisias*. Unfortunately, the monument from *Oescus* was unearthed as early as the 19th century by V. Dobruski and it is impossible to identify its location in the Roman city. It might have belonged to the roof decoration of a mausoleum structure in the necropolises of *Oescus* or from the temple in the town. Roman Thrace abounds in monuments produced by Aphrodisian masters, yet, there are two absolute analogies of this acroterion from *Oescus* – a marble frieze from *Anchialos*, and the statue of Fortuna and Pontus from *Tomis*.

The Roman Frieze from a Tomb Complex (mausoleum) from Anchialos

An entire architrave from a tomb complex was identified in *Anchialos*, which is shaped as a frieze detail, decorated with acanthus leaves and rosettes (fig. 3).¹⁴ The decorative scheme itself consists of gracefully scrolling stems, rotating in circles in the acanthus foliage. Large rosettes are positioned in the center of the composition. Similar to the example from *Ulpia Oescus*, here again, all the elements are three-dimensional and shaped in fretwork. Dense drill-work is evident everywhere, even at a centimeter distance.

The marble from which this frieze is made is pink-beige and is Anatolian by origin. It was imported to *Anchialos*, and the decorative motifs were, in any way, carved by masters coming from Asia Minor. Considering the carving technique and the craftsmanship of shaping the motifs, this detail must have been produced by Aphrodisian masters.



Fig. 3: Frieze from *Anchialos* (Pomorie, Black Sea coast).

The Statue of Fortuna and Pontos in Tomis

Another monument made of marble that convincingly exhibits all the distinctive features of Anatolian craftsmanship is the well-known statue of Fortuna and Pontus from *Tomis*. This detail provides more grounds to associate it with works produced by Anatolian masters (fig. 4). Their style can be detected in the acanthus leaves at the base of the sculptural composition. Every single leaf was shaped with fine drill-work. The marble is again imported. Moreover, the technique of the sculptural composition resembles the technique of the Aphrodisian School, which was highly specialized precisely in architectural decoration, and also in the carving of three-dimensional figures – the so-called round sculptures.

Odessos and Marcianopolis

There is an exceptional diversity of unpublished elements carved by Anatolian masters after stone masonry models from *Aphrodisias*, *Ephesos* and *Pergamum*. These can be found in the modern Bulgarian towns of Varna and Devnya (Roman *Odessos* and *Marcianopolis*).



Fig. 4: Statue of Fortuna and Pontus from *Tomis* (Constanta, Romania).

The Roman Baths in Odessos

These are the most famous thermae from the Roman period within the present-day territory of Bulgaria.¹⁵ The baths in *Odessos* were decorated in the Ionic and Corinthian orders, and are dated to the late Antonine rule (i.e. around the 60s–70s of the 2nd century). The Corinthian capitals from the thermae exhibit all the distinctive features of the Pergamum Corinthian capital in terms of: an overall appearance and decorative scheme; the styling and shaping of the acanthus leaves; and the elements in the upper third of the calathos – cups, caulices, helices, volutes, and abacus flowers (fig. 5).

However, the most striking aspect in this case is the dense and easily recognisable drill-work only and solely in the abacus flowers. This seemingly difficult to recognize feature directly points at the style of the Anatolian masters.



Fig. 5: The best-preserved Corinthian column capital from the Roman Thermae in *Odessos* (Varna).

The Collection in the Varna Museum

The same situation is encountered with the Corinthian pilaster capitals from the wall facing in baths and private houses. All of these are displayed in the Archaeological Museum in Varna. Prof. Perkins was aware of only one of them and he included it in his 1980 study. However, 30 years later the collection of the Archaeological Museum in Varna has four capitals from pilaster facings, which are made of imported marble and contain all the typical Anatolian decorative features. Still, one of the most interesting examples is a capital with open volute scrolls, which is from *Marcianopolis*, and also an antae capital with unique floral decoration on the interior wall of the façade. The latter is a small antae capital in the garden of the museum.

In the Varna Archaeological Museum we have also very important traces of Anatolian stonemasons from an Ionic capital from the mausoleum grave complex from the periphery of *Odessos*, which dates to the Trajanic period.¹⁶ The first element are drillings over the acanthus leaves placed on the lower part of the volute motives. The second element are thin sticks at the top of the *ovulae* (the eggs) on the Ionic cyma ornament.

The Collection in the Marcianopolis Museum

We witness the same situation when taking a brief “detour” to Devnya, and visit the ruins and the museum collection of ancient *Marcianopolis*. There are indeed data about imported semi-finished sarcophagi, probably Proconnesian, but there are also many new finds.¹⁷ These are Doric capitals made of limestone from the Antonine period and Doric capitals made of marble from the Severan period, which originate from the amphitheater in the city.¹⁸ A whole series of capitals was discovered in the *Nymphaeum* near the mineral springs of Devnya. They are all shaped according to the Anatolian style: more precisely according to the scheme of the Pergamum Corinthian capital. Nevertheless, the most significant data were obtained from the newly unearthed Ionic capital, which at present is displayed in front of the entrance of the Museum in Devnya. This Ionic capital was decorated with acanthus leaves and was shaped entirely with drill-work.

Abritus

The Ionic capitals from the peristyle building in Abritus also date to the mid-2nd century AD. These are details of exceptionally fine quality, originating from a richly decorated building (perhaps a villa) from the Roman period. The ornamentation of this detail meticulously follows the Aphrodisian decorative scheme of Ionic capitals. Furthermore, there is a lot of drill-work here.

Details from the Villas in Bulgaria

Villa Armira

The luxury in this opulently decorated villa complex in Bulgaria, is definitely at a very high level. As early as the 1970s, Prof. Yanka Mladenova, presenting the finds from her field studies at the Classical Archeology Congresses, conclusively proved that the architectural decoration of the villa was produced by a traveling group of Aphrodisian decorators.¹⁹

Many Corinthian pilaster capitals were produced here (fig. 6). Today, 24 of them have been preserved. Almost all of them exhibit the decorative scheme of the Corinthian capitals from Aphrodisias. Those, decorated with mythological creatures and reptiles, stand out with their snails, lizards, snakes, and eagles. Above all we can distinguish the typical acanthus leaves and drillwork in the focal places. The little holes from the drill work are almost everywhere on the marble's surface, and the elements are three-dimensional. The same perfect analogies can be seen in the pilaster capitals from *Aphrodisias*.²⁰ They



Fig. 6: One of the twenty-four wall facing pilaster capitals in the villa at Armira, produced *in situ* from the traveling stonemasons from *Aphrodisias*.



Fig. 7: Newly found capital from the villa of Kasnakovo, Haskovo region.

are originals of the Thracian works, mainly Armira and *Oescus*, not only in terms of the carving techniques, but also the decorative models, such as the naked female figures.

Villa Kasnakovo

This Roman villa, situated very close to Armira, is the latest find in Bulgaria. A couple of years ago our colleague Katsarova, studying the villa, unearthed a Corinthian antae capital, which is a perfect replica of the Aphrodisian architectural decorative works (fig. 7).

Philippopolis

Anatolian works also can be found in this major Roman city in the province of Thrace.²¹ These are on principle Corinthian capitals and cornices. The best examples are from the *odeon* and theater in the city (fig. 8). The architectural environment of *Philippopolis* during the Roman period and especially the complexes from the 2nd century, when the most impressive public buildings were constructed and decorated, are influenced mainly by the architecture of Pergamum.²²

In *Philippopolis* we can easily see many common features with the architecture of *Ephesos*.²³ For example, the piers of the arch from the time of Hadrian are very similar to the ornamentation of the Library of Celsus from the same period.



Fig. 8: Corinthian capital from the *odeum-bouleuterium* in *Philippopolis* (found also in the last few years).

In conclusion, the purpose of this paper was to revisit and to highlight the issue of the transfer of traditions and work groups of stonemasons from Asia Minor to the European territories of the Roman Empire. This is easy to trace especially in the 2nd century AD, and we could map the route even in greater detail thanks to the many new data obtained from archaeological excavations.

The newly found architectural elements in Bulgaria (e.g. at *Nicopolis ad Istrum*, *Oescus*, *Abritus*, and particularly *Anchialos* and the villas in Armira and Kasnakovo) in the last 40 years have provided ample grounds to continue studying the distribution route of marbles. They also allow us to better understand the input of stone materials, stone-carving techniques, and the craftsmanship of individual sculptural compositions from the Eastern provinces of the Roman Empire to Thrace and the European territories of the Empire.

Notes

¹ Squarciapino 1943; Squarciapino 1965, 229–233; Toynbee 1934; Erim 1967a, 18–28; Erim 1967b, 233–243; Ward-Perkins 1994; Ward-Perkins 1948, 59–80; Ward-Perkins 1980, 23–69; Ivanov 1986, 498–504; Mladenova 1979, 91–94; Mladenova 1981, 38–48; Tačeva-Hitova 1970a, 115–123; Tačeva-Hitova 1970b, 87–89.

² Mladenova 1979, op. cit.

³ Ivanov 1986, op. cit.; Mladenova 1979, op. cit.; Mladenova 1981, op. cit.

⁴ Ward-Perkins 1980, 34. 53–55.

⁵ Tacheva-Hitova 1972, 17–43.

⁶ Squarciapino 1965, 229–233.

⁷ This is a research project based on geological and archaeological data, which will be implemented by scientists of the National Archaeological Institute with the Museum at the Bulgarian Academy of Sciences (NAIM-BAS) and the Austrian Archaeological Institute.

⁸ Ivanov, Ivanov 1998, 97–106. 118–125 figs. 61–70.

⁹ Ibidem, 100–102. 166–169 figs. 63–68. 75. 76. 133–138.

¹⁰ Mercklin 1962, 39 fig. 185.

¹¹ Dimitrov 2007a, 218–234.

¹² Ward-Perkins 1980, 58 f. pl. XXIV b–XXVI, Nr. 31–33; Erim 1967a, 26 fig. 16.

¹³ Ward-Perkins 1980, 59, pl. XXVI–XXVII; Ward-Perkins 1948, pl. VII–VIII.

¹⁴ Dimitrov 2005, 408–423.

¹⁵ Georgiev 2006.

¹⁶ Petrova 1985, 19–23 figs. 7. 10–13.

¹⁷ Dimitrov, kat. Nr. 135 figs. 136. 137.

¹⁸ Ibidem, kat. Nr. 82–84 figs. 81–83.

¹⁹ Mladenova 1979, 91–94; Mladenova 1991.

²⁰ Erim 1967a, 26 fig. 16.

²¹ Dimitrov 2018, 231–243.

²² Rohmann 1998, 79–81. 133 Nr. 28–33 Taf. 45–47 (1–3); Heilmeyer 1970, 78–105. 164–172 Taf. 24–28. 32. 33. 36–39.

²³ Strocka 1988, 291–307 Taf. 39–47.

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SESSION 5

**Distribution: trade and exchange,
monetarization, credit, networks, transport,
infrastructure (e.g. ports)**

**The Friction of Connectivity –
Greco-Roman Trade in Archaeology and Texts**

Panel 5.1

Organized by

Peter F. Bang – Mark L. Lawall – John Lund

Introduction

Peter F. Bang – Mark L. Lawall – John Lund

Throughout the 20th century, archaeologists developed ways of applying quantitative data to traditional questions of scale of production, fluctuating levels of imports etc. But historians on both sides of the old primitivist-modernist divide often relegated archaeology to a largely illustrative role vis-à-vis text-based history.¹ Now, however, the different approaches seem to be converging,² although the evidence of archaeology is still at times relegated to an inferior position in text-oriented treatments of the ancient economy.³

Interest in New Institutional Economics (NIE) has opened up significant new pathways for a productive collaboration between archaeology and history investigating the ancient economy. Within this paradigm, an important task for an institutional history of ancient economies is the identification and evaluation of those factors adding to the cost or effort of transactions.⁴ Already by 1908, Charles Conant highlighted the need to consider factors that impeded economic processes:

It should not be forgotten that economic science differs in essential respects from the physical sciences. In those sciences we find forces which work according to fixed laws. Even in them we find the effect of those, laws mitigated or offset by friction and opposing forces.⁵

Historians have begun to explore the impact of institutions such as systems of measurement, political alliances, long-distance communication, taxes, tolls, and informal brigandage, among other factors, in increasing or decreasing the ‘distance’ between transactors.⁶ Network theories have enhanced our understanding of connectivity,⁷ and sophisticated ways of modelling ancient travel are increasingly being compared with patterns in the archaeological record. Other factors, not least information asymmetry, also slow or impede transactions. Texts, especially papyri but also stone inscriptions, shed some light on the changing transactional friction caused by such uncertainties.

The papers in this panel session brought archaeological evidence together with written sources to explore the impact of social, economic, political, and geographic friction in ancient economies. Mark Lawall’s paper (published here) led off with the archaeological evidence for late Archaic and Classical shipping through the Hellespont. The socio-political friction created both by ‘external’ forces, especially Athenian imperial policies, and ‘internal’ forces, especially the changing interests of non-Greek elites in the Pontic region. Kristian Göransson (also published here) focused on evidence for trade involving Cyrenaica – the western periphery of Egypt, the eastern fringe of the Punic world and the southern neighbour of the Peloponnese. Jennifer Gates-Foster’s paper examined the commercial and social impact of at least two layers of controlled or limited access, first to Egypt itself and from there into the Eastern Desert. Sitta von Reden’s paper took

the examination of this general region one step further and examined how, in specific terms, the Roman imperial system managed and facilitated commerce over the Eastern Desert.⁸ The final paper, by Roberta Tomber, (published here) extended the study out beyond the commonly perceived limits of the Classical World, to the Indian Ocean and India. Quantitative data from within the Mediterranean are compared with this more far-flung region to pinpoint the effects of friction on especially long-distance movement of goods.⁹

Notes

¹ For a more general discussion of the relationship between the two disciplines, see Hall 2014.

² Davies 2018.

³ E.g. Manning 2018.

⁴ North 1990.

⁵ Conant 1908, 104.

⁶ Scheidel et al. 2007; Bang 2009a and b; Verboven 2015; Dross-Krüpe et al. 2016.

⁷ Leidwanger – Knappett 2018.

⁸ Cf. also Seland 2016.

⁹ See now also Cobb 2017.

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Friction in Aegean-Pontic Trade: Transport Amphoras, Geography and Economy (Late 6th through 4th Centuries BC)

Mark L. Lawall

When the dominant paradigm of studies of the ancient economy shifted at the turn of the century into what some called the post-Finley era, the entire tenor of the field seemed to become much more optimistic. The paradigm of New Institutional Economics, which emerged to dominate studies of ancient Mediterranean economies in the early 2000s, itself has a decidedly optimistic tone. Societies develop institutions to reduce the costs of doing business, hence improving economic performance. Peter Bang sounded a more pessimistic note and was dismissed as a neo-primitivist.¹ But I found myself quite attracted by his attention to the basic fact that there were major problems with ancient economies, and systems developed around these problems.

The assertion that ancient economies had problems is hardly new. Modern economies have problems. Indeed, one of Douglass North's overarching questions was why some economic systems are so successful while others fail.²

Archaeology can help document and explain such historical trajectories. My particular focus is on the Hellespont and the Bosphorus as a zone of friction or bottleneck.³ The nature of this friction changed over time in terms of directionality, who was most affected and how, and responses to changing circumstances. Much of the work on Aegean-Pontic interaction has focused on the grain trade, Athenian foreign policy, and the economics of taxation on goods passing between the two regions.⁴ The present paper turns the attention to the archaeological evidence. My particular focus is on the shipping of transport amphoras through the region from the late 6th through 4th centuries BC.

The selection of the Hellespont in tandem with transport amphoras is particularly fitting on many levels but also brings certain challenges. More than a century of intensive research on transport amphoras in the Pontic region means that the amphora record there is well-known.⁵ This long and rich tradition of Pontic 'amphorology' developed largely in parallel with research in the Aegean world, and yet linguistic, economic, and political barriers have all limited the extent to which the Aegean amphora record is studied in comparison with the Pontic and vice versa. In a sense such a gap in the scholarship is justified by the one pattern that has been noted in the Aegean vis à vis Pontic amphoras: they rarely appear in the Aegean basin. Ships brought amphora-borne products from the Aegean into the Black Sea in great quantity. Those ships returned to the Aegean with grain, fish, hides, and other goods all, presumably, in perishable containers. Another seemingly common commodity – enslaved peoples – required no containers at all. Did Pontic wine producers – assuming wine comprised the bulk of the goods in Pontic amphoras⁶ – know they could not compete with Aegean goods?

Aegean-based shipping brought coals to Newcastle (wine to Thasos) all the time. Why not add Pontic amphora-borne goods to the mix?

The question has been asked before. Examining the distribution of Sinopean stamped handles in particular, Garlan posits that Sinopean wine and oil lacked the necessary reputation for broader Aegean or Mediterranean distribution while Sinopean processed fish and miltos may have been the more likely goods driving the sparse record of distant exports.⁷ Lund emphasizes the much greater scale of non-amphora-borne goods filling the ships headed out into the Aegean.⁸ Lund is certainly right to emphasize that amphoras do not show the whole picture. And yet, questions remain as to how and why such a trade imbalance developed, and why Pontic amphora production rose to such prominence locally but never on an 'international' scale.

Basic geography surely plays some role. Distance, currents, prevailing winds, and topography, all shape economic behavior. The counterclockwise currents in both western and the eastern halves of the Black Sea create a two-way path north and south between Crimea and the Turkish coast, but travel from the Bosphoros northwards has to work against that current. That route, however, does work reasonably well for ships sailing across the prevailing winds moving from east to west.⁹ These conditions, however, remain stable throughout the centuries under consideration here. Human behavior is never so stable.

This paper begins by surveying and discussing major trends in amphora circulation in the Pontic region from the late 6th through 4th centuries BC. This survey highlights changes in evenness, both in terms of the relative frequencies of the different amphora types and in terms of the geography of distribution, as well as changes in elite, often non-Greek elite, interest in access to amphora-borne goods. The development of intensive amphora stamping by Heraclea Pontica, as one of the first Greek amphora producers to use stamping on a large scale, can be better understood against the socio-economic conditions established in part by the existence of the bottleneck at the Hellespont. And yet, these conditions were not simply the result of external (Aegean Greek) interests; the social structures that shaped amphora distribution within the Pontic region likely contributed to limiting long-distance exports of those Pontic jars.

Late 6th Century BC

Following the early establishment and growth of Greek settlement along the coasts of the Black Sea from the late 7th century, amphora imports are especially common by the second half of the 6th century. The most common types are those of the region of Lesbos, Chios, Clazomenae, and further south into Ionia.¹⁰ This latter presence, surely involving Miletos and Samos but likely many other producers are well, is easily reconciled with later sources' descriptions of Milesian colonizing expeditions to the region. If, as some argue, this tradition only attests to trade and informal settlement (as opposed to corpo-

rate, coordinated ventures of colonization),¹¹ nevertheless the presence of East Greek amphoras in the Black Sea fits well with the wide distribution of Ionian goods throughout the Archaic Mediterranean. More surprising is the limited range of imported types from the North Aegean. One type, the so-called Protothasian or profiled toe type, is fairly common at Pontic sites. A second northern type, the wedge-rim type, which is far more common around the late Archaic Aegean, rarely appears at Pontic sites. Other more distant Aegean exporters, such as Corinth, western Greece and Attica, are also scarce at Pontic sites. While geography alone might explain the rarity of such distant imports as those from Corinth or Athens, such an explanation fails to account for the apparent exclusion of much north Aegean traffic.

Two other features of the late Archaic record of amphora traffic into the Black Sea bear emphasis. First, there appears to be some diversity in the frequency of different types seen as one moves from site to site.¹² Chian might most common at one site, but only second or third ranked at another. Second, the urban settlement sites themselves were the primary consumers of amphora imports in the late Archaic period. The jars are not yet part of elite funerary display. The diversity of import patterns from site to site together with the apparent exclusion of certain Aegean exporters (apart from those perhaps with ties to Ionia) may indicate a significant role for prior social connections between Ionian exporters and Ionian-origin Pontic importers.¹³ These social paths could have fostered a situation of increasing returns for those early participants whose success laid down advantages for their followers. At the same time, a lack of such connections made entry costs insurmountable.¹⁴

5th Century

Precisely those social ties that underpinned late Archaic trade were ruptured, first, by the hostilities between Persians and Greeks along the coast of Asia Minor and across the Aegean in the early 5th century and, later, by the Athenian assertion of political hegemony over much of the Aegean.

Changes to the record of amphora imports to the Black Sea and other aspects of the Pontic archaeological record may be closely linked with these political and military events. Ionian imports decline; northern Aegean imports rise. This shift is difficult to divorce from the destructions and abandonments of those Ionian centers such as Miletos and Clazomenae that had played such significant roles in late Archaic trade. By contrast, northern Greek production now played an increasing role in eastbound shipping by merchants seeking return shipments of grain for Athens. Locally within the Pontic region, after an initial consolidation of settlements and abandonment of rural sites, there is a general growth across the region in the later 5th century. Interestingly, from site to site the amphora record is now much more consistent. At the same time, there is an increasing interest among rural elites, presumed to be non-Greek, in placing Greek

amphoras in their monumental tombs.¹⁵ Finally, at the very end of the 5th or more likely the first decade of the 4th century, local production within the Pontic region emerges at Heraclea Pontica on the south coast.¹⁶

Athenian and other Aegean states' interests in Pontic grain and northern Aegean timber and metals are well known. The Hellespont was not only a key highway for Athens' food supply but also a source of revenue from taxes and tolls.¹⁷ Grain ships financed from Athens were required to return to Piraeus,¹⁸ so Athens further constrained merchants' choices. The identity of cargoes and merchants – whether from within or outside the Delian leagues – became important through the 5th century.¹⁹ Both Athenians and all other members of the League had obligations involving cash, so there was further incentive to convert all manner of goods to cash through the market. Athenian interests, in other words, spurred on development of the economic systems of the 5th century. This high level of government intervention in Aegean economies had the effect of making the economic system more impersonal, less socially grounded; though personal connections and interests in personal status remained in play.

This is certainly the impression one gets from the patterns of imports at Pontic sites. There is now far greater consistency from site to site implying that once ships entered the region, all sites had roughly equal access to the goods and all goods were being marketed through the same systems and opportunities. 'Whom you knew' no longer mattered as much as what you could pay in the marketplace.²⁰

The rise of local production early in the 4th century can be explained by this change in the processes of transactions. If access to amphora-borne goods was now much more dependent on fulfilling the cost demands of the importing merchants, then local production could hope to undercut the Aegean importers' costs. After all, Heracleian exporters did not have either the same costs of distance and risk or the more tangible costs of tolls through the Hellespont. Friction imposed largely by Athenian interests now created a favorable setting for entry into market by producers within the Black Sea. That same friction likely kept Heracleian goods largely within the Pontic region.

4th Century

The 4th century was in many ways the high-water mark for the Pontic amphora trade. While Athenian hegemony waxed and waned through the century, Athenian financial and administrative resources were still very much aimed at facilitating Athenian food supplies, including at times, grain and other goods from the Black Sea.²¹ Northern Aegean amphoras, most noticeably those of Thasos, continued to be major component to the imported record alongside jars from Chios. Southeastern Aegean amphoras began to reappear in the late 5th century and were now also significant components to the imported assemblage. Heracleian production was joined by Sinopean production in the early 4th century and Chersonesan towards the end of the century.

Two major changes arise in this period. First, the consistency of amphora frequency patterns between sites declines again. This shift raises the possibility that once again different goods were moving through more idiosyncratic markets. Second, local elites were now at the peak of their interest in amphoras as part of the funerary ritual. Elite feasting, too, likely made routine use of such demonstrable access to Greek wealth and hence increased the indigenous consumption of these goods beyond what is most readily visible in the burial tumuli. Over the course of the first half of the 4th century, burial assemblages are strikingly consistent in the dominant presence of Heracleean amphoras with rare Thasian additions.²² While there are exceptions to this tendency, only around 350 BC and later do we see greater diversity in the amphora types consumed in this way. By the end of the century, the tumulus assemblages show a much wider range of amphora types including more southern Aegean types alongside various Pontic and north Aegean producers. Settlement assemblages, whether urban or rural, are always more diverse.

The elite preference for Heracleean amphoras could be explained in one of two ways. On the one hand, Heracleean products may have been cheaper, by whatever criteria the contents of such jars were assigned prices, and the supply line may have been more reliable. On the other hand, these elites may have developed, over the course of the 5th century, closer social connections with Heracleean suppliers as opposed to Aegean-based shippers. If so, the Heracleean jars would be moving through a different marketing system than were the Aegean-origin cargoes. The latter explanation seems more likely. Were we dealing simply with a matter of price and accessibility, settlement assemblages as well as the tumuli would all show similar assemblage profiles as they had in the 5th century.

I argued earlier that the diversity of assemblage profiles in the late Archaic period was indicative of socially embedded exchange partnerships. It is worth considering whether the same circumstances returned, at least to some degree, in the 4th century. Certainly, as Athenian political and economic clout within the Aegean waned, the Athenians themselves extended formal, socio-political links into the Black Sea rewarding those who could provide secure supplies of grain.²³

The Amphoras Themselves

The same rise of Heracleean production in the late 5th and especially 4th centuries, which so radically redefined Pontic shipping, was accompanied by new institutions. Heraclea was among the first producers to use a marking system that names the ‘fabricant’.²⁴ The precise roles or responsibilities of this named person are not certain.²⁵ We know from later Heracleean and other cities’ stamps that these persons (elsewhere they could be women) held their position for multiple years. Garlan and others have proposed that the person was associated with the city’s fiscal interests somehow associated with am-

phoras. The person may have been involved with the management of workshops much as choregoi managed dramatic productions or trierarchs managed triremes. This latter model would offload some portion of the transformation or production costs to wealthy 'volunteers' and reduce such costs for the producer. If the fabricant was somehow involved in the collection of tax, then the transformation costs and the ultimate sellers' costs might rise, but the polis itself would benefit. Either way, the new scale of amphora production attracted the organizational abilities of the polis and new institutions developed.

As far as can be known, Heraclea had at most one prototype or model for its system of stamping, Thasos. Other contemporary amphora producers, whose practices were surely known at Heraclea, had not developed the same systems. Mende offers the closest parallel. Carefully painted dipinti on the shoulder or neck record what appear to be initials or abbreviations, though the meaning of these diverse markings has never been determined. Stamps on the handles can include images related to Mendean coinage or single letters, never names in the late 5th century and only a very few different letters. These markings may have served the same administrative function as Heracleian stamps, but the very few 'variables' indicated by the Mendean stamps and the complexity of the dipinti make it hard to equate the two systems. Mendean stamps and others of the same period identify ethnicity in ways that are not seen in the Heracleian stamps. It is tempting to link Aegean 5th-century stamping identifying point of origin with a commercial environment, dominated by Athenian regulations, where such identity mattered. When Thasos introduced amphora stamps on a consistent basis, perhaps only a very few years before Heraclea (some even argue Heraclea was the leader in this area), we see a combination of Aegean and Pontic approaches. Thasian stamps list the fabricant and the eponym but also the ethnic. While maintaining the Aegean need to avoid friction related to point of origin, Thasos also adopted the broader system of either reducing transformation costs or increasing civic revenue from that increase in production just as Heraclea had done.

The Effects of Friction

One of the key distinctions between traditional economics and economic history is the latter's interest in change, not simply change in scale of one variable or another, but changes in the very rules of the game. The old approach to ancient economies sought to define the specific rules as a static set. The more optimistic approach, as I characterized our field's current situation, seeks the changing rules and the changing ways the players used those rules. Rules, however, include limitations; and those limitations can have profound effects.

In this paper I have considered the impact of personal or social connections on both late 6th century and perhaps even 4th century shipping through the Hellespont and

around the Pontic region. Cataclysmic events of the early 5th century changed the rules of the game and increased the costs of doing business through the Hellespont such that large scale localized production within the Pontic region became economically viable. Alongside that opportunity, however, came added costs of production that were lowered either through liturgical service or through some sort of civic management – whether directly or indirectly related to the amphoras themselves – paid for through taxation. That institutional solution within the Pontic region itself then influenced significant change in the Aegean basin as systems there grappled with a different set of constraints.

Notes

¹ Bang 2006; cf. Silver 2009.

² North 1990, 8 f.

³ Archibald 2013, 242.

⁴ E.g. Braund 2007; Gabrielsen 2007; Moreno 2007; Tsatskhladze 2008; Bresson 2016, 410 f.

⁵ Monachov – Kuznetsova 2017.

⁶ Lawall 2011; Panagou 2016.

⁷ Garlan 2007, 147.

⁸ Lund 2007, 190.

⁹ King 2004, 16; Gabrielsen 2007, 299 f.

¹⁰ On the amphora types discussed here, see Dupont 1998; Monachov 2003.

¹¹ Osborne 1998, 2008; Greaves 2007.

¹² Throughout this paper, the trends discussed are based on the figures provided by Monachov – Kuznetsova 2017.

¹³ Lawall 2017, 302.

¹⁴ Lagerholm – Malmberg 2009, esp. 88 f.

¹⁵ Problems of ethnicity and Pontic sites including burials, see Pedersen 2010.

¹⁶ Balabanov et al. 2016, 53–93; Monachov 2003, 123–144, for the amphora typology.

¹⁷ Gabrielsen 2007.

¹⁸ [Dem] 35.50–51, Bresson 2016, 315 f.

¹⁹ Pébarthe 1999, 2000.

²⁰ Hirth 1998.

²¹ Braund (2007) and Tsatskhladze (2008) both contrast the situation in the 4th century with that of the 6th and 5th centuries.

²² Monachov 1999.

²³ Moreno 2007.

²⁴ On Thasian chronology, see Tzochev 2016. Kac 2003 argues for Heracleian stamping of fabricants as starting before 400 BC; cf. Balabanov, Garlan and Avram 2016, 89.

²⁵ Garlan 2013, 218. 252–263. 267.

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Cyrenaica and the Neighbours: Evidence of Trade and Absence of Evidence

Kristian Göransson

Introduction

Several Greek cities along the Cyrenaican coast, such as Apollonia, Taucheira and Euesperides, flourished as important nodes in long-distance maritime trade with the rest of the Greek world. But what were the commercial contacts with the Cyrenaican cities' immediate neighbours, Tripolitania and Egypt, like? Excavations in Cyrenaica have yielded a fair amount of Punic material but what about Egypt? Did Cyrenaica import commodities from Egypt, and if so what was such a trade made up of? How did the markets operate and what might have been traded in return from Cyrenaica to its eastern and western neighbours? This paper aims at investigating the sources – texts as well as archaeology – available from the Archaic to the Hellenistic period in an attempt to answer these questions. The period studied ranges from the Archaic to the Hellenistic period with a focus on the 4th and 3rd centuries BC. It will, admittedly, be a sketchy overview with selected examples of evidence of trade, but I hope to be able to raise some questions for discussion and points of departure for future research.

The current political situation in Libya has sadly made fieldwork come almost to a complete halt. The archaeological evidence on which this article is based comes to a disproportionate extent from the excavations of the westernmost of the Greek cities in Cyrenaica, Euesperides (Benghazi). The excavations were conducted between 1999 and 2007 by the Society for Libyan Studies, under the direction of Andrew Wilson, Paul Bennett and Ahmed Buzaian. Preliminary reports were published every year in *Libyan Studies*,¹ and two doctoral theses were written based on the substantial quantified pottery assemblage from the site.² Therefore a lot is known about the economic life of this city thanks to a much more detailed analysis of relative proportions of different kinds of imported and locally produced pottery than what has been done elsewhere in the region.

Background

To set the scene very briefly, Cyrene was founded by Greeks from Thera on an plateau of the Jebel Akhdar, 25 km from the sea, and this event is traditionally dated to 631 BC.³ The city was a kingdom ruled by the Battiad dynasty, named after the *oikistes*, king Battus I. Later in the seventh and early sixth centuries other Greek settlements were founded throughout Cyrenaica: Taucheira, Euesperides and Barce. Excellent arable land on the plains around Cyrene and Barce made Cyrenaica a major producer and exporter

of grain. However, the most famous export commodity – and probably the most valuable – was *silphion*, a giant fennel known in Latin as *silphium*. The plant grew wild in Cyrenaica only. Its fruit and resin were used for culinary and medical purposes and the Cyrenaicans considered it the gift of Apollo. Silphium features prominently on the coins of Cyrene. Herodotus notes that silphium grew all the way to the mouth of the Syrtic Gulf in the west,⁴ probably on the lower escarpments of the Jebel Akhdar. Attempts to cultivate silphium had failed, and gradually it became rare until, in the time of emperor Nero, it became extinct.⁵

Cyrenaica and Egypt

The Western Desert separates Cyrenaica from Egypt and it should be stressed that communications overland are anything but easy. Likewise, communications in an east-west or west-east direction by sea are also difficult due to the prevailing north-westerly wind, which makes sailing along the North African coast a very risky business. Sailing eastwards from Cyrenaica one would risk being driven on-shore and sailing westwards from Alexandria one would have to sail straight into the prevailing wind.⁶

The historical sources have quite a lot to say about contacts between Cyrenaica and Egypt and in the following we shall turn our attention to this. Herodotus writes that the Greek expansion in Cyrenaica seriously worried the native Libyans and sparked them to invite the Egyptians for help against the Greeks. In 570 BC Apries sent an army to Libya, but he was defeated. Diplomacy proved a better way for both Egyptians and Greeks when Amasis (or Ahmose) II (569–526 BC), the successor of Apries, married the Cyrenaean princess Ladikè, daughter of Battus II and sent dedications to Cyrene: “a gilt image of Athena and a painted picture of himself”.⁷

The stability between Cyrene and Egypt did not last long: in 525 BC the Persians took Egypt and in order to avoid an invasion the leading Cyrenaican cities, Cyrene and Barce, submitted to the Persians. Trouble within the royal family as well as between the nobles of Cyrene and Barce escalated. As king Arcesilas III was murdered in Barce by Cyrenaean enemies, the Persian governor of Egypt marched into Cyrenaica in 515 BC, capturing Barce and reaching as far west as Euesperides. The reign of Arcesilas IV, the last king of Cyrene, also ended violently with his murder at Euesperides in c. 440 BC after which followed an aristocratic and later a republican form of government in Cyrene.⁸

Alexander the Great came to Egypt and met Cyrenean ambassadors at Siwa in 332 BC and they offered him their support and loyalty. Diodorus⁹ describes how in the 320s the Spartan adventurer Thibron invaded Cyrenaica with 7000 mercenaries and tried to create a kingdom for himself there. Euesperides and Barce sided with him. War on a large scale between Thibron and Cyrene followed. In this war Cyrene was aided by Libyan tribesmen as well as Carthaginians, but they could not stop Thibron from laying siege to Cyrene. Cyrenaean exiles had pleaded with Ptolemy in Alexandria to come to the city’s

aid. Ptolemy took advantage of this excellent opportunity to invade Cyrenaica and sent the Macedonian general Ophellas to Cyrene with an army which defeated, captured and executed Thibron.

Around 300 BC Magas, the stepson of Ptolemy, was appointed governor of Cyrenaica. Magas ruled for almost fifty years and styled himself king, *basileus*, rather than governor. In doing so Magas can be said to have restored the Cyrenaean kingdom after more than a century of republican rule. Magas remained loyal to Ptolemy, but this changed when his half-brother Ptolemy II Philadelphus ascended the throne. From c. 282 BC Magas was in revolt against Ptolemy II for around twenty years until 261 BC when he was reconciled with Ptolemy II, and left more or less independent. A statue of Ptolemy was set up in the temple of Apollo in Cyrene confirming the reconciliation between the two kings.¹⁰

At the end of his life Magas (who died c. 250 BC) betrothed his daughter Berenice to the future Ptolemy III Euergetes to secure the continuation of his kingdom in Cyrene. Ptolemy III was installed as governor of Cyrene beside his future bride. His accession to the throne in 246 BC was soon followed by the wedding. As Ptolemy embarked on the Third Syrian War (246–245 BC) Berenice was left to rule. At that time she refounded Euesperides under the royal name of Berenice. She was hailed as *basilissa* on coins and she administered affairs in Alexandria. Cyrenaica was now controlled directly by the Ptolemies in Alexandria. During the rule of Ptolemy III, Cyrene declined somewhat, Barce even more and Euesperides was completely abandoned in favour of the new city Berenice.¹¹

Another Ptolemaic city foundation in Cyrenaica is Ptolemais, which was probably founded already by Ptolemy I.¹² Mueller, building on Fraser, says that the interest of the Ptolemies may have lain even further westward and Ptolemais may have been built with the intention of creating a city that could support a continuous westward expansion and become the capital of Ptolemaic Cyrenaica.¹³ Cyrenaica functioned effectively as a buffer zone for Ptolemaic Egypt. The new settlements in Cyrenaica were perhaps part of a defence line which would protect Egypt from Carthage.¹⁴ This way they would also control incoming trade in Cyrenaica.¹⁵

The Ptolemies' need for increased revenue led to more extensive and more intensive agricultural exploitation in the Early Ptolemaic Period.¹⁶ Ptolemy II's expansion into the deserts and the Red Sea coast shows that southern Egypt and the roads out to the coast, and through the oases in the west, were vital to the interests of the early Ptolemaic state. It has been suggested by several scholars that control of the trans-Saharan trade routes was one of the main reasons for the Ptolemaic interest in Cyrenaica, and thus a reason for founding new settlements there.¹⁷

Caravan Trade and the Sahara

Trade routes across the Sahara linked Egypt with the Fazzan where the Garamantes lived. Is there a Cyrenaican connection in this trade? Perhaps some trade went from Awjila or al-Jaghbug up to Cyrene and the coastal settlements like Ptolemais? These are difficult questions to answer, but surveys and excavations in the Libyan Fazzan,¹⁸ demonstrate that contact between the Mediterranean coast and the Libyan Sahara existed from the fourth century BC to the sixth or seventh century AD, with a period of particularly intense contact from the late first century AD onwards when there is something like a regular caravan trade.¹⁹ Much of this data is too late for the topic of this paper, but there may well have been trade in what Mattingly calls the Proto-Urban Garamantian period (500–1 BC).²⁰

The Punic West

We will now turn to the west, to the Punic world, and begin by looking at the results of the study of the amphorae from the excavations at Euesperides. Amphorae from the Punic world were identified as coming primarily from Tunisia, Tripolitania and western Sicily, but also from the Iberian peninsula and the Straits of Gibraltar. The Punic amphorae make up 5% of the quantified amphora assemblage.²¹ Before the publication of the results from Euesperides, the general view had been that trade between Cyrenaica and Tripolitania was limited. The Syrtic Gulf constituted a natural barrier due to treacherous shallows, dangerous currents and its inhospitable land. The pottery from Euesperides made it possible to establish the level of Punic trade with Cyrenaica. Not only are 5% of the amphorae Punic, but 15% of the coarse wares from the site are Punic imports.²² The archaeological finds speak clearly of established, inter-regional trading activities between the Punic world and Cyrenaica.²³

A war broke out *c.* 380 BC between Barce and Cyrene on the one hand and Carthage on the other. Wilson thinks the conflict centred on the trade across the Syrtic Gulf or along its shores.²⁴ The peace treaty of 340 BC settled the frontier between Greek and Punic territories. It is interesting to note that precisely from this period, the mid-fourth century BC, trade in Euesperides seems to intensify and extend westwards. Wilson has pointed out that this is contemporary with the first issues of bronze coinage in Cyrenaica (325 BC) and that the introduction of small change transformed the way coinage could be used and facilitated commerce at every level.²⁵

The emerging picture when one looks at the combined archaeological evidence from Euesperides, is that there was extensive trade between Cyrenaica and the Punic world in the fourth and third centuries BC. In the city which succeeded Euesperides, Berenice, the proportion of Punic imports is noticeably lower than at Euesperides a hundred years earlier.²⁶ I agree with Wilson that this reflects “the increasing orientation

of North African trade towards Italy and the western Mediterranean in the aftermath of the Punic Wars, and Rome's emergence as the dominant power in the central Mediterranean."²⁷

Exports from Cyrenaica

The main export from Cyrenaica would have been grain, but as previously mentioned silphium was the most famous and most valuable commodity. Silphium very likely grew on the pre-desert steppe south of the coastal cities including Euesperides. After the picking of the plants any refinement of silphium could be done in the cities. Theophrastus mentions the mixing of silphium with brine before the produce was shipped in pottery jars.²⁸ Silphium was also shipped in bundles as shown on the famous Arcesilas cup,²⁹ where the king of Cyrene oversees the weighing and loading of silphium.³⁰ Elsewhere I have put forward the idea that it is tempting to think that one or several of the Cyrenaican amphora types was used for the export of silphium derivatives.³¹ The kings of Cyrene had a strong interest in silphium and the selling of it was a royal monopoly. From a passage in Strabo we are told that silphium was illicitly traded from Cyrenaica to Carthage from where it was shipped all over the known world.³² Wilson has suggested that this trade may have gone via Euesperides, given its location as the westernmost city of Cyrenaica.³³

Purple dye production was another important component in the economy of Euesperides.³⁴ The archaeological finds indicate a well-organized, large scale industrial activity involving a high degree of specialized labour. This must also have encompassed the surrounding *chora* of Euesperides and the interaction with the semi-nomadic, pastoralist economies of the Libyan tribes, who presumably supplied the city with the wool used in this textile industry. The ready textiles may have been exported.

Cyrene was famous for its horses and we know for example from Diodorus that Alexander received 300 horses and five four-horse chariots from the ambassadors he met at Siwa.³⁵

Rostovtzeff notes that Ptolemaic Egypt relied on horses from elsewhere, including Cyrenaica.³⁶

Conclusions

To sum up, one could say that quite a lot of information is available in the written sources on Egyptian meddling in Cyrenaican affairs, but that there is no archaeological evidence of trade. Is this surprising? Did trade between Egypt and Cyrenaica exist? If so, what was traded? Prevailing wind conditions in Cyrenaica encouraged sailing north to south or south to north rather than east to west or west to east. The Western Desert

separates Egypt from Cyrenaica, but some of the goods carried along the caravan trade routes from the Red Sea and Egypt may have reached the Greek cities in Cyrenaica.

For the Punic West and its interaction with Cyrenaica the situation is the opposite; we have very little information from the sources, but we do have archaeological evidence of extensive trade in the fourth and third centuries BC. This evidence comes from Euesperides, the city which lay closest to Tripolitania and may not be representative of Cyrenaica as a whole.

The ceramic evidence demonstrate that trade took place despite difficulties such as the treacherous waters and sandbanks of the Syrtic Gulf, and the prevailing north-westerly wind. Most of the trade in perishable goods has left no traces and one can only speculate and suggest more or less plausible hypotheses of what was traded. A more productive way forward, to my mind, would be a careful examination of pottery at sites in Egypt and the Punic west, which might lead to the identification of Cyrenaican pottery there. This might in turn shed more light on possible economic contacts between areas that are so close, but yet seem so isolated from one another.

Notes

¹ See Bennett et al. 2000; Wilson et al. 1999; 2001; 2002; 2003; 2004; 2005; 2006.

² K. P. Swift's 2005 DPhil thesis from University of Oxford looked at the coarse wares (Swift 2005) while K. Göransson's 2007 PhD thesis from Lund University looked at the transport amphorae (Göransson 2007). Zimi 2019 gives a good overview of the total ceramic assemblage from Euesperides.

³ For the foundation of Cyrene see Hdt. 4.150–158. A good overview of the Greek settlement in Libya can be found in Austin 2008.

⁴ Hdt. 4.169. See also Strabo 17.3.22.

⁵ Plin. NH 19.39.

⁶ Fulford 1989, 171.

⁷ Hdt. 2.181–182.

⁸ For a detailed account see Chamoux 1953, 205–206.

⁹ Diod. Sic. 18.19–20.

¹⁰ See van Oppen 2015, 8–9 for a very detailed scrutiny of the sources and discussion of the chronology.

¹¹ See Göransson 2007, 28 for more on the historical events described here in brief with references.

¹² Mueller 2006, 145.

¹³ Fraser 1972 I, 63 and Mueller 2006, 145.

¹⁴ Hölbl 2001; Gill 2016, 155.

¹⁵ Manning 2010, 106.

¹⁶ Thompson 2008, 35.

¹⁷ Gill 2016 with ref. to Hölbl 2001, 18; Huss 2001, 103–104.

¹⁸ E.g. Mattingly 2003.

¹⁹ Wilson 2017.

- ²⁰ Mattingly 2003, 248–249.
- ²¹ Göransson 2007, 174–192.
- ²² Swift 2005.
- ²³ Göransson 2007, 220. See also the discussion in Zimi 2019.
- ²⁴ Wilson 2013, 137.
- ²⁵ Wilson 2013, 153–154.
- ²⁶ Riley 1979, 112–236 and discussion in Göransson 2007, 220–222.
- ²⁷ Wilson 2013, 155. See also Göransson 2013 on Italian imports at Euesperides and Berenice.
- ²⁸ Theophr. Hist. Pl. 6.3.1–6.
- ²⁹ This Laconian vase found at Vulci is displayed in the Cabinet des médailles of the Bibliothèque nationale de France in Paris.
- ³⁰ For the contrasting view that wool and not silphium is being weighed, see Applebaum 1979, 19, building on Lane 1933/1934 and Benton 1959. See Göransson 2007, 218–219 for a more detailed discussion on silphium.
- ³¹ Göransson 2007, 219.
- ³² Strabo 17.20.
- ³³ Wilson, pers. comm.
- ³⁴ See Wilson and Tébar Megías 2008 on the production of purple dye at Euesperides.
- ³⁵ Diod. Sic. 17.49.2–3.
- ³⁶ Rostovtzeff 1941, 293.

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Trade beyond the Empire: the Quantification of Roman Amphorae and the Implications for Indo-Mediterranean Trade

Roberta Tomber

Indo-Mediterranean trade has provoked scholarly interest for over a century with a strong emphasis on documentary evidence, particularly the 1st century AD documents, the *Periplus of the Erythraean Sea* and Pliny's *Natural Histories*. Excavations at port sites on the Egyptian Red Sea, in South Arabia and in India have now provided widespread archaeological evidence to investigate these exchange systems in a more nuanced way.

This case study examines Roman amphorae from Indian Ocean sites, briefly comparing assemblages from the Egyptian Red Sea, South Arabia and India with Mediterranean sites in order to better understand the underlying mechanisms of this trade. Arguably the least important of the exchange items, in a trade that was fuelled particularly by spices, amphorae take on significance given their visibility and widespread distribution.

Quantitative comparisons between the Indian Ocean and Mediterranean provide a method to better understand the distribution of amphorae outside the Roman world, and the mechanisms behind these networks. Like any quantitative study, assemblage comparisons must consider factors including identification biases, varying methods of quantification and site/deposit function. These, and even slight differences in chronology, can all be significant.

Early Roman amphorae – primarily Dressel 2–4 for wine – have been identified from seventeen sites in India. These amphorae, clustered around ports, catered for Western residents and local elites. The *Periplus* suggests a local market existed for the latter,¹ with barter another likely mechanism for their distribution. Two Indian assemblages are quantitatively significant although comprising only a small percentage of the total pottery on site: over 6000 amphora sherds were recovered from the Kerala Council for Historical Research excavations at Muziris (Pattanam) conducted by PJ Cherian;² c. 580 are published from various campaigns at Poduke (Arikamedu), including most recently those of Vimala Begley.³ This widespread presence of Dressel 2–4 from all Indian assemblages raises the question of whether this shape was particularly selected for India.

Comparison with a variety of Mediterranean sites demonstrates that between the late first century BC into the second century AD, Dressel 2–4 consistently dominates, not only in India, but frequently at Mediterranean sites,⁴ at the Egyptian ports and in South Arabia. A more refined question, therefore, first raised by Will in her study of Arikamedu,⁵ is whether specific sources of wine in Dressel 2–4 amphorae were selected for India and the Eastern trade; Will concluded a bias of Koan wine at Arikamedu was due to a preference in taste.

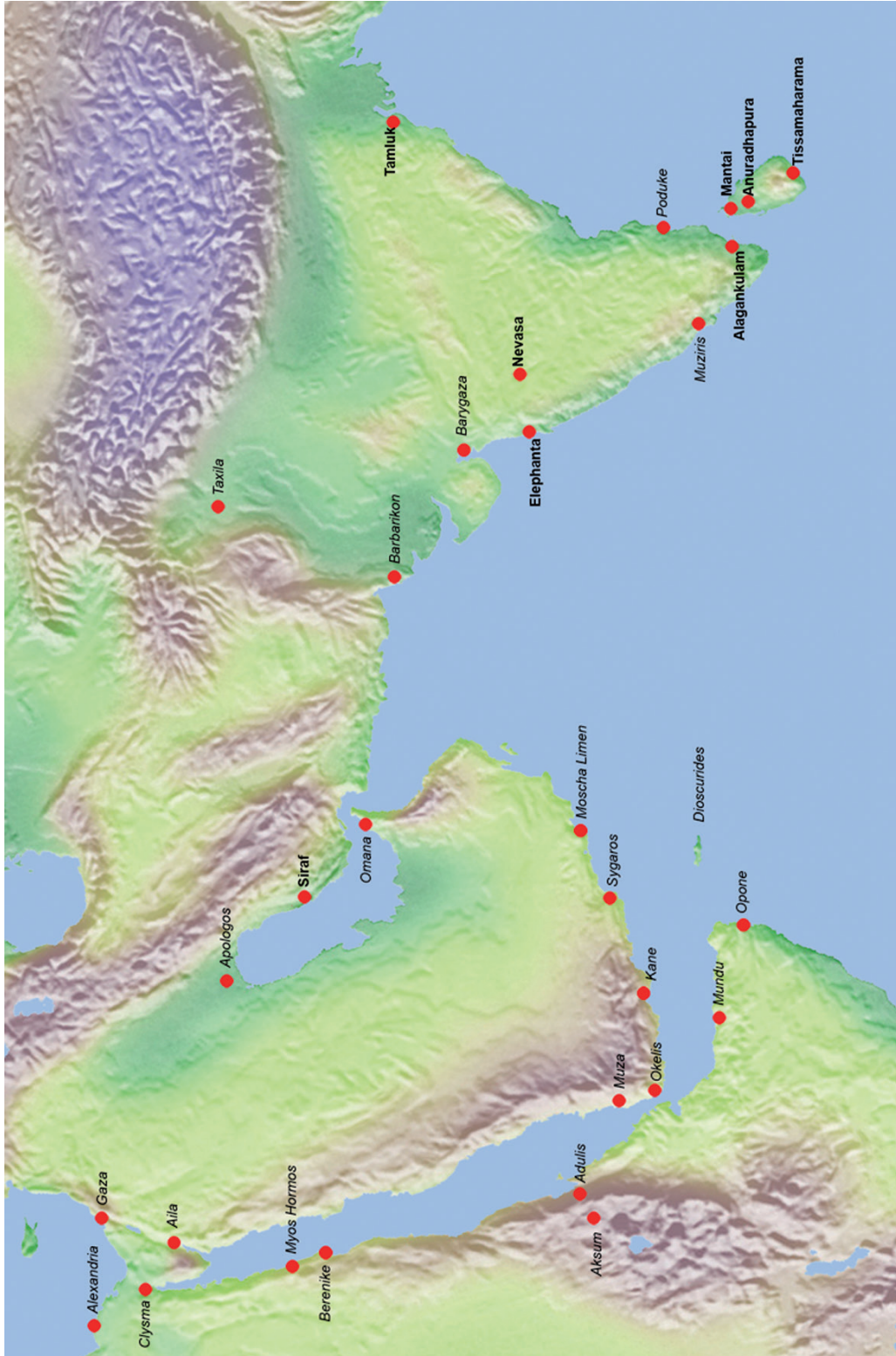


Fig. 1: Key Indian Ocean ports with Greek names in italics.

Although there are localised differences, Italy (Tyrrhenia, sometimes specifically Campania or Vesuvius), is normally the most common source of Dressel 2–4 from Myos Hormos, Berenike,⁶ Moscha Limen (Khor Rori)⁷ and Pattanam;⁸ only from Arikamedu⁹ are Dressel 2–4 from Kos more common.

Within the Roman world, distance from source and proximity are important in determining the distribution of amphorae. Beyond the Roman Empire, geographical restraints may be less significant and social distance more so. The variety of amphora sources present in Alexandria were available for cargoes to India. While there are many correspondences between the types found in Alexandria and India, Şenol has noted that Italian Dressel 2–4 are generally poorly represented at Alexandria, despite their importance in India.¹⁰

Inscriptions from the Eastern Desert of Egypt, from Wadi Hammamet on the route leading to Myos Hormos and in Wādi Menih on the route to Berenike, provide insight into this pattern. Five Italian individuals or groups are documented.¹¹ At Wādi Menih, merchants from Puteoli and Capua have left graffiti that illustrate the participation of Campanians in Eastern trade. Their main interest would have been in the more lucrative items they imported from India; nevertheless, these individuals may well have also carried wine from their own region. Connections between merchants from specific regions seemed to have played a determining role in the distribution of goods to the East. Whether the dominance of Koan amphorae from Arikamedu suggests a special connection with merchants from that region, rather than a preference in taste, is a possibility.

In conclusion, Dressel 2–4 amphorae clearly were not specifically selected for India, following a pan-Mediterranean trend, but there is a strong argument that the activity of individuals, from specific regions, was a major determinant in the types of wine exported to India, illustrating the importance of social networks in pottery supply.

Notes

¹ Casson 1989, 81, PME48.

² e.g., Cherian 2015.

³ Will 1996; 2004.

⁴ e.g. Moore 2010.

⁵ Will 2004.

⁶ e.g., Tomber 1999, 125 tab. 5-1.

⁷ Tomber 2017.

⁸ Tomber 2015.

⁹ Will 1996; 2004.

¹⁰ Şenol 2007, 62.

¹¹ Tchernia 1997; De Romanis 1996a; 1996b.

Image Credits

Fig. 1: A. Simpson.

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Tolls and Ancient Economies

Panel 5.2

Organized by

Gabriele Cifani – Julien Zurbach

Handelsprotektionismus im römischen Kaiserreich?

Peter Kritzinger

Über Gestalt, Aufgabe und Funktionsweise der Außengrenzen des römischen Reiches werden bis heute kontroverse Diskussionen geführt. Blickt man auf die Genese dieser Diskussionen, stellt man fest, dass nahezu jede Generation von Wissenschaftlern abhängig von den jeweils prägenden zeitgenössischen Ereignissen unterschiedliche Fragen an die relevanten Quellen herangetragen. Nicht zuletzt unter dem Eindruck des allgemeinen Grenzabbaus in der westlichen Welt war das Konzept linearer und weitgehend impermeabler Grenzen auch für die Antike unpassend geworden. An seine Stelle trat seit den 1980er Jahren zunehmend das Konzept der „Grenzräume“ oder „borderregions“.¹

Seit den dramatischen Ereignissen welthistorischen Ausmaßes vor allem in Syrien und Nord- und Zentralafrika, als deren Folge seit etwa 2013 eine steigende Anzahl von Flüchtlingen entlang der Balkanroute oder über das Mittelmeer vor allem nach Zentraleuropa zu gelangen versuchten, erfolgte in Gesellschaft und Politik schrittweise ein erneuter Paradigmenwechsel. Immer lauter wird der Ruf nach der Installation einer „europäischen Außengrenze“. Vor diesem unseren gemeinsamen Erfahrungshorizont will ich in meinen Ausführungen der allgemeinen Frage nachgehen, wie Rom seine Außengrenzen gestaltet hat. Und konkret: Wie durchlässig waren die Grenzen für den Handel und inwieweit ist man berechtigt, von Handelsprotektionismus zu sprechen.²

Den literarischen Quellen ist zu entnehmen, dass den antiken Zeitgenossen die prinzipiellen Mechanismen einer Handelsbilanz bekannt waren. Plinius der Ältere weist etwa in der *naturalis historiae* darauf hin, dass der Außenhandel mit Indien und China dem römischen Reich jedes Jahr 100 Millionen Sesterzen ‚entziehe‘.³ Süffisant fügt er hinzu: „Soviel kosten uns Luxus und Frauen!“ Zudem berichtet Plinius an anderer Stelle, dass die importierten Luxuswaren in Rom für den hundertfachen Preis ihres Produktionswertes verkauft würden.⁴ Tacitus lässt Tiberius in dieselbe Kerbe hauen, wenn dieser in einem Schreiben an den Senat fragt: „Was soll ich denn als erstes zu verhindern oder auf das in der alten Zeit übliche Maß zurückzuführen versuchen? ... Jene besonderen Wünsche der Frauen, die dazu führen, dass um der Edelsteine willen ‚unser‘ Geld zu fremden oder gar feindlichen Völkern abwandert?“⁵

Allerdings ging es Rom vorrangig nicht um die relationale Vermehrung des ‚nationalen‘ Wohlstandes auf Kosten anderer Volkswirtschaften, sondern man fürchtete offenbar den Abfluss der eigenen, begrenzten Edelmetallvorräten, die in Form von Münzgeld die Grenzen des Reiches endgültig verließen.

Und so überrascht es nicht, dass selbst zentrale Entscheidungen der Politik von Überlegungen hinsichtlich des Außenhandels bestimmt wurden. Caesar etwa habe – so berichtet Strabo in einem viel zu wenig beachteten Passus – Britannien nur aus finanztechnischen Überlegungen nicht dauerhaft unterworfen, wobei vor allem der Außenzoll bei den Überlegungen eine wichtige Rolle spielte:⁶

Ferner schicken sie sich für die von dort nach Gallien eingeführten und von ebenda ausgeführten Waren ... in so schwere (Außen-)Zölle, dass die Insel gar keine Besatzung braucht. Es würde ja mindestens eine Legion und etwas Reiterei erfordern, um auch Steuern von ihnen einzutreiben, und die Kosten der Armee würden dem gegenwärtig erwirtschafteten Geld gleichkommen. Denn wenn man Steuern auferlegt, führt das zwangsläufig dazu, dass die (Außen-)Zölle abnehmen.

Für unsere Überlegungen sind die Begriffe $\tau\acute{o} \tau\acute{\epsilon}\lambda\omicron\varsigma$ und $\acute{o} \phi\acute{o}\rho\omicron\varsigma$ von besonderer Bedeutung. Obwohl die Sinngehalte der Begriffe sich überschneiden können, werden sie von Strabon jeweils in einer sehr spezifischen Bedeutung benutzt.⁷ Wie allein aus dem Kontext des zitierten Passus unschwer zu entnehmen ist, bezeichnet $\tau\acute{\epsilon}\lambda\omicron\varsigma$ den Außenzoll und $\phi\acute{o}\rho\omicron\varsigma$ die Steuereinnahmen auf Reichsgebiet.

Nimmt man Strabon ernst, so habe sich eine Eroberung Britanniens in finanzieller Hinsicht nicht gelohnt, da die zu erwartenden Einnahmen der Steuern – wozu aus administrativer Sicht wohl auch die Binnenzölle gezahlt wurden – durch die benötigte Besatzung aufgefressen würden. Erschwerend käme hinzu, dass die Zolleinnahmen entlang der bisherigen Außengrenze wegfallen würden. Kurzum: Offensichtlich unterlagen sowohl der Import als auch der Export in das römische Reich spätestens seit der ausgehenden Republik – wahrscheinlich jedoch bereits viel früher – besonderen Zollabgaben.

Interessant ist, dass man augenscheinlich die Einnahmen entlang der Außengrenze den zu erwartenden netto Einnahmen aus der Provinz Britannien entgegenstellte, wobei das Besatzungspersonal als maßgeblicher Posten aufgelistet wird. Die beiden Größen – Handelseinnahmen und militärische Kontrolle – stehen sich antithetisch gegenüber und sind als Rechnungsgrößen die gesamte Kaiserzeit hindurch belegt, sodass man sich fragt, wie sehr der Staat Import- und Exportgüter kontrollierte und regulierte.

Im Rheinischen Landesmuseum Bonn befindet sich eine Votivinschrift, die in der Forschung lange Zeit für kontroverse Diskussionen gesorgt hat, in der Zwischenzeit jedoch weitgehend in Vergessenheit geraten zu sein scheint:

*Matronis | Aufaniabus | M(arcus) Pompei{i}us | Potens conductor | XXXX Galliarum |
et portus Lirensis | l(ibens) m(erito)*

Der Unternehmer M. Pompeius Potens sammelte offenbar auf einem gewaltigen Territorium die Binnenzölle ein und reichte diese abzüglich seines persönlichen Verdienstes an Rom weiter.⁸

Der Grund für die herausragende Bedeutung dieser Inschrift liegt zum einen in der bis dato einzigen eindeutigen Nennung eines *conductor XL Galliarum* (für unsere Belange nebensächlich) und zum anderen in der – sieht man von zwei m. E. fälschlich ergänzten Inschriften ab – ebenfalls einzigen Nennung des *portus Lirensis*. Es stellt sich daher die Frage, was sich hinter der Bezeichnung verbirgt.

Der Begriff *portus Lirensis* wurde in der Forschung auf verschiedene Weise erklärt. Ohne an dieser Stelle auf die verschiedenen Erklärungen eingehen zu wollen, ist allgemein festzuhalten, dass eine zufriedenstellende Erklärung bis dato aussteht. Vor diesem Hintergrund ist eine juristische Begriffsdefinition Ulpians im 68. Buch zum Edikt von erheblicher Bedeutung. Der fragliche Text lautet:

„Portus“ appellatus est conclusus locus, quo importantur merces et inde exportantur: eaque nihilo minus statio est conclusa atque munita. Inde „angiportum“ dictum est.

„Portus“ wird ein geschlossener Ort genannt, in dem Waren importiert und auch exportiert werden: Und ebenfalls nicht weniger verschlossen und befestigt ist die *statio*. Daher wird sie auch *„angiportum“* genannt.

Diese eigenwillige Definition des Begriffes *„portus“* wurde in der Vergangenheit vielfach diskutiert, wobei man die Worte stets auf Häfen bezogen hat.⁹ Allerdings konnte der Vergleich zwischen einem Hafen und einer Station sowie der Bezeichnung der Station als *„Engstelle“* oder *„Gasse“* bisher keineswegs zufriedenstellend erklärt werden.

Vor diesem Hintergrund möchte ich einen archäologischen Befund in Porolissum vorstellen, wodurch sich eine alternative Deutung des Textes nahezu von selbst ergibt. Zwei Punkte sind der Betrachtung vorzuschicken:

Erstens ist festzuhalten, dass Rom fremde Händler nur unter äußerst restriktiven Auflagen die Außengrenzen passieren ließ. Als Beleg sei hier lediglich an ein bekanntes Ereignis erinnert: Als die Tenkterer im Jahre 69 die Ubier gegen die Römer einzunehmen trachteten, zählte ihr Gesandter einige Missstände auf. Unter anderem hätten die Römer den Zugang zu den Flüssen und Ländern gesperrt. Zudem sei es den Germanen nur gestattet, unbewaffnet und bewacht in die Colonia zu gelangen. Diese Übel müssten Ubier und Tenkterer gemeinsam beseitigen. Die gewiefte Antwort der Kölner wirft ein Schlaglicht auf die prinzipielle Organisation der römischen Grenzen:¹⁰

Zölle und *onera* im Handelsverkehr schaffen wir ab; den Rhein zu überschreiten, soll ohne Aufsicht möglich sein, freilich nur bei Tag und unbewaffnet, bis sich eben die neuen, ungewohnten Rechtsverhältnisse mit der Zeit eingebürgert haben.

Der Dialog mag erfunden sein; dennoch kann kaum ein Zweifel an der realitätsgetreuen Darstellung bestehen, denn Tacitus war über derlei Fragen bestens informiert, und es ist nicht zu erkennen, dass er an dieser Stelle etwa durch eine verzerrte Darstellung eigene Ziele verfolgte. Das heißt, dass es fremden Händlern grundsätzlich nur bei Tageslicht, und unbewaffnet erlaubt war, die Grenze zu überschreiten – in Krisenzeiten zudem unter Bewachung.

Zweitens war der Umschlag ausländischer Güter ausschließlich an dafür vorgesehenen Orten erlaubt. Um wiederum lediglich ein prominentes Beispiel anzuführen: Als

sich im Jahr 369 das Verhältnis Roms zu den Goten verschlechterte, wurde der Handel an der unteren Donau auf zwei Orte beschränkt, wie Themistios in seiner panegyrischen Rede mitteilt. Die Rede wurde vor dem Kaiser gehalten und konnte sich daher in diesem Punkt gewiss keine Unwahrheit erlauben.

Beiden Beispielen ließen sich jeweils problemlos weitere hinzufügen. Wir haben es also offenbar mit prinzipiellen Handlungsmustern römischer Grenzpolitik zu tun, wonach der Außenhandel an bestimmten Orten und zudem unter besonderer Kontrolle zu erfolgen hatte.

Vor diesem Hintergrund möchte ich nun den bereits angekündigten archäologische Befund auf dem Gebiet der römischen Siedlung Porolissum in der Provinz Dakien kurz vorstellen.¹¹ Der gesamte archäologische Komplex ist im Zuge einer archäologischen Kampagne unter Leitung Gudeas durch zwei lange und mehrere kleinere Schnitte teilweise ergraben (Abb. 1).¹² Vor allem aufgrund weiterführender Studien ist die herausragende wissenschaftliche Bedeutung des Fundplatzes heute allgemein anerkannt.

Die bisher festgestellten Strukturen lassen im äußersten Westen der Grabung eine relativ große Anlage in Spielkartenmuster (47 × 35 m) mit drei Türmen erkennen. Im Norden scheint die Umfassungsmauer integraler Teil der Außengrenze gewesen zu sein. An der östlichen Längsseite waren zwei Räume (6 × 5 m und 4 × 5 m) von außen direkt an die Umwehrung des Areals gleichsam angelehnt.¹³ Östlich dieser zwei Räume verlief eine Straße (grob gesprochen) von Norden nach Süden – also parallel zum soeben erwähnten Gebäudekomplex. Da dieser im Norden an den Limes stieß, ist zu schlussfolgern, dass die Straße durch ein Tor ins „Barbaricum“ führte. Das bedeutet, dass sich an dieser Stelle ein offizieller und gewiss auch bewachter Durchlass der römischen Außengrenze befand.

Wie vor allem der Fund von zwei Inschriften im südlich gelegenen, größeren ‚Annexraum‘ belegt, handelte es sich hierbei um eine Art Heiligtum, welches vor allem vom Zollpersonal genutzt wurde.¹⁴ Weitere Funde bestätigen diese Vermutung, weshalb man gefolgert hat, dass der kleinere Annexraum eine Zollstation gewesen sei.¹⁵

In der Tat drängt sich die Vermutung auf, dass es sich dabei um eine Art Wachstube für das Zollpersonal handelte, wie wir sie selbst heute noch in ähnlicher Form an Grenzübergängen beobachten können. Allerdings muss auch klar festgehalten werden, dass keiner der bisher archäologisch nachgewiesenen Räume den durch die *lex portorii Asiae* überlieferten Maßen einer Zollstation auch nur nahekommt.¹⁶ Daher ist m. E. die Schlussfolgerung Iacono Pisos, nämlich dass die eigentliche Zollstation auf der archäologisch noch nicht untersuchten östlichen Straßenseite zu erwarten ist, absolut einleuchtend.¹⁷ Aufgrund der Angaben in der *lex portorii Asiae* können wir uns mit der gebotenen Vorsicht sogar eine gewisse Vorstellung vom Äußeren der dort zu erwartenden Zollstation machen: Es dürfte sich demnach um einen Bau mit quadratischem Grundriss von rund 11,5 × 11,5 m (= ca. 40 × 40 Fuß) respektive 8,5 × 8,5 m (= ca. 30 × 30 Fuß) mit einer zusätzlichen Umzäunung gehandelt haben, die sich wohl mindestens 30 m von den anderen Gebäuden entfernt befand.¹⁸

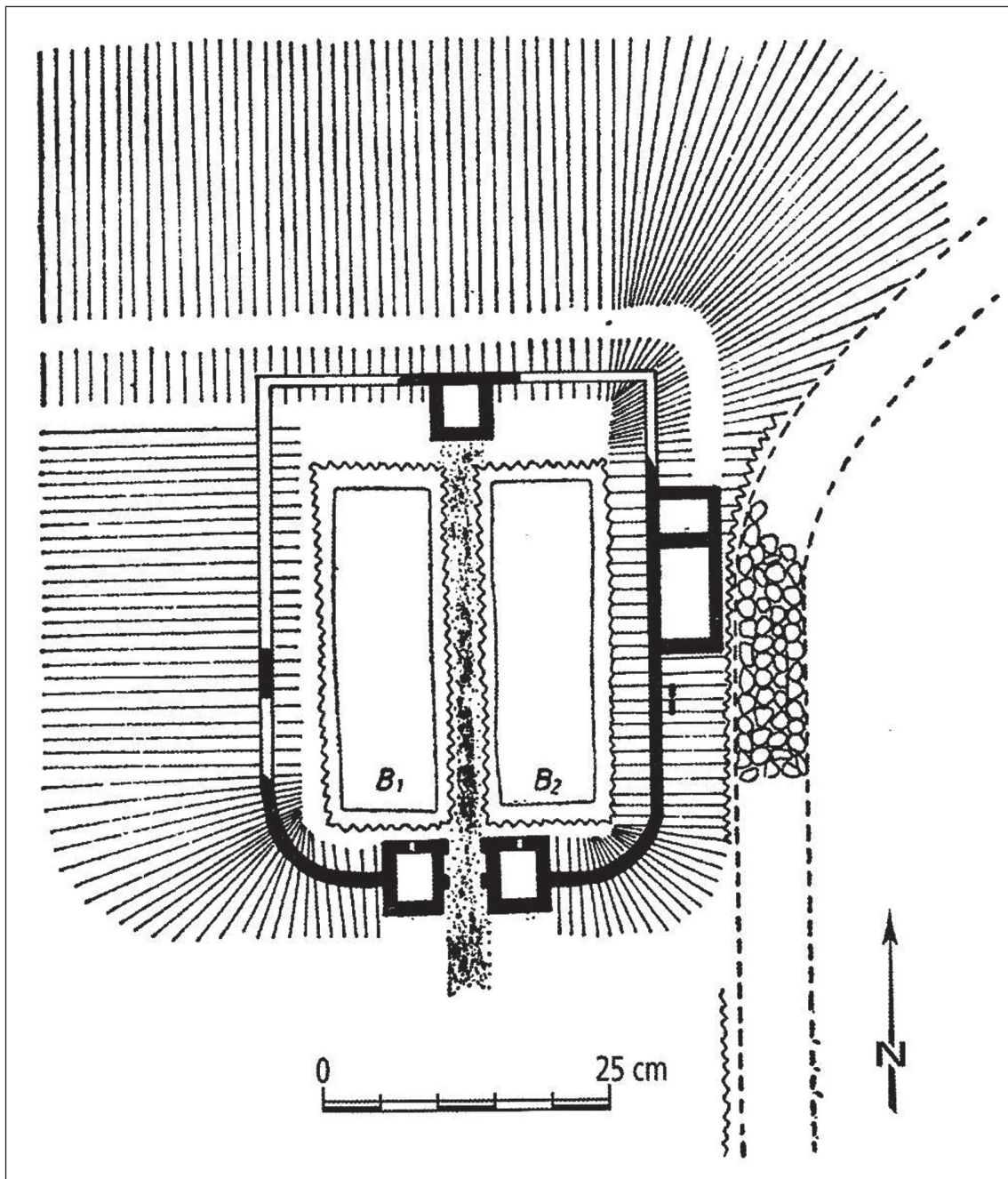


Abb. 1: Grabungsbefund nach N. Gudea.

Eine zentrale Frage bleibt im Zusammenhang mit dem Befund aus Porolissum bis heute umstritten. Kontrovers diskutiert wird nämlich, worum es sich bei dem befestigten Komplex handelte. Gemeinhin wird angenommen, dass es sich entweder um ein militärisches Kastell oder um eine Raststation des *cursus publicus* handelte.¹⁹ Ich möchte diesen Erklärungen nun eine weitere hinzufügen:

M.E. handelt es sich bei der Struktur um ein *commercium* oder *emporium*. Darauf deutet vor allem eine Inschrift aus dem bereits erwähnten kleinen Heiligtum hin, in der Commodus als *restitutor* des *commercium* genannt wird.²⁰ Denn da das fragliche *commercium* nicht näher definiert wird, muss es sich in unmittelbarer Nähe befunden haben. In Ermangelung an Alternativen darf man annehmen, dass das fragliche *commercium* also wohl Teil des bereits beschriebenen Gebäudekomplexes war.

Vor diesem Hintergrund möchte ich erneut die merkwürdige Definition Ulpian in Erinnerung rufen, die m. E. nicht auf einen Hafen *sensu stricto* zu beziehen ist, sondern vielmehr auf einen Handelsumschlagsplatz – also eben ein *commercium* oder *emporium* (vergleichbar „port of trade“). Offenbar zielt die Definition auf einen speziellen Typ von *commercium* ab – nämlich: „*quo importantur merces et inde exportantur*“. Zudem weisen diese ‚*portus*‘ eine weitere Eigentümlichkeit auf. Es handelte sich um „*loci conclusi*“. Durch diese Deutung würde auch der Sinn einer Inschrift aus Solva/Esztergom in der Provinz Pannonia superior aus dem Jahr 371 verständlich, in der vermerkt ist, dass auf kaiserliches Betreiben ein *burgus* geschaffen wurde, „*cui nomen commercium, qua causa et factus est*“.

Vor allem lässt sich aber der archäologisch nachgewiesene Gebäudekomplex (*locus conclusus*) als ein *portus* begreifen, wo die Waren aus dem Ausland überprüft und möglicherweise auch weiterverhandelt wurden. Zudem werden vor dem Hintergrund der Forderung in der *lex portorii Asiae*, Zollstationen müssten von einer Verteidigungsmauer umgeben sein, auch die folgenden Worte Ulpian begreiflich, wenn von den Stationen die Rede ist, die gleichfalls umwehrt seien. Die Worte Ulpian skizzieren die räumliche Situation, dass zwischen *portus* und *statio* die Straße hindurchführt, wofür sich in der Tat keine bessere Bezeichnung als *angiportum* finden lässt (Abb. 2).

Diese Worte finden sich eins-zu-eins umgesetzt in dem architektonischen Komplex in Porolissum. Wenn unsere Erklärung zutrifft, müsste dies zudem ein Art Standardensemble an Gebäuden darstellen, welches in ähnlicher Weise auch an weiteren Orten entlang der Außengrenzen zu erwarten ist. Und in der Tat: Betrachtet man die archäologischen Befunde diverser sogenannter „kleinerer Festungen“ (= *burgi* und/oder *turres*) entlang der Außengrenzen, so weisen etliche die soeben aufgezeigten Eigentümlichkeiten auf.²¹ Diese zu sammeln und die hier geäußerte These in systematischer Weise auf ihre Tauglichkeit hin zu überprüfen, muss einer anderen Studie vorbehalten bleiben.

Um abschließend auf die eingangs formulierten Fragen zurückzukommen: Wie durchlässig waren die Grenzen für den Handel und inwieweit ist man berechtigt, von Handelsprotektionismus zu sprechen.

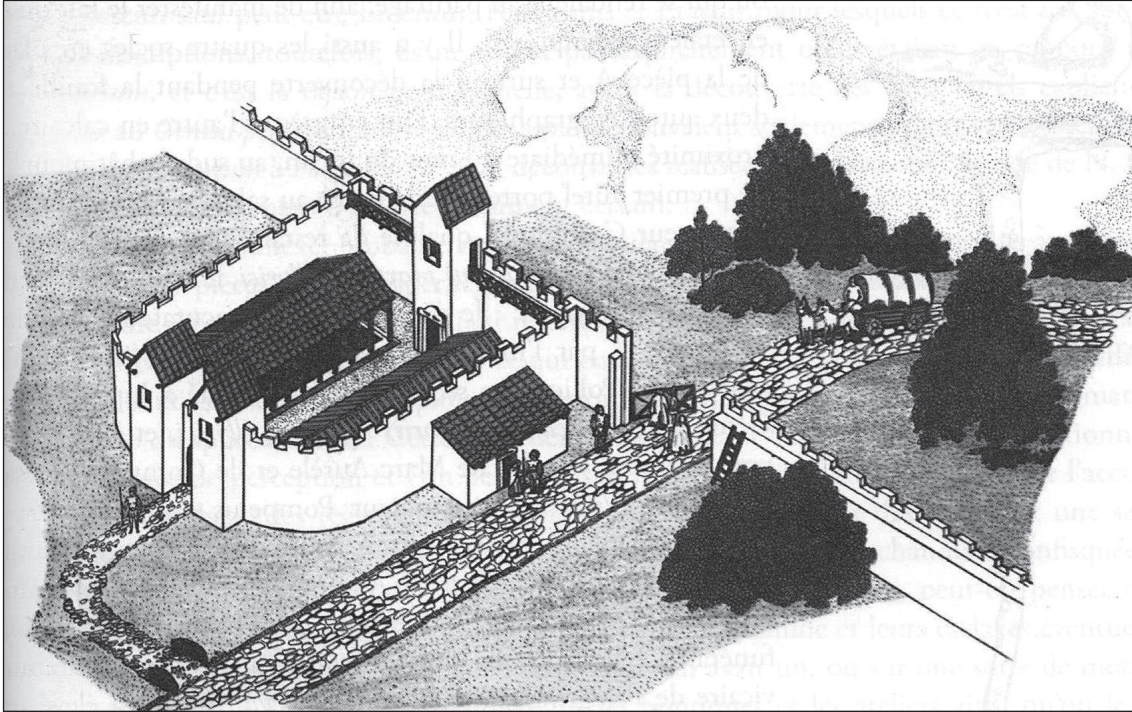


Abb. 2: Rekonstruktion nach N. Gudea.

Die Außengrenzen waren für den Handel durchaus durchlässig, allerdings wohl weit weniger als wir dies gemeinhin annehmen. Der Außenhandel war jedenfalls stark reglementiert und wurde massiv kontrolliert.

Der Grund dieser Restriktionen lag allerdings weniger in handelsstrategischen – Stichwort: Handelsprotektionismus etc. – als vielmehr in politisch-militärischen Überlegungen.

Anmerkungen

¹ Überblick bei Whittaker 2000, 293–296.

² Es sollen hier lediglich einige prominente Beispiele angeführt werden. Gegen einen Handelsprotektionismus spricht sich bspw. aus: de Laet 1949, 449, Anm. 2. Für eine Art Protektionismus spricht sich u. a. aus: Andreotti 1969, 223. 224. Für lokale Eigentümlichkeiten (vermittelnd) spricht sich u. a. aus: Vittinghoff 1953, 383. 384.

³ Plin. nat. 12, 84: *Verum Arabiae etiamnum felicius mare est: ex ilio namque margaritas mittit minimaque computatione miliens centena milia sestertium annis omnibus India et Seres et paeninsula illa imperio nostro adimunt.* Vgl. ebda 6, 101.

⁴ Plin. nat. 6, 101. Diese Angabe wurde m.E. zu Unrecht wiederholt angezweifelt. Vgl. etwa Plin. nat. 12, 64. 65 (den Weihrauchhandel betreffend).

⁵ Tac. ann. 3, 53, 4: *Quid enim primum prohibere et priscum ad morem recidere adgrediar? Villarumne infinita spatia? Familiarum numerum et nationes? Argenti et auri pondus? Aeris tabularumque miracula? Promiscas viris et feminis vestis atque illa feminarum propria, quis lapidum causa pecuniae nostrae ad externas aut hostilis gentis transferuntur?*

⁶ Strab. 4, 5, 3: τέλη τε οὕτως ὑπομένουσι βάρεια τῶν τε εἰσαγομένων εἰς τὴν Κελτικὴν ἐκεῖθεν καὶ τῶν ἐξαγομένων ἐνθένδε – ταῦτα δ' ἐστὶν ἐλεφάντινα ψάλια καὶ περιουχένια καὶ λυγγούρινα καὶ ὑαλᾶ σκευή καὶ ἄλλος ῥῶπος τοιοῦτος – ὥστε μηδὲν δεῖν φρουρᾶς τῆς νήσου· τοῦλάχιστον μὲν γὰρ ἐνὸς τάγματος χρήζοι ἄν καὶ ἰππικοῦ τινος, ὥστε καὶ φόρους ἀπάγεσθαι παρ' αὐτῶν, εἰς ἴσον δὲ καθίσταται ἄν τὸ ἀνάλωμα τῆ στρατιᾶ τοῖς προσφερομένοις χρήμασιν· ἀνάγκη γὰρ μειοῦσθαι τὰ τέλη φόρων ἐπιβαλλομένων, ἅμα δὲ καὶ κινδύνους ἀπαντᾶν τινὰς βίας ἐπαγομένης. Übers. nach Radt 2002, Bd. 1, 525–527. Zu λυγγούρια ders. 2006, Bd. 6, 469. Die hier relevanten Begriffe τέλη und φόρος bleiben unkommentiert.

⁷ Zu den Begriffen Kritzinger 2018, 89–145.

⁸ Allg. zum römischen Zollsystem Kritzinger 2015.

⁹ Zuletzt Flamerie de Lachapelle 2014, 113–116.

¹⁰ Tac. Hist. 4, 64,1. 2.

¹¹ Allg. zu Porolissum: Daicoviciu 1953, 265–270; Gudea – Lobüscher 2006.

¹² Gudea 1996, passim; Gudea – Lobüscher 2006, 51. Vgl. dazu die wichtigen Anmerkungen und Korrekturen bei Piso 2004/2005, 183; ders. 2016, 547. 548.; France – Nelis-Clément 2014, 199–204.

¹³ Allg. Gudea 1996, 141, Abb. 3; 413–416 u. ö.; Gudea – Lobüscher 2006, 51. Dazu auch die kritischen Bemerkungen von Piso 2004/2005, 183; ders. 2016, 547. 548.; France – Nelis-Clément 2014, 199–204.

¹⁴ So überzeugend Piso 2016, 547. 548. Vgl. France – Nelis-Clément 2014, 202. 203. Es handelt sich um folgende Inschriften: AE 1988, 977 = ILD 677 = CER 8, 507: *Pro salute | et victoria | Imp(eratoris) Caes(aris) [[M(arci)] | [[Aur(eli) Antonini] | [[Commodi P(ii) F(elicis)]] | Aug(usti) n(ostri) restitu|tori(s) commerc(ii) | et Genio p(ublici) p(ortorii) Illy|rici Cl(audius) Xenophon | proc(urator) Aug(usti) n(ostri) per | Marcion(em) et Pol(lionem) vil(icos)*. Bisher wurde „commerc“ stets zu „commerc(iorum)“ ergänzt. Da die Inschrift evident einen konkreten Bezug aufweist, ist der Begriff m.E. im Singular zu ergänzen. AE 1988, 978 = AE 1993, 1326 = AE 2005, 1289 = ILD 678 = CER 8, 508: *I(ovi) O(ptimo) M(aximo) | pro salute Imp(eratoris) M(arci) | Aurel(i) Antonini | Aug(usti) et [[Commod]i] | [[Caes(aris)]] et Genio p(ublici) p(ortorii) | vectigalis Illyr(ici) | procurante Pompe|io Longo proc(uratore) | Aug(usti) Felix eius vil(icus)*.

¹⁵ Es wurde ein Brandeisen, in der Form eines extrem grob geformten „P“ gefunden, von dem man annimmt, es hätte dazu gedient, jene Tiere zu markieren, die vom Zoll ausgenommen waren. So France – Nelis-Clément 2014, 20. 21. Man fragt sich, wie die Tiere nach mehrfachen Passieren der Grenze aussahen, über und über mit Brandmarkierungen entstellt. Daher steht m.E. eine plausible Erklärung der Funktion dieses Brandeisens noch aus und eine Verbindung zum Zoll kann auch nicht ohne Weiteres vorausgesetzt werden. Dazu de Laet 1949, 217. 218; Vittinghoff 1953, 368; France – Nelis-Clément 2014, 202. 203.

¹⁶ Lex port. Asiae § 13; 30.

¹⁷ Piso 2016, 547: „Der nördliche Raum allein scheint viel zu klein zu sein für das Verfahren, das in einem Zollamt durchzuführen war. Zudem scheint es sinnvoll, dass die Zollstation auf beide Seiten der Straße geteilt war, denn nur so konnte man den Eingang blockieren. Ein Teil der Zollstation befand sich also öst-

lich der Straße, wo keine Ausgrabungen durchgeführt wurden, während außerhalb der großen Mauer ein großer Warteplatz eingerichtet war.“

¹⁸ Lex port. Asiae § 30. In der lex port. Asiae § 14. 15 werden „größere“ und „kleinere“ Stationen genannt. Zudem werden zwei unterschiedliche Größen aufgelistet (§ 13; 30), sodass möglicherweise die „kleineren“ Stationen lediglich ca. 8,5 × 8,5 m (= 30 × 30 Fuß). Die Umzäunung der Station wird ebenfalls in lex port. Asiae § 13 gefordert.

¹⁹ Die extreme Randlage an der Grenze spricht m.E. eher gegen eine solch große Anlage für den *cursus publicus*. Jedenfalls würde dies der Vorstellung Vittinghoffs 1953, 356 entsprechen, wenn er schreibt: „Die Eigenart eines echten Grenzzolls zeigt sich darin, dass die Stationen wohl überall einen bewaffneten Schutz hatten, ohne dass damit wahrscheinlich die Zollerhebung in den Händen des römischen Heeres gelegen hätte.“ Siehe dazu France – Nelis-Clément 2014, 201 (Militär); Piso 2016, 547 (Benefiziarier oder eher *cursus publicus*).

²⁰ AE 1988, 977 = ILD 677 = CER 8, 507 (siehe oben).

²¹ Eine m.E. sinnvolle Differenzierung verschiedener Festungstypen hat Băjenaru 2010, 51–53 vorgelegt. Zudem Materialsammlung ebda 53–60; 161–169.

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Abb. 1: Gudea 1996, 142 Abb. 4. – Abb. 2: Gudea 1996, 142 Abb. 2.

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Distribution of Greek Vases

Panel 5.6

Change and Continuity in the Consumption of Attic Pottery in Cyrenaica in Classical Times: The Case of Euesperides

Eleni Zimi

The coastal cities of Cyrenaica and Tripolitania in north Africa (fig. 1) were significant importers of Attic pottery from the early 6th century BC until, at least, the first half of the 3rd century. The lack of studies, however, focusing on the volume of Attic pottery at individual sites in these regions over time makes its role into the process of trade and exchange in the Mediterranean world difficult to assess, and its meaning acquired in communities far away from the production centre rather obscure. This paper is a first step towards an evaluation of the Attic fine wares imported into this part of north Africa and aims to illuminate issues related to their consumption and distribution in the 5th and the 4th centuries BC.

My starting point will be the ceramic evidence from ancient Euesperides (mod. Benghazi in Libya, fig. 2) which derived from the excavations that took place between 1999 and 2007 at the site, under the joint auspices of the Society of Libyan Studies, London, and the Department of Antiquities in Libya.¹ This project inaugurated a fresh approach to the study of pottery, building upon the total quantification of all ceramic groups from the site – namely fine ware, coarse ware and trade amphorae – supported by targeted



Fig. 1: Map of the Mediterranean basin showing Greek and Punic sites in Cyrenaica and Tripolitania.

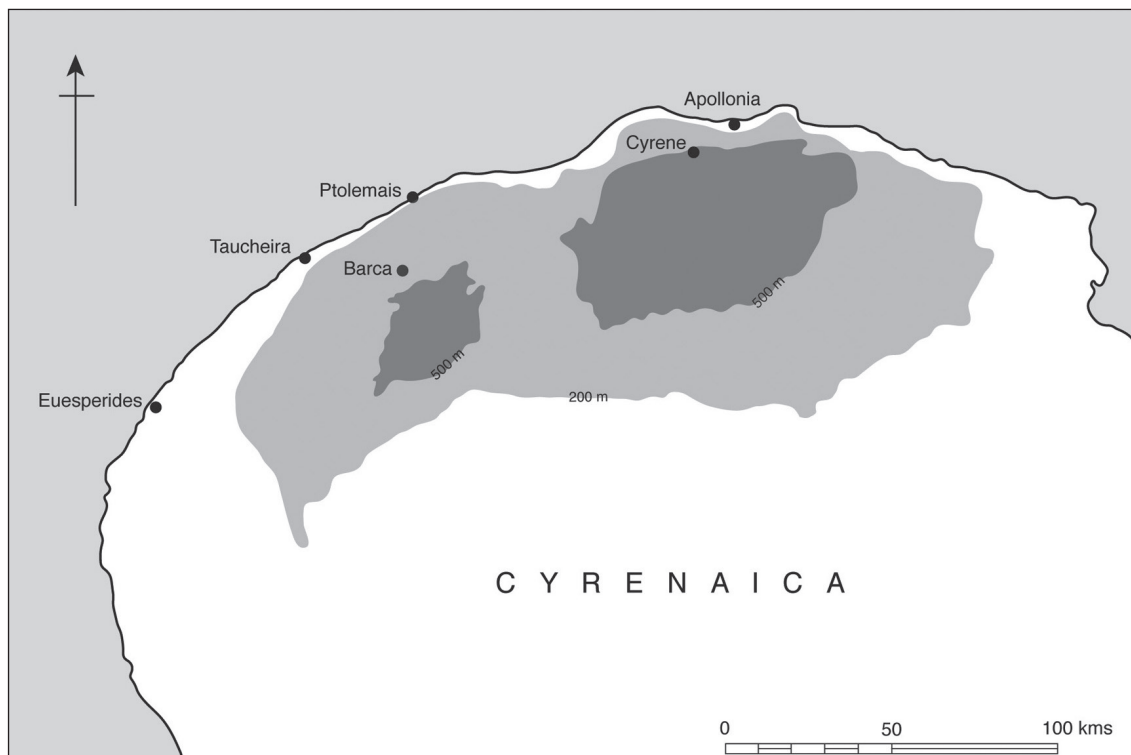


Fig. 2: Map of Cyrenaica with the Greek settlements.

clay scientific analysis, aimed at provenancing pottery, so as to use it as an indicator of intra- and extra-regional trade in other perishable goods.² This perspective could, eventually, contribute to a better understanding of the multiplicity of patterns of the city's economic behaviour, its integration into long-distance trading networks and its connectivity with the wider Mediterranean.

Euesperides is an ideal case study because it provides ceramic evidence from domestic assemblages, mostly well-stratified and, so far, missing from Cyrenaica and Tripolitania for the pre-Roman era where published Attic pottery has been recorded primarily from sanctuaries, mortuary deposits and public building complexes.³ Furthermore, Euesperides was a natural port providing easy access to the Mediterranean Sea (fig. 3), standing as it did at a vital crossroads of ancient maritime and land routes between the Greek, Punic and Italian worlds. Lastly, the site had no subsequent occupation and was not overlain by modern structures providing a secure *terminus ante quem* for the stratified material.⁴

Euesperides, on the outskirts of the modern city of Benghazi, was probably founded before 600 BC⁵ following the establishment of Cyrene prompted by the Delphic oracle which may have also encouraged further waves of settlers from across the Greek world to come to Cyrenaica.⁶ The settlement was boosted with newcomers during the time of Arcesilas IV in 462 BC⁷ and was eventually abandoned around 250 BC when

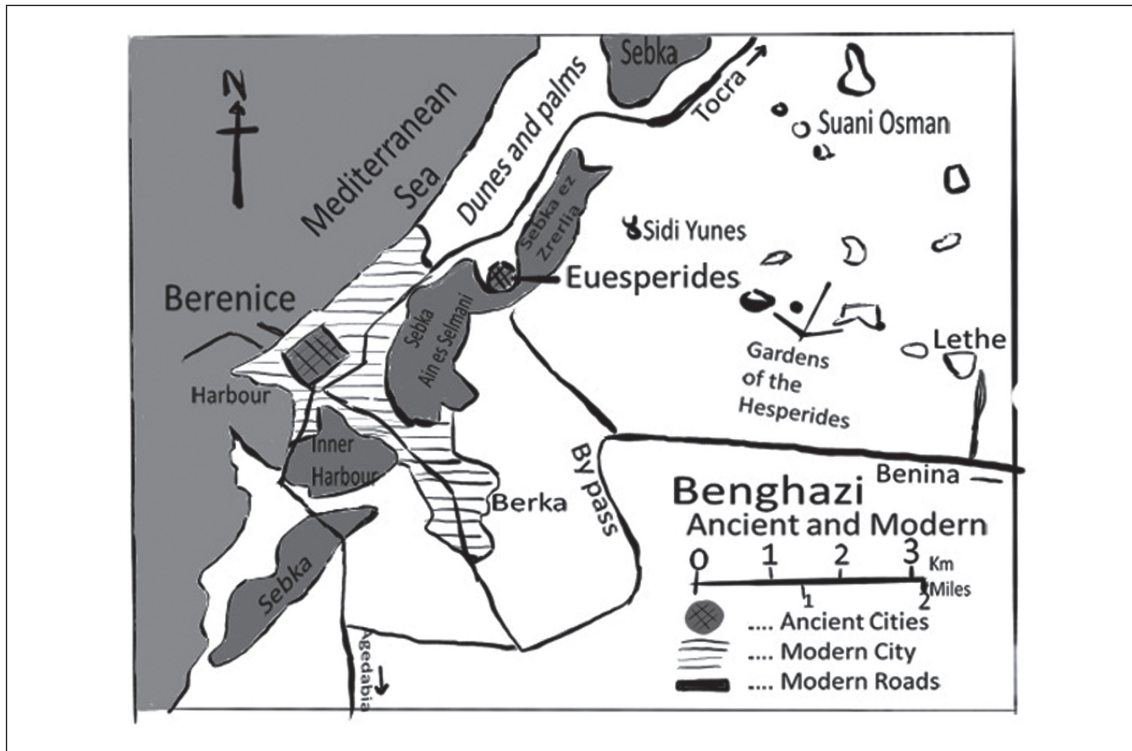


Fig. 3: Map of the region of Benghazi showing the location of ancient Euesperides.

the Ptolemies regained control of Cyrenaica.⁸ It is noteworthy that the population of Euesperides was a mix of people of different origins and from diverse cultural backgrounds, which constantly changed during the various phases of the city's life due to the influx of new settlers following political and military developments in the city itself or in the wider region of Cyrenaica and the Greek world.⁹ This population diversity and mobility combined with a considerable volume of trade that the Greek settlement of Euesperides developed with both the East and the West are reflected in the pluralism of the imported pottery from this site featuring imports from Cyrenaica, Greece, the Aegean, Cyprus, Italy, Sicily and the Punic north Africa.¹⁰

Attic pottery reached Euesperides in the first half of the 6th century and circulated for three centuries until the abandonment of the site. Over 7,000 fine ware fragments and nearly complete pots have been quantified from the excavations, of which c. 40% is Attic. Its wide distribution both in wealthy and poor households across the site dating to different phases of the city's life offers us every reason to assume that access to Attic imports was not at any time socially restricted.¹¹ A similar image emerges from the evidence of the Cyrene necropolis. Attic pots served as funerary offerings to burials of both distinguished and more humble people during the Classical period, and their basic shape range (i.e. the krater, pelike, oinochoe, hydria, lekane, skyphos, cup, conical cup, bowl, etc.)¹² is comparable to that from the domestic assemblages at Euesperides.

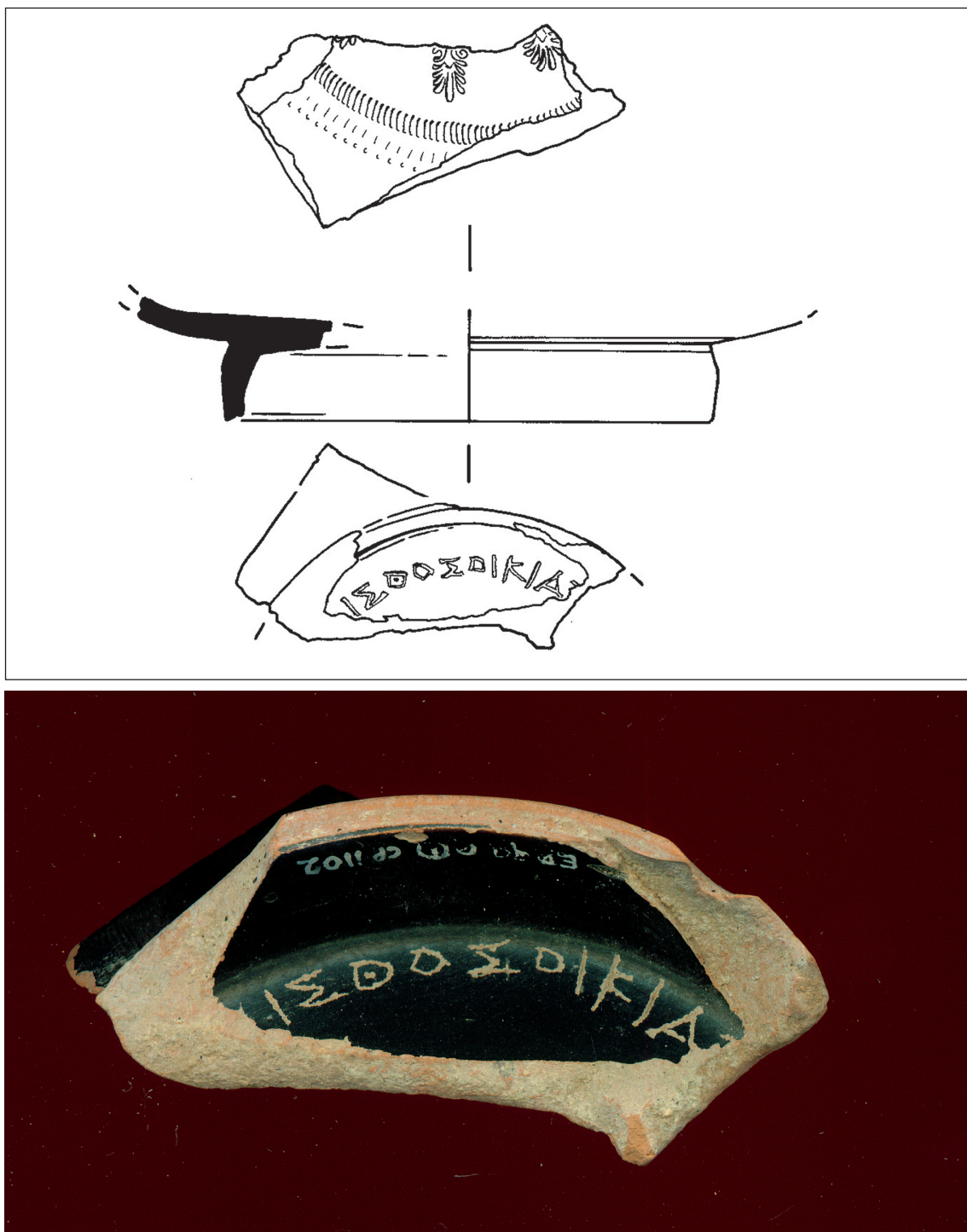


Fig. 4: a–b: Inscribed base of an Attic black-glazed bowl (diam. 8,8 cm; second quarter of the 4th century BC): graffito on the underside, palmettes and rouletting on the floor (Area Q, CP1102).

In the Classical times, the focus of Attic imports at Euesperides was upon drinking vessels for wine consumption, either during the symposium, or at any stage of a group dining. The fragmentary graffito preserved on the underside of a small bowl reading [...] $\Sigma\Theta\Theta\Sigma$ OIKIA [...] (fig. 4)¹³ may imply that borrowing of pots between neighbouring households during banquets was a common practice, and that the vessels were often inscribed with a name so as to be returned to their owner. It is therefore very likely that banqueting was an important social activity at Euesperides, and it is not surprising to find it also reflected in the grave offerings from the limited burial record from the site.¹⁴ Taking into account that Attic pots were travelling to Cyrenaica as part-cargo of a more significant volume of trade commodities (in amphorae, or not), merchants may have initially chosen them in the hope that they would be saleable in this region, or as ceramic products that could always find a market. Merchants built up knowledge about markets, nature of demands and customers' preferences as they travelled to different territories around ancient Mediterranean.¹⁵

In the fifth century BC, an increase of Attic pottery occurred at Euesperides during the second half the century. A closer look at the chart (fig. 5) demonstrates that among 5th-century Attic black-glazed ware, the majority dates between 425 to 400 BC. A similar pattern is observed for the contemporary red-figure Attic pots (fig. 6). If this is not coincidental and due to the fact that fewer contexts of the first half of the 5th century BC have been excavated, the boost in Attic imports may be linked with the flourishing of the city, following Arcesilas' 'refoundation' of Euesperides (c. 462 BC) after a time of political upheaval in Cyrenaica (see above p. 98 and note 7).¹⁶ Furthermore, the limited range of such imports during the first half of the 5th and even in part of the third quarter of the same century, complies with the sporadic occurrence of Attic black-glazed pottery that has been observed in other sites in Cyrenaica¹⁷ probably implying strong inter-connections between centre (Cyrene) and periphery. At Euesperides 5th-century Attic black-glazed pots outnumber the figured examples which count for only c. 4% by total

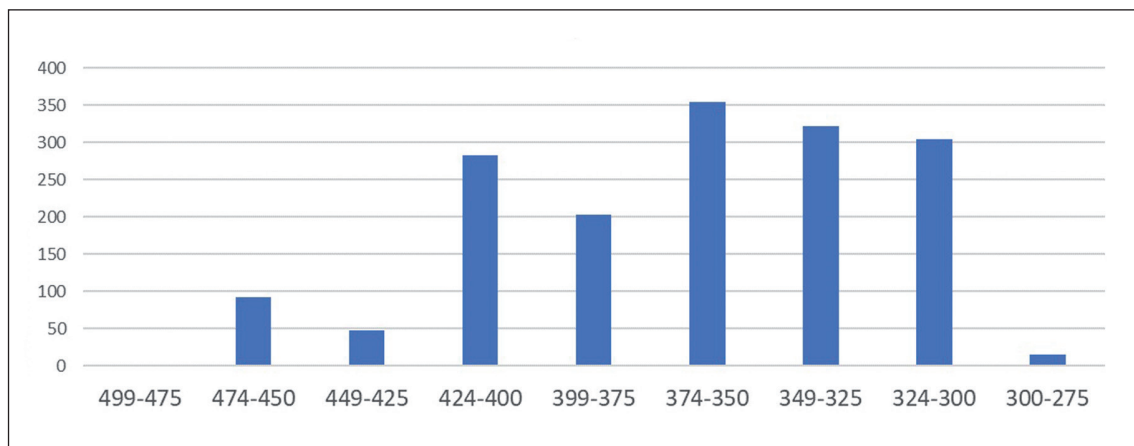


Fig. 5: Chronological distribution of Attic black-glaze imports at Euesperides.

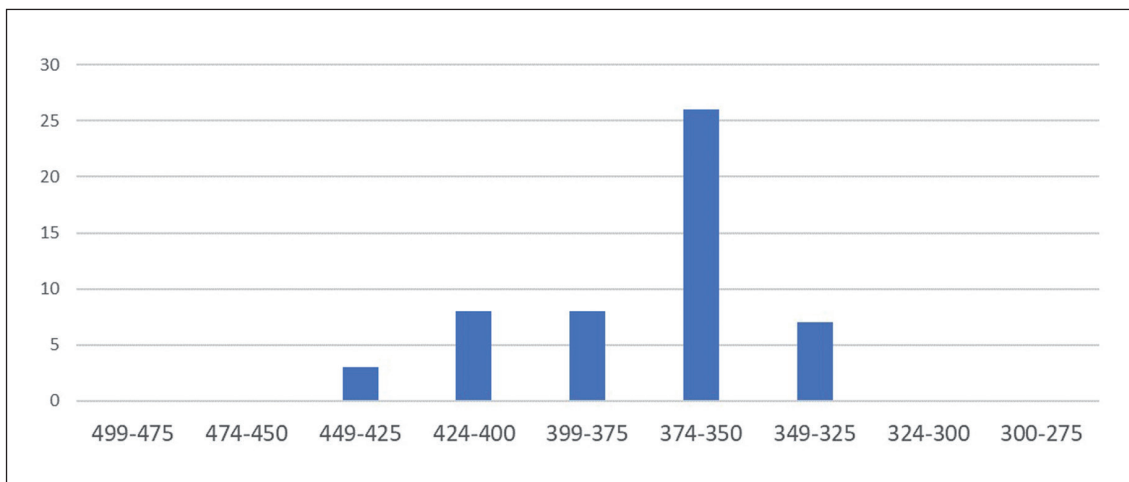


Fig. 6: Attic red-figure pottery from Euesperides by quarter of a century.

sherd count (RBHS); predominant forms include Attic A type skyphoi, kylikes – along with a few stemless cups with inset lip (the so-called ‘Castulo cups’), bolsal cups and lidded lekanides with the ribbon handles (fig. 7).

The occurrence of ‘Castulo cups’ at Euesperides (fig. 8) comprises the missing link in Shefton’s distribution map of this form¹⁸ which was one of the ‘most far-flung Attic pots of the 5th century BC’, widely distributed from the Atlantic to northern Black Sea, with its greatest concentration in southern Italy and the Iberian peninsula.¹⁹ ‘Castulo cups’ have been found at Punic sites in north Africa, such as Sabratha, Lepcis Magna and Carthage, but in Cyrenaica this type of cup is only, as yet, attested at Euesperides.²⁰

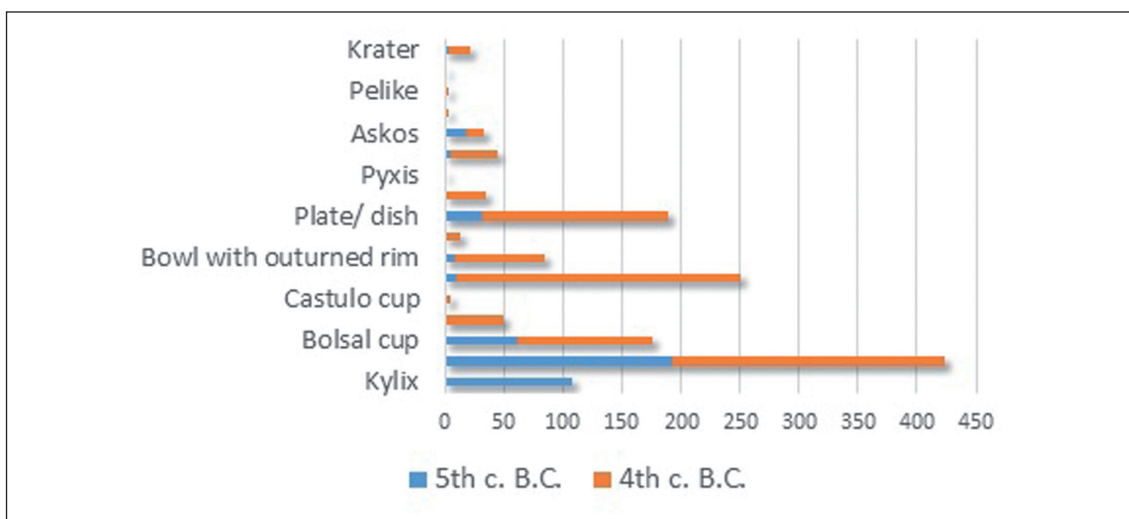


Fig. 7: Attic fine wares from Euesperides (5th–4th century BC) by shape.

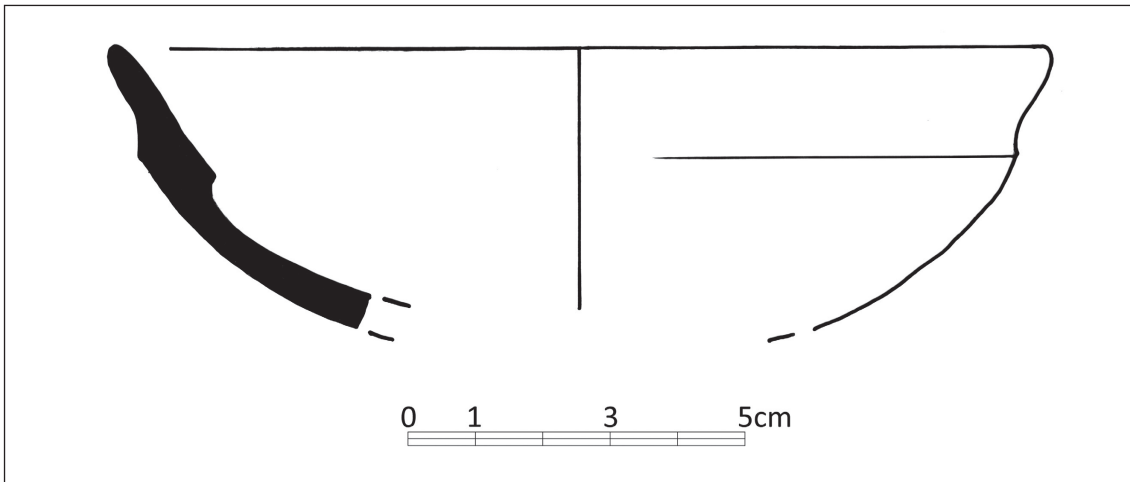


Fig. 8: Fragment of a 'Castulo cup' (Area Q, CP8227; diam. 13,9 cm; third quarter of the 5th century BC).

It is worth mentioning that the imported Attic fine ware from the Punic settlement at Sabratha in Tripolitania and from tombs excavated at Leptis Magna present a similar range of types to those from Euesperides. Skyphoi of the Attic type A and bolsals, by far the most prominent forms, as well as single examples of the 'Pheidias' mug, the Corinthian type skyphos, the one-handler and bowls with outturned rim have been included to the published corpus from Sabratha.²¹ Attic pottery at Sabratha has been compared to that of Al Mina in Syria and, to some extent, of Spina in the Adriatic, often raising claims among scholars about the role of the Phoenician merchants in the distribution of Attic pottery in the West during the 5th century.²² Furthermore, the excavations of the Punic graves under the stage building of the Roman theatre at Leptis Magna yielded, among other pottery finds, Attic black-glazed skyphoi and 'Castulo cups',²³ while Attic pottery from the Punic level (500–241 BC) of a public building at the northeast margin of the Old Forum included 5th-century stemmed and stemless kylikes and skyphoi of the Corinthian form.²⁴ The repertoire of Attic fine wares imported in other sites in Punic north Africa seems to be comparable to that of Cyrenaica and Tripolitania.²⁵

There seems to be no preference for figured drinking vessels among the imports at Euesperides, at least from the second half of the 5th century onwards, despite the possibility that the Euesperitans may have just drawn their drinking containers from a given repertoire made available to them. Red-figure cups of the second half of the 5th and the 4th centuries BC are also only sporadically found in the sanctuaries in Cyrenaica (e.g. Demeter and Kore in Cyrene²⁶), the necropolis of Cyrene²⁷ and elsewhere in the region.²⁸ Drinking from an Attic plain black-glazed cup seems to have been favoured.²⁹ What qualities did these cups have that convinced individuals to choose them? What, ultimately, did they mean to their owners and to other people in the community who witnessed their consumption? Attic cups were probably considered 'a luxury for sen-

suous pleasure',³⁰ a plausible hypothesis taking into consideration the range of local clays at Euesperides which seem not to be suited to the production of good black-glazed surfaces.³¹ The results may have been satisfactory for jugs and other pouring vessels, but they would hardly compare against Attic glazed drinking vessels even though the imported pieces were not always of the highest quality. The superiority of Attic cups is, thus, likely to have lain not in their decoration, but, as Morgan has noted in relation to the finds from the northern Black Sea region, in the finesse of their manufacture and their gloss, or in the 'sensuous experience of drinking from them'.³²

On the other hand, red-figure kraters, pelikai, hydriai, oinochoai, askoi, and squat lekythoi are sporadically represented in 5th-century assemblages at Euesperides³³ and Taucheira,³⁴ but more consistently at Cyrene.³⁵ Moreover, from the Punic settlements of Tripolitania, such as Sabratha, the published Attic pottery from the excavations that took place between 1948 and 1951 includes only a very limited number of 5th century BC red-figure fragments from kraters and cups,³⁶ as is also the case with published examples from Lepcis Magna.³⁷

Although each site and region within Cyrenaica and Tripolitania may have employed different mechanisms to acquire Attic pottery, because of differential access to such imported material, and its use may have also varied due to local cultural practices, the involvement of both the Greek and Punic coastal settlements in the trade networks within which Attic pottery circulated in the 5th century BC is uncontested. Yet the potential for localised differences within the same region should not be ignored or underestimated. On the other hand, the more complex phenomenon of the interrelation of people and objects reflected in the possession and disposition of Attic pots to mark identities, such as social status, ethnicity or any kind of group identity, or as an indicator of cultural contacts cannot be compellingly argued based on the present evidence from Cyrenaica and Tripolitania. Despite of any plausible symbolic value and meaning associated with their acquisition, the fact remains that the majority of Attic fine ware were widely distributed household pots rather than elite commodities.

Regarding the 4th century BC, a significant volume of Attic fine ware seems to have reached Euesperides. A slight drop in the number of fragments is noticeable for a short period in the first quarter of the century, to be followed by an increase between 375 and 300 BC (fig. 7). A similarly reduced flow of Attic red-figure and black-glazed pots, often correlated with a low frequency of the imported Panathenaic amphorae, has been also observed in other Cyrenaican sites during the first decades of the 4th century.³⁸ A different pattern, however, is noticed in the last quarter of the century; according to present evidence, Attic fine ware began to tail off from the third quarter onwards in Cyrenaica, as is the case in other regions in the western Mediterranean, but remained popular at Euesperides.³⁹

Furthermore, in this century, Attic fine ware seem to have fulfilled a wider range of functions at Euesperides (fig. 7). The increase of the toilet and trinket containers may indicate together with customers' preferences, the significant scale of that market in the



Fig. 9: a–b: Fragments of an Attic red-figure lekanis lid representing female figures holding cistae and an embroidered tainia (Area Q, CP1104; diam. 18 cm; 370–360 BC).

4th century BC. Red-figure lekanides are commonly decorated with animals or women's scenes on the lid (fig. 9) as is the case with examples from elsewhere in Cyrenaica.⁴⁰ One further trend which is reflected in the breakdown of the Euesperides assemblages relates to a significant increase in a) black-glazed small bowls, some of which may have had an intended use as serving vessels for herbs and spices or other types of food, b) in bowls with outturned rim, c) Lykynic lekanides and d) salt-cellars, as well as in dispensers for special liquids (gutti/askoi, 'feeders/fillers', etc.). Shallow red-figure and black-glazed askoi with a dome-shaped top are prevalent among contemporary oil containers, while squat lekythoi are also represented. At Cyrene and Apollonia, the picture is not dissimilar.⁴¹

Black-glazed cups continue to count for a large proportion of Attic imports at Euesperides – skyphoi and bolsal cups (fig. 10) predominate, but kantharoi are also present – while kraters (fig. 11) seem to be popular red-figure containers. Elsewhere in Cyrenaica, besides a significant proliferation of Attic red-figure pelikai and hydriai during the first half of the 4th century BC,⁴² the pattern of Attic imported ceramics⁴³ corresponds to that from Euesperides. The popularity of the krater versus the hydria and the pelike reflects the different types of assemblages we are comparing, namely domestic at Euesperides and funerary or religious at other Cyrenaican sites.⁴⁴

The predominance of Attic black-glazed skyphoi, bolsal cups and small bowls over red-figure vessels, especially from the second quarter of the 4th century onwards, and an increase of the red-figure kraters, are also attested in the native coastal site of Lattes.⁴⁵ This may signify connectivity links between the Hérault river region in the Gulf of Lion⁴⁶ and Cyrenaica, either as a result of common trade networks or of distribution patterns of Attic pottery circulating west of Sicily and in north Africa.⁴⁷ On the other hand, a different repertoire of Attic black-glazed pots was distributed in the Punic sites of Tripolitania in the second and third quarters of the 4th century BC, with a clearly intended serving use, as the numerous bowls, plates and fish-plates indicate.⁴⁸

The appropriation of the Attic small bowl with incurving or outturned rim seems to have been shared throughout the western Mediterranean since the first half of the 4th century BC, as the evidence from shipwrecks⁴⁹ and land sites (both indigenous, Punic and Greek)⁵⁰ demonstrates. The bowl with incurving rim ('echinus bowl'), in particular, is a 4th century creation and seems to have gained popularity beyond Athens very soon after its production.⁵¹ The reasons for its wide distribution may be sought in fashion trends or, possibly, in its small size and ease to be stacked and accommodated in ship cargoes as well as in its widely accessible price, or even its multi-functionality.⁵² At Euesperides, this bowl is the second commonest form after the skyphos (fig. 12).

In conclusion, the quantified evidence from Euesperides indicates that Attic pottery was widely consumed in the different echelons of the local society during Classical times. Its distribution in different periods of the city's life might have been affected by economic factors and varied with commerce of Attic products or, possibly, proximity and relations to Athens. Although at this stage the quantified material is only partially

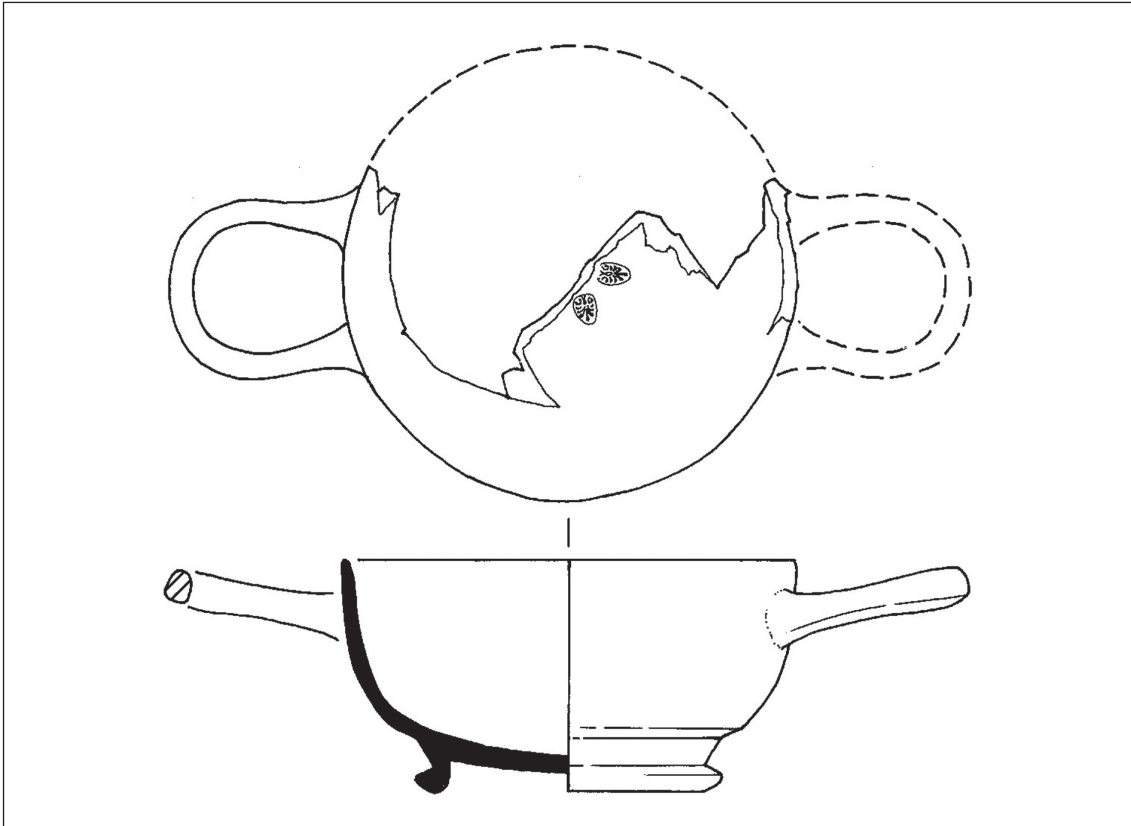


Fig. 10: Fragmentary Attic black-glazed bolsal cup decorated with stamped palmettes (Area P, CP1101; rim diam. 9,8 cm; early 4th century BC).

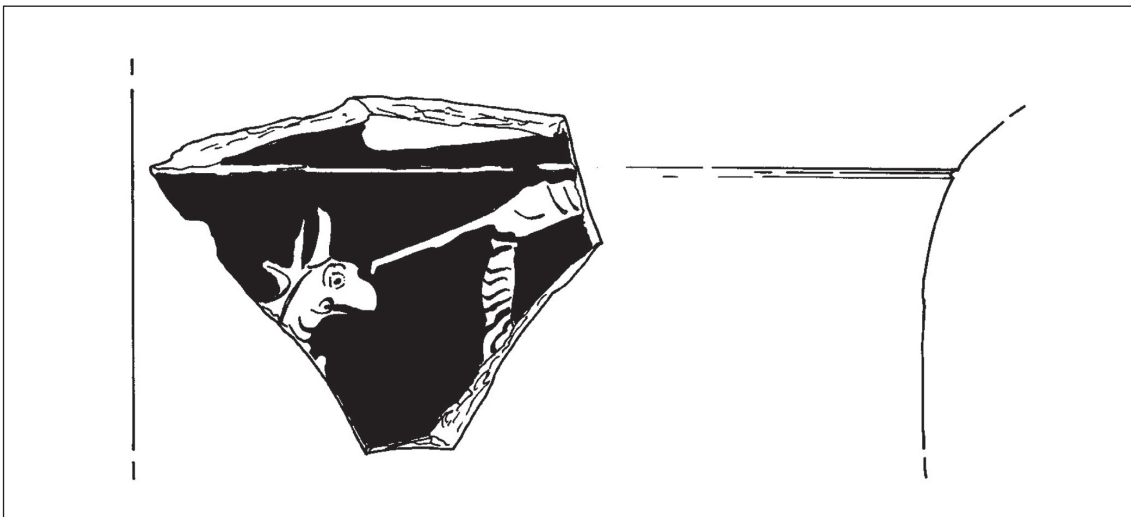


Fig. 11: Fragment of a krater depicting part of the hand and spear of an Arimasps attacking the head of a griffin (Area Q, FV126; c. 370–360 BC).

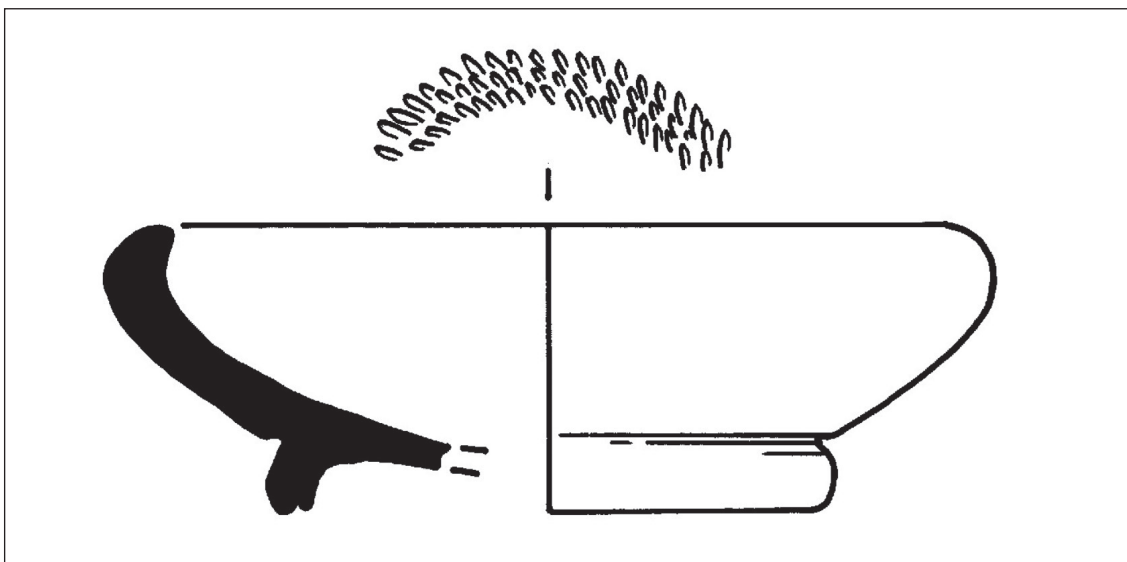


Fig. 12: Fragmentary bowl with incurving rim and rouletting on floor (Area Q, CP2186; rim diam. 9 cm; second quarter of the 4th century BC).

studied, the range of Attic pottery from certain 5th-century contexts from the site, especially from area Q, evokes an emphasis on communal drinking activities and the use of a certain array of black-glazed forms, which is similar to those from late Archaic and Classical residential and civic dining assemblages in the Athenian Agora.⁵³ Changes noted in consumption patterns at Euesperides over time,⁵⁴ however, may also depend on social variables, such as the diversity and mobility of the population, the change of local expressions of preference or changed attitudes towards purchasing pottery according to fashion trends, needs and availability.⁵⁵

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Notes

¹ For preliminary reports on the excavations and the finds from the residential areas of the site, see *Libyan Studies* 30–37 (1999–2006). Between 1952 and 1997, intermittent excavations have revealed successive phases of houses, industrial areas, a group of graves, the harbour and the city's defensive wall, for an overview see Zubi 2015, 111–119.

² Wilson 2006, 146. For the importance of an integrated approach to the study of ceramic assemblages in relation to trade and economy, see Archibald 2013, 140–141 (with bibliography).

³ With the exception of Sabratha where Greek pottery comes from residential contexts.

⁴ Goodchild 1952, 208. 212. Also Wilson 2006, 141.

⁵ This chronology is based on pottery evidence from the site, e.g. unpublished fragments of Ionian rosette bowls from a well in area Q (Wilson et al. 2006, 135–136) which was excavated in 2007. For the foundation of the city, see also Wilson 2003, 1650. For pottery of the first half of 6th cent. BC, see Zimi, in Wilson et al. 2005, 160, fig. 18; Zimi in Wilson et al. 2006, 148–150, figs. 16. 18.

⁶ The origins of the settlers at Euesperides are not clear as is also stated by Gill 2004, 398. For possible Cretan, East Greek/Aegean and Laconian settlers in Cyrenaica, see *ibid.* 403. Cf. Jones 1985, 28. 31 where he claims that Euesperides was founded by Greek settlers from Cyrene or Barce.

⁷ Applebaum 1979, 29–30. Vickers et al. 1994, 125: 'Arcesilas IV tried to create a safe haven against the day when his regime might be overthrown...'; also Gill 2004, 394 citing Theotimus, *FgrH* 470; Gill et al. 2007, 205.

⁸ Wilson 2003, 1652–1655. 1660–1661. For the date and circumstances of the city's abandonment, see Wilson 2006, 142–146 and Laronde 1987, 390–393.

⁹ See note 7 above. In addition, the city expanded around 405 BC after the resettlement of the Messenians from Nafpaktos who arrived at Euesperides in support of the local population during the attacks by the local tribe of Nasamones [Laronde 1987, 27–28; Buzaian et al. 1996, 129; Gill 2004, 394 citing Pausanias (4.26.2) and Diodorus (14.34)]. Some of these Messenians returned to their homeland after the foundation of the city of Messene by Epaminondas in 369 BC (Vickers et al. 1994, 125). It is also possible that some of the Athenian families who followed Ophellas in his expedition against Carthage in the last decade of the 4th cent. BC (Diod. XX.40.1–42.5; also, Applebaum 1979, 49) may have eventually settled at Euesperides. Interestingly, the presence of the nomadic indigenous people is not obvious in the archaeological record, even if there was one.

¹⁰ Zimi in Wilson et al. preliminary reports on the excavations in: *Libyan Studies* 30–37 (1999–2006).

¹¹ Dietler 2010, 255 made a similar observation for the role of imported ceramics within indigenous societies in the 'ancient Mediterranean France' (i.e. Lattes).

¹² Thorn 2005, 605–619.

¹³ Zimi in Wilson et al. 1999, 161.

¹⁴ Buzaian et al. 1996, 142.

¹⁵ On the strategies of 'merchant ventures', see Dietler 2010, 132; Morley 2007, 31.

¹⁶ Buzaian et al. 1996, 129. Very little is known about the history of Euesperides between 515 BC when the Persians reached the city during a 'punitive expedition sent by the satrap of Egypt', and 462 BC; the city 'played a part in the downfall of the Battiads' (Vickers et al. 1994, 125), while between 413 and 401 BC

was heavily engaged in war with the Libyan tribes (Applebaum 1979, 46; Vickers et al. 1994, 125). Also, Euesperides' earliest coinage dating in the period 480–435 BC was struck at Cyrene (Buttrey 1994, 137).

¹⁷ Elrashedy 2002, 95. 168 fig. 3. Boardman – Hayes 1973, 92–94 (Taucheira, sanctuary of Demeter and Persephone). For Attic black-glazed ware of the last quarter of the 5th century from the sanctuary of Demeter and Kore at Cyrene, see Kenrick 1987, 2 nos. 1–3 pl. 1 (the lack of earlier examples may be due to the selective presentation of the 5th century material).

¹⁸ Shefton 1995, 137, but on *ibid.* 136 fig. 3 Cyrenaica is marked on the distribution map of the 'Castulo cups'; Shefton 1996.

¹⁹ Shefton 1995, 136 fig. 3.

²⁰ For additional examples from Euesperides (in the Ashmolean Museum, Oxford), see Elrashedy 2002, 76, 127 nos. 17–19; 172 pl. 1.

²¹ Gill 1986, 275–276. 279–282. 285–286.

²² Gill 1986, 276–277 in accordance with the results from the study of Attic pottery from Languedoc, Rousillon and Catalonia which show different trade patterns than those occurring in Sabratha (Jully 1982, 295–326). Cf. Elrashedy 2002, 95–96 who claims that this may only apply to the Phoenician sites of Sabratha and Lepcis Magna or to other sites in north Africa further to the west, as Phoenician graffiti on Attic pots may indicate, and suggests that different merchants were active in the Cyrenaican sites which are seen 'as part of Eastern Mediterranean, rather than the west', in terms of their commercial activities. See also, Dietler 2010, 139–140 on the issue of 'the anachronistic projection of modernist conceptions of nationalist mercantilism' regarding the trade in the western Mediterranean, and his proposal of a 'more realistic scenario of a heterogeneous mixture of private *emporoi*, *naukleroi* and sailors from various cities, and of mixed origin ship cargoes.

²³ De Miro – Fiorentini 1977, 64–66, fig. 94.

²⁴ Carter 1965, 127. 131 pl. 33 C, D, E.

²⁵ E.g. Morel 1983, 733–736 pl. 135.2–5 (from a Punic necropolis in Gouraya in Algeria).

²⁶ McPhee 1997, 71–72 mentions a few fragments of skyphoi and cups dated between 460 and 410 BC and notes that 'surprisingly, there are no skyphoi of the fourth century' and 'no cups or stemless cups from the sanctuary after the middle of the fifth century'.

²⁷ For the occasional example from the cemeteries of Cyrene, see Thorne 2005, 607 no. 54 (kylix M1308), fig. 419 p. 774 (430 BC); 607–608 no. 56 (kylix no. 1320) fig. 425 p. 780.

²⁸ For a red-figure pelike from a tomb near Aslaia, see Vickers et al. 1971, 75 pl. 28b–c; for black-glazed Attic pots from the same tomb, see *ibid.* 75–76 pls. 29–30. For further examples from Cyrenaica, Elrashedy 2002, 25–26 nos. 23–25, 27 pls. 12.2, 21.3–4, 23.1.

²⁹ See also examples from the necropolis of Cyrene in Thorne 2005, 609–610. 614–615.

³⁰ Morgan 2009, 158 citing Pindar (Fr.124ab) in relation to drinking from Attic cups either figured or fully black-glazed.

³¹ Zimi 2020, 640–641.

³² Morgan *op. cit.* note 31.

³³ Zimi in Wilson et al. 1999, 61 fig. 12; Zimi in Wilson et al. 2001, 170 fig. 10; Zimi in Wilson et al. 2006, 148–150, fig. 17.

³⁴ Boardman et al. 1973, 93 pls. 41–42 (a pelike and kraters).

³⁵ Elrashedy 2002, 19–32 pls. 14–22. 24–27 (pelikai, kraters, hydriai, oinochoai/chous, askoi). McPhee 1997, 71–72 pls. 20–33 (kraters, oinochoai). Thorne 2005, 606–609 pls. 318. 337. 381. 382. 409 (kraters, hydriai, squat lekythoi).

³⁶ Kenrick 1986, 296 pl. 64b.

³⁷ Carter 1965, 127 pl. 33D (handle of a red-figure kylix).

³⁸ Elrashedy 2002, 95. 167–169 figs. 1, 3, 5. See also, McPhee 1997, 76–77 charts 1–2.

³⁹ Zimi 2020, 636 (chart 2)–638.

⁴⁰ Elrashedy 2002, 63–64. 232–233 nos. 78–81 pls. 61–62.

⁴¹ For Lykynic lekanides, Elrashedy 2002, 129. 138. 173. 282–283 nos. 38, 147–151 pls. 4, 111–112; for askoi, *ibid.* 69, 197–198 nos. 35–36 pls. 26.2, 27.1; 93 nos. 143–144 pl. 110. For squat lekythoi, *ibid.* 59–60, 228 nos. 73–74, 69, pl. 57 in which is noted that this type reached Cyrenaica in the second quarter of the 4th cent. BC. For ‘feeders’, Elrashedy 2002, 94 nos. 153–155 pls. 112–113. For 4th-cent. Attic black-glazed pottery from Cyrene, see Thorn 2005, 609–610. 615 nos. 63–67, 92–94 (bolsals, kantharoi); Kenrick 1987, 2 nos. 4–6 pl. 1–2. For examples from Apollonia, see Maffre 2010, 171–172 figs. 4–8, 10–12 (squat lekythoi, bolsals, salt-cellars); Maffre 2015, 177 fig. 10 (small bowls, lekanides et al.); White 1976 115–126 pl. 20f (feeder), 21e (Lykynic lekanis), 22b, c (bolsal), 24c, d (bolsal, Lykynic lekanis), pl. 24e (hydria), pl. 25d, e (squat lekythos) [from the Museum necropolis zone at Apollonia]. For examples from Tocra (ancient Taucheira), see Boardman et al. 1973, 94. 2360. 2362. 2363 fig. 42 pl. 42 (bowls and a bolsal cup).

⁴² Elrashedy 2002, 32–59. 68. 95; McPhee 1997, 71. 80–81 nos. 10–14 pls. 14–15 (from the sanctuary of Demeter and Persephone at Cyrene); Thorne 2005, 605–606 nos. 48–50 fig. 308, 325, 327, 337, 344, 351, 354, 370, 381, 400 (from the necropolis at Cyrene). For examples from Apollonia, see Maffre 2015, 176–177. 182–183 figs. 5–8 (from the west necropolis).

⁴³ E.g. McPhee 1997, 71. 85–88 nos. 38–52. 57–60 pls. 22–27. Thorne 2005, 606–607 nos. 51–52 fig. 318, 321, 322, 337, 382, 398–399. Caillou 2010, 182 fig. 11 (fragments of kraters from Kallikrateia).

⁴⁴ Elrashedy 2002, 68 observes that number of 4th-cent. Attic red-figure kraters in Cyrenaica is smaller than that of the liquid-holding containers, such as pelikai and hydriai.

⁴⁵ Py et al. 2000, 170. 172–173. 176–177. 185–188 figs. 4–6, 8, 16, 18–20.

⁴⁶ The evidence from funerary and residential assemblages at Marseille (Gantès 2000) present affinities with Attic pottery from Cyrenaica. For analysis of Greek pottery data-sets from southern France, Spain, Portugal focusing on the change of shapes and functions over time, see Walsh 2014, 141–152. 158–163.

⁴⁷ MacDonald 1979, 172–175 states that ‘...much of the commercial activity shifted (from Marseille) westward, to sites around the Gulf of Lion’ (*ibid.* 173). He also suggests (*ibid.* 177) that Punic merchants may have an increased role in the distribution of Attic pottery at sites in north Africa and southern Spain by the late 5th and early 4th cent. BC. However, Punic merchants were not the only ones being active in the west during this period, see Reed 82–84 about merchants’ attested states of origin. On the question of shipwrecks and traders see, Dietler 2010, 133–145, esp. p. 142 where he claims that ‘cooperation in commercial ventures was clearly not constrained narrowly by ethnic boundaries’; *ibid.* 144–147 for the role of the indigenous people of the Gulf of Lion and beyond, in the river and longer distance sea-borne trade.

⁴⁸ For Sabratha, see Gill 1986, 276–277. 288–290 (small bowls and salt-cellars); 290–293 (plates and fish-plates). He observes that similar material is found in indigenous settlements in the Iberian Peninsula, ‘which may suggest that Sabratha was either on the same trade route or used the same traders’ but had

'few points of contact with southern Italy or Sicily'. For drinking vessels, *ibid.* 284 no. 72 (bolsal cups); 285 nos. 73–74 (kantharoi). For Lepcis Magna, de Miro – Fiorentini 1977, 8–12. 42–44. 64–72 (skyphoi, bolsal cups, bowls with incurving rim, fish-plates). Also Morel 2000, 261–262.

⁴⁹ E.g. for examples from the El Sec shipwreck, Cerdà 1987, 244–293. 308–323.

⁵⁰ The variants of the small bowl were very popular in the Iberian Peninsula. E.g. Dominguez et al. 2001, 446–448. 195–200 nos. 65–95 ill. pp. 334–343. 225. 227 nos. 246–247. 261–263 ill. pp. 361–363. 235–236 nos. 298–301 ill. pp. 374–376. 263 nos. 470–472 ill. pp. 407–408. 315 nos. 931–937 ill. pp. 420 [from funerary contexts in eastern Andalusia: a) bowls with outturned rim (diam. 11–15 cm or 20–33 cm) used as lids for kraters or/and pelikai or to hold offerings, b) echinus bowls have a smaller diameter and were less frequently used as lids. They have been more popular in south-east Iberia and probably replaced in Andalusia by the red-figure cups, 'which were scarcer in the other Iberian regions'). Also, Principal-Ponce 2000, 222–223 fig. 4; Cura Morera 2000, 230–232 figs. 3–4; Sanmarti 2000, 235 fig. 2; Martín 2003, 192–259, 315–398 nos. 274–867 figs. 41–124 (from La Illeta dels Banyets).

⁵¹ Sparkes et al. 1970, 131–132. Rotroff 1997, 161–162 and note 53 for its distribution in Greece, in the East and the Black Sea region.

⁵² Sánchez Fernández 2017, 187 suggests a likely use as lamps for the small bowls with incurving rim. Hudson 2016, 218 fig. 15 based on the evidence from a Hellenistic household assemblage at Tell El-Timai in Egypt, claims that these vessels could have served a drinking function.

⁵³ Rotroff et al. 1992, 26–27 and note 66. Lynch 2011, 169–173.

⁵⁴ Walsh 2014, 1–5. 75–89.

⁵⁵ People may have preferred imported small pots rather than large ones (as indicated by an increased number of small bowls with incurving and outturned rim from the second quarter of the 4th century onwards), glazed pots to figured ones, or pots intended for a certain utility (drinking vessels instead of pouring containers in the 5th century BC).

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Le importazioni di vasi attici a figure nere e a figure rosse a Gela nel secondo venticinquennio del V sec. a. C.

Marcella Accolla

Il presente contributo verte sull'analisi delle importazioni di vasi attici, dipinti nella tecnica a figure nere e a figure rosse, attestate a Gela nel periodo compreso tra il 475 ed il 450 a. C.¹

Il lavoro di ricerca ha riguardato lo studio sistematico dei ceramografi presenti nella colonia rodio-cretese fondata sulla costa meridionale della Sicilia nel 689–88 a. C.²

Inizialmente si è partiti dall'acquisizione dei dati relativi ai vasi attici di sicura provenienza gelloa, rintracciati nelle liste pubblicate dalla Haspels³ e dal Beazley⁴ ed aggiornati successivamente.⁵ A questi sono stati aggiunti i dati derivati dalle nuove acquisizioni, provenienti da scavi recenti o mai inseriti nelle suddette liste.⁶

La produzione di ogni pittore è stata sottoposta ad una analisi di tipo quantitativo e qualitativo ed, inoltre, ne è stata valutata la diffusione nei diversi mercati del Mediterraneo al fine di individuare, dove possibile, le vie di distribuzione sulla base della similarità degli elementi stilistici, delle forme e dei soggetti.⁷

I risultati della ricerca, infine, sono stati messi a confronto con le informazioni derivanti dal *database* dell'Archivio Ceramografico dell'Università degli Studi di Catania, diretto dal Prof. F. Giudice,⁸ nel tentativo di chiarire le dinamiche commerciali geloe in rapporto a quelle dell'area mediterranea in un momento preciso, quello del secondo venticinquennio del V secolo a. C.

I vasi attici provenienti da Gela nel secondo quarto di questo secolo sono complessivamente 288: dodici a figure nere (2 Beazley + 10 Post Beazley) e duecentosettantasei a figure rosse (236 Beazley e 40 Post Beazley), e sono riconducibili a 62 pittori o gruppi di ceramografi.

I ceramografi identificati da Beazley presenti a Gela sono i seguenti:⁹

Per quanto riguarda la tecnica a **figure nere** sono attestati soltanto il Pittore di *Emporion* (1 *lekythos*)¹⁰ e l'Officina del Pittore della Megeira (1 *lekythos*)¹¹.

I ceramografi che dipingono nella tecnica a **figure rosse** sono stati raggruppati in base alla loro peculiarità.

Nel gruppo dei **Pittori proto-classici autori di grandi forme vascolari** sono stati inclusi:

- *Hermonax* (3 *lekythoi*)¹²
- P. di Orizia (2 *lekythoi*)¹³
- P. di Deepdene (1 anfora a collo distinto)¹⁴
- P. di Egisto (1 cratere a colonnette)¹⁵
- P. di Siracusa 23510 (1 cratere a colonnette)¹⁶
- P. di Bologna 228 (1 cratere a colonnette)¹⁷

- P. di Siracusa (5: 3 anfore a collo distinto, 1 *pelike*, 1 cratere a colonnette)¹⁸
- P. di Monaco S.L. 477 (1 *lekythos*)¹⁹
- P. del Frutteto (1 cratere a colonnette)²⁰
- P. di *Alkimachos* (4: 1 anfora a collo distinto, 2 crateri a colonnette, 1 *lekythos*)²¹
- P. di *Aristomenes* (2 *lekythoi*)²²
- P. di *Boreas* (3 crateri a colonnette)²³
- P. di Firenze (1 cratere a colonnette)²⁴
- P. di Pan (13 *lekythoi*)²⁵ + (2: 1 anfora a collo distinto, 1 *pelike*)²⁶
- P. dei Porci (1 *pelike*)²⁷
- P. di Leningrado (7: 5 crateri a colonnette, 2 *pelikai*)²⁸
- P. di Agrigento (2 crateri a colonnette)²⁹
- Gruppo indeterminato dei primi manieristi, VIII (3: 1 cratere a colonnette, 1 *pelike*, 1 *lekythos*)³⁰
- P. di Altamura (1 cratere a campana)³¹
- P. dei Niobidi (5: 3 crateri a volute, 1 *pelike*, 1 fr.)³²
- P. dei Satiri lanosi (1 cratere a campana)³³
- P. di Villa Giulia (8: 1 cratere a calice, 1 *stamnos*, 1 *pelike*, 1 *hydria*, 4 *lekythoi*)³⁴
- P. di Chicago (4 *oinochoai*)³⁵

Nel gruppo dei **Pittori proto-classici autori di piccole forme vascolari** sono stati esaminati:

– **I pittori di anfore nolane e *lekythoi*:**

- P. di Providence (21: 4 anfore a collo distinto, 1 *stamnos*, 16 *lekythoi*)³⁶
- P. di *Oionokles* (4: 3 *lekythoi*, 1 cratere a colonnette)³⁷
- P. di *Nikon* (7: 1 anfora a collo distinto, 6 *lekythoi*)³⁸
- P. di *Charmides* (1 *lekythos*)³⁹
- P. di Dresda (7: 3 anfore a collo distinto, 4 *lekythoi*)⁴⁰
- P. della *lekythos* di Yale (10: 1 anfora a collo distinto, 9 *lekythoi*)⁴¹

– **I decoratori di piccole anfore nolane e *lekythoi*:**

- P. dell'Etiopio (1 anfora a collo distinto)⁴²
- P. di Londra E 342 (6: 2 anfore a collo distinto, 4 *lekythoi*)⁴³
- Gruppo che richiama il P. di Londra E 342 o il P. dell'Etiopio (4 *lekythoi*)⁴⁴
- P. di Siracusa 19861 (1 *lekythos*)⁴⁵
- P. di Siracusa 22174 (2 anfore a collo distinto)⁴⁶
- P. di Zannoni (5: 1 anfora a collo distinto, 4 *lekythoi*)⁴⁷

– **I pittori di piccole *lekythoi* e di *alabastra*:**

- Classe *PL* (1 *lekythos*)⁴⁸
- P. di Bowdoin (33: 32 *lekythoi*, 1 anfora a collo distinto)⁴⁹
- *Lekythoi* a corpo nero dell'officina del P. di Bowdoin (5 *lekythoi*)⁵⁰
- P. di Atene 1308 (1 *lekythos*)⁵¹
- P. di *Icarus* (6 *lekythoi*)⁵²
- P. della *Seireniske* (1 *lekythos*)⁵³

- P. di Siracusa 21975 (1 *lekythos*)⁵⁴
 - I seguaci del P. della *Seireniske*, V: vari (1 *lekythos*)⁵⁵
 - P. di *Aischines* (13 *lekythoi*)⁵⁶
 - P. di Taranto 2602 (1 *lekythos*)⁵⁷
 - P. di Beth Peleth (1 *lekythos*)⁵⁸
 - P. di Leto (1 *lekythos*)⁵⁹
 - P. di Karlsruhe, V: vari (1 *white lekythos*)⁶⁰
 - **I pittori di *Lekythoi* a fondo bianco:**
 - P. di *Timokrates* (2 *white lekythoi*)⁶¹
 - P. di Atene 1826 (3 *white lekythoi*)⁶²
 - P. del *Tymbos* (1 *white lekythos*)⁶³
- Dei **Pittori proto-classici di coppe** sono stati esaminati:
- **I seguaci di *Makron*:**
 - P. di Telefo (2: 1 coppa, 1 anfora a collo distinto)⁶⁴
 - **Il P. di Sabouroff:**
 - P. di Sabouroff (7: 1 anfora a collo distinto, 2 *pelikai*, 4 *lekythoi*)⁶⁵
 - P. di Londra E 317 (1 anfora a collo distinto)⁶⁶
 - **L'officina del P. di *Penthesilea*:**
 - P. dello *Splanchnopt* (2: 1 coppa senza stelo, 1 *skyphos*)⁶⁷
 - P. di Orvieto 191 A (1 coppa)⁶⁸
 - P. di Comacchio (1 anfora a collo distinto)⁶⁹
- Dei **Pittori proto-classici di *skyphoi*:**
- P. di Lewis (2 *skyphoi*)⁷⁰
 - Gr. di Ferrara T 981 (1 *skyphos*)⁷¹
- Dei **vasi configurati a testa umana:**
- Class N: Cook Class (3 *oinochoai*)⁷²
- Dei **vasi con acclamazione del *Kalòs*:**
- *Timokrates* (1 *lekythos*)⁷³
 - Uncertain *kalos-names* (1 *lekythos*)⁷⁴

Sulla base dei vasi con provenienza certa rinvenuti a Gela e sulla base della scheda di distribuzione dei vasi attici in tutto il Mediterraneo elaborata dal Prof. Giudice⁷⁵, sono emerse significative indicazioni sulla consistenza dei vasi prodotti dal Ceramico ateniese nei vari mercati di consumo:⁷⁶

- Il gruppo più numeroso di ceramografi è costituito dai pittori per i quali appare come primo mercato la **Sicilia**. A questi pittori se ne affiancano altri la cui produzione circola in massima parte nell'area egea, ma che, tuttavia, mostra la Sicilia come primo mercato occidentale.
- Il secondo mercato individuato privilegia l'**area adriatica**, prevalentemente padana.
- L'**area campana** rappresenta la destinazione favorita del terzo gruppo di ceramografi.

- L'ultimo gruppo è rappresentato dai ceramografi i cui vasi sono attestati prevalentemente in **Etruria padana**.
- Solo due pittori presentano come mercato principale **Locri**.

Per quanto riguarda la Sicilia i dati emersi evidenziano, negli anni compresi tra il 475 ed il 450 a. C., una marcata presenza di importazioni attiche a Gela, come è possibile rilevare dal relativo istogramma (fig. 1). Tale *trend*, anche se apparentemente diverso nelle acquisizioni Post-Beazley (fig. 2), viene confermato dalla somma dei dati Beazley con quelli Post (fig. 3).

Mettendo a confronto, infine, l'istogramma relativo al quadro generale delle importazioni attiche a Gela nel corso del VI e del V secolo a. C. con l'istogramma riguardante la produzione globale dei vasi attici (fig. 4) risulta evidente la tendenza mostrata. Mentre nel quadro generale la produzione attica mostra il picco più alto nel primo venticinquennio del V secolo a. C., a Gela esso si registra tra il 475 ed il 450 a. C.

Tale evidenza, in realtà, potrebbe essere messa in relazione con gli esiti della battaglia di Cuma (474 a. C.), in occasione della quale Ierone I di Siracusa, intervenendo in favore dell'antica colonia, «sconfisse duramente la flotta etrusca in una battaglia che ebbe conseguenze storiche decisive per Greci ed Etruschi di Campania».⁷⁷

Filippo Giudice ha più volte posto l'accento su tale evento che a dir suo «rappresenta il punto di arrivo di una forte turbativa dei mercati occidentali, causata dalla politica dei Dinomenidi a Siracusa volta ad interferire nel commercio dei vasi attici che attraversavano lo Stretto di Messina».⁷⁸

E ancora Panvini:⁷⁹ «In Sicilia, in quegli anni, dopo avere rifondato *Catane* nel 476 a. C. con il nome di *Etna*, affidando il governo al figlio Dinomene, Ierone, con l'intento di assicurarsi il controllo dei commerci sul Tirreno, accorse in aiuto di Cuma, impe-

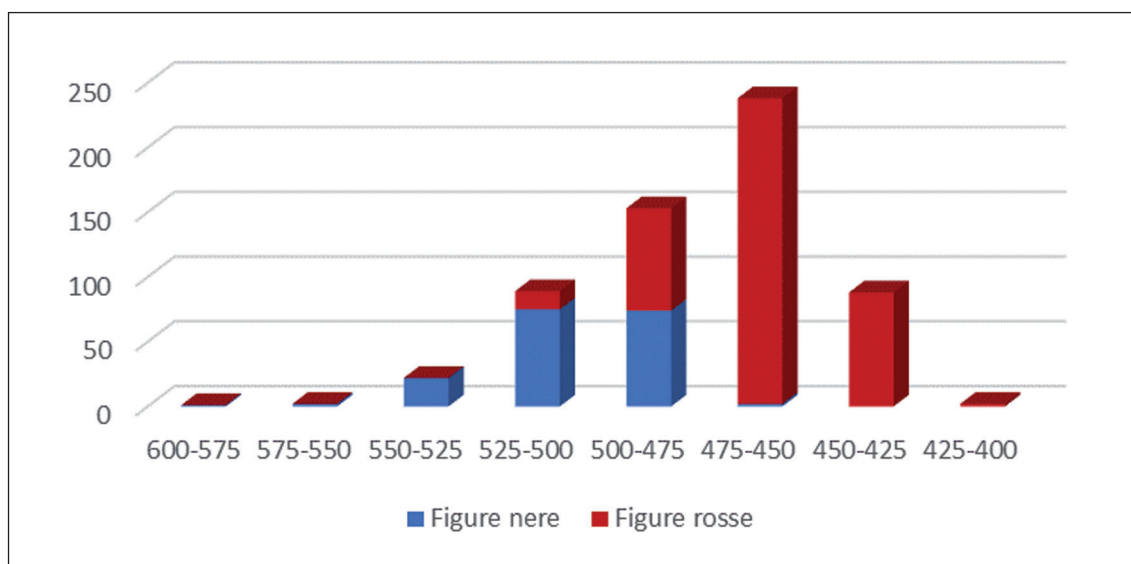


Fig. 1: Quadro generale delle importazioni a Gela «Beazley».

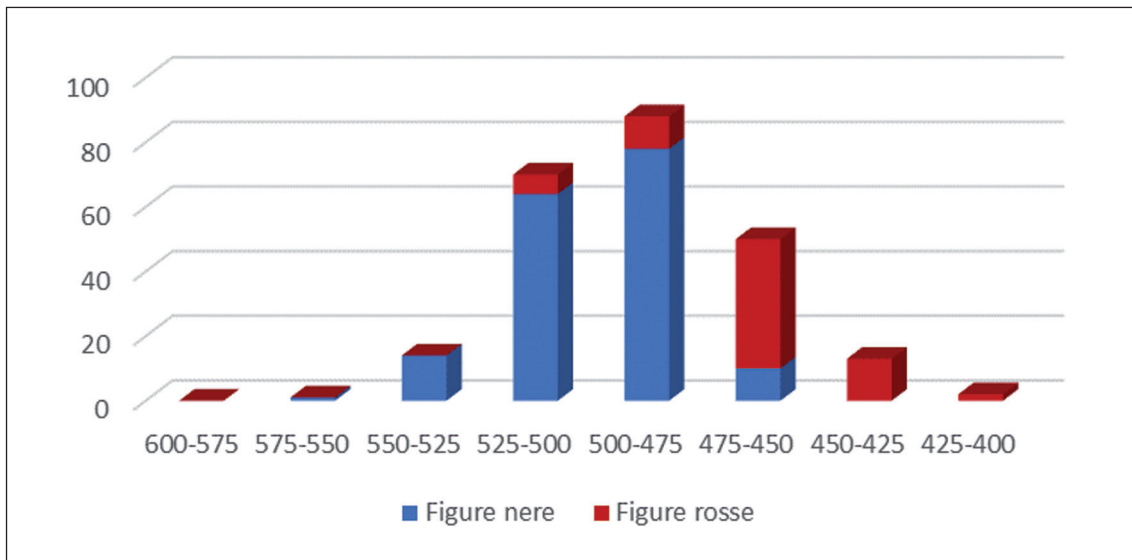


Fig. 2: Quadro generale delle importazioni a Gela «Post-Beazley».

gnata nel conflitto contro gli Etruschi, che furono sconfitti nel 474 a. C. presso la baia di Napoli».

Del resto, pochi anni prima, con la vittoria ad *Himera* (480 a. C.), Gelone di Siracusa, sconfiggendo i Cartaginesi, si era assicurato il controllo dello Stretto di Messina.

Dall'analisi della distribuzione dei prodotti riconducibili ai pittori attivi nel secondo venticinquennio del V secolo, sono emerse, pertanto, due rotte di distribuzione dei pro-

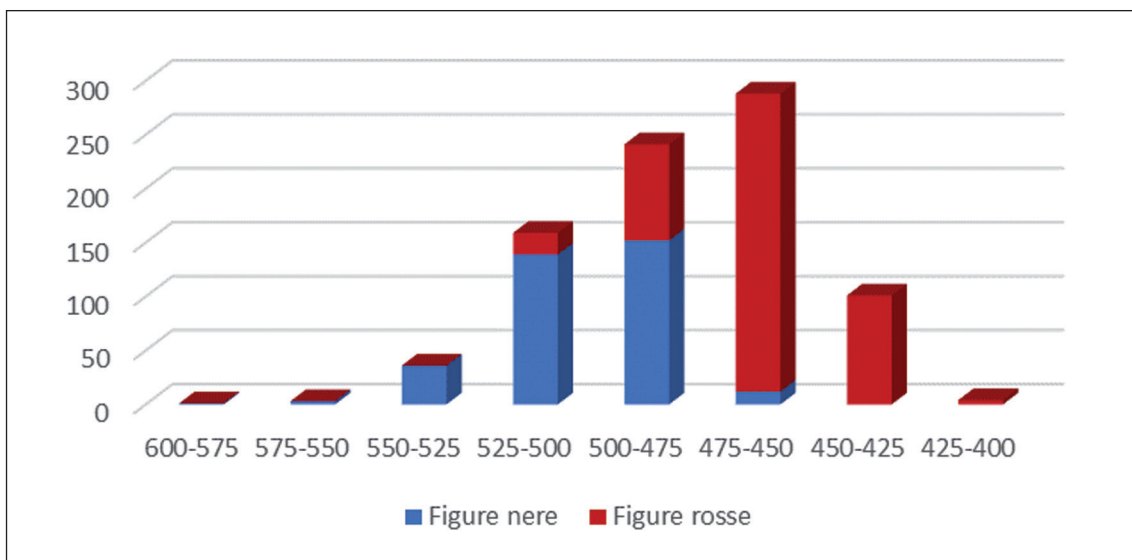


Fig. 3: Quadro generale delle importazioni a Gela «Beazley» + «Post Beazley».

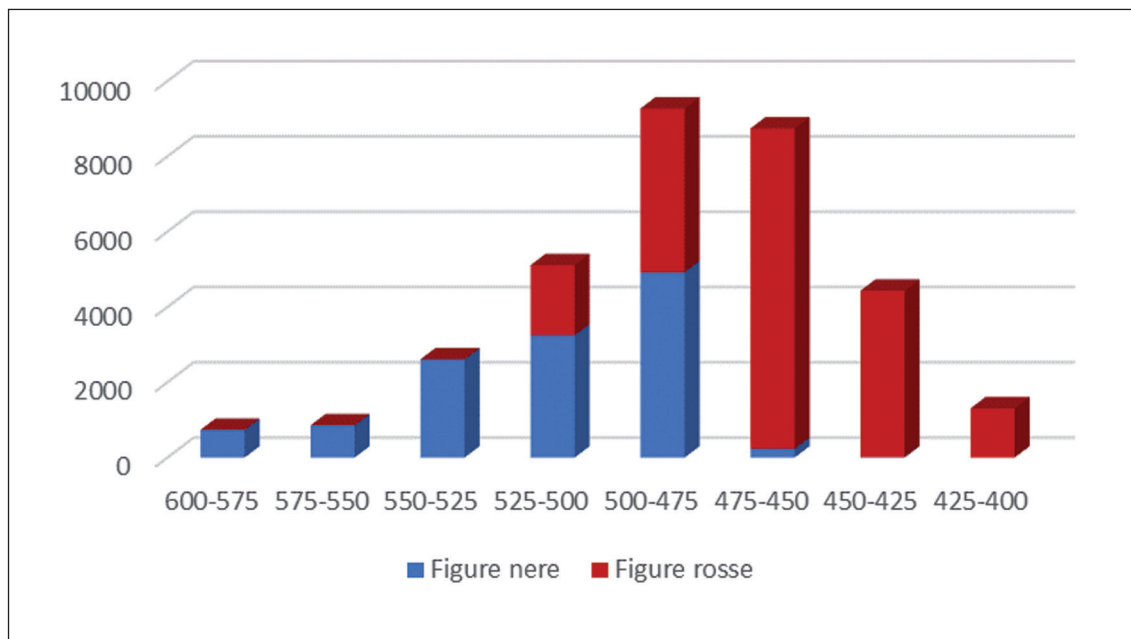


Fig. 4: Produzione globale dei vasi attici.

dotti vascolari attici: una che, toccando i centri della Calabria ionica, scende in Sicilia e risale nel Tirreno ed un'altra diretta a rifornire i ricchi mercati dell'Etruria padana.

F. Giudice ha ipotizzato che le due rotte, provenendo dalla Grecia, facessero capo ad un centro comune della costa calabra, identificato con Locri Epizefiri, dove le merci potessero essere smistate prima della biforcazione verso l'Adriatico da una parte e la Sicilia ed il Tirreno dall'altra.⁸⁰ Ponendo, dunque, a confronto l'istogramma di distribuzione della ceramica attica nell'area tirrenica (fig. 5) con quello documentato nell'area adriatica (fig. 6), risulta evidente che, nell'area tirrenica, il picco si realizza tra la fine del VI secolo e l'inizio del V, e, al contrario, si rileva una flessione nel secondo quarto del V secolo. Di contro, nell'area adriatica, il picco della presenza di ceramica attica si registra nel secondo venticinquennio del V secolo. L'elevato numero di vasi attici rinvenuti ad Adria e Spina dimostra che i due empori acquistarono, in realtà, sempre maggiore importanza perché consentivano di rifornire i mercati etrusco-tirrenici eludendo il controllo siceliota dello Stretto, gestito dai Dinomenidi dopo la battaglia di *Himera*.⁸¹

Non a caso, quindi, se volgiamo la nostra attenzione alla distribuzione della produzione vascolare attica in Sicilia nel corso del VI e del V secolo a.C., notiamo un progressivo aumento delle importazioni dal primo venticinquennio del VI secolo al secondo quarto del V secolo a.C., allorché si raggiunge il massimo livello di diffusione del vasellame attico nell'isola.

Se mettiamo, infatti, a confronto l'istogramma di distribuzione della ceramica attica in Sicilia⁸² (fig. 7) con quelli dell'area tirrenica (fig. 5) e dell'area adriatica (fig. 6), appare chiaro che il *trend* distributivo della Sicilia è conforme a quello dell'area adriatica,

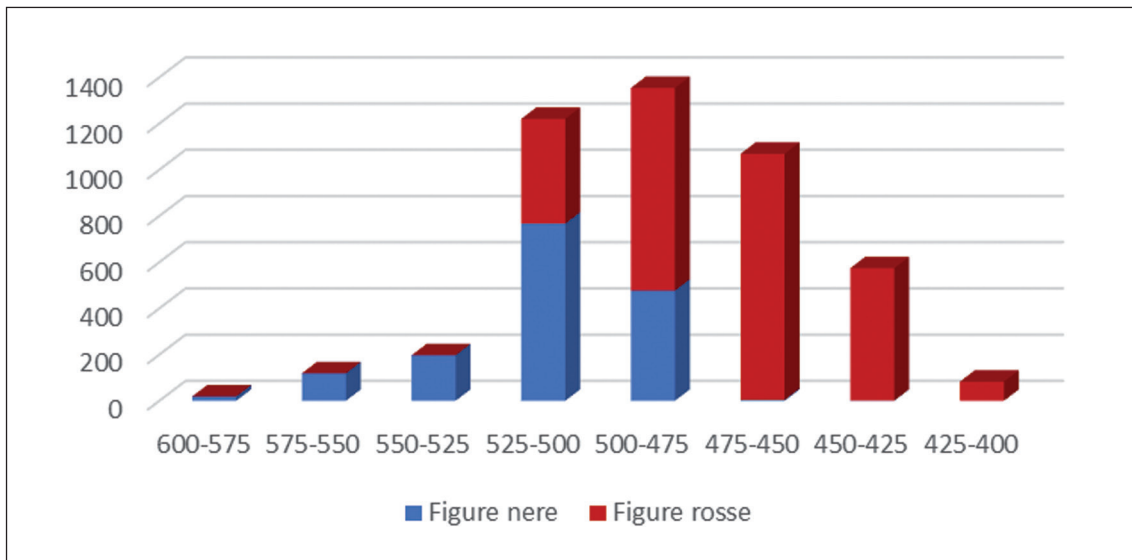


Fig. 5: Quadro generale delle importazioni nell'area tirrenica.

discostandosi invece dall'andamento riscontrabile nell'area tirrenica. Appare evidente che, a causa della difficoltà di attraversare lo Stretto alla volta del Tirreno,⁸³ le navi provenienti dall'Attica navigassero lungo le coste della Sicilia, quella orientale prima e quella meridionale poi, proseguendo talora alla volta dell'Africa settentrionale e della penisola Iberica.

Per quanto riguarda le forme,⁸⁴ quella maggiormente attestata a Gela è la *lekythos*, a dispetto della *kilyx*, che è la forma più rappresentata nella produzione globale.⁸⁵

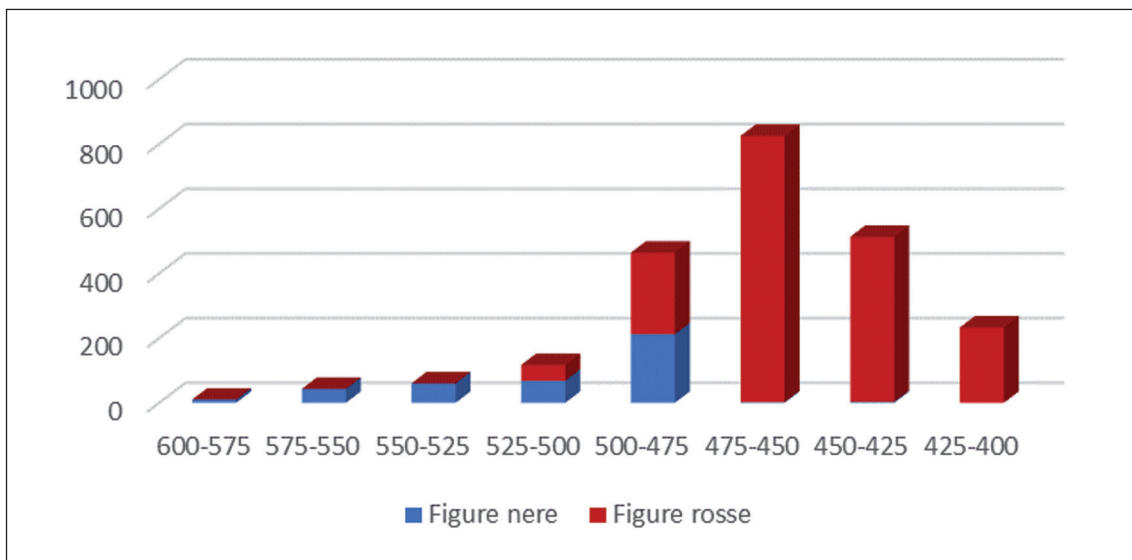


Fig. 6: Quadro generale delle importazioni nell'area adriatica.

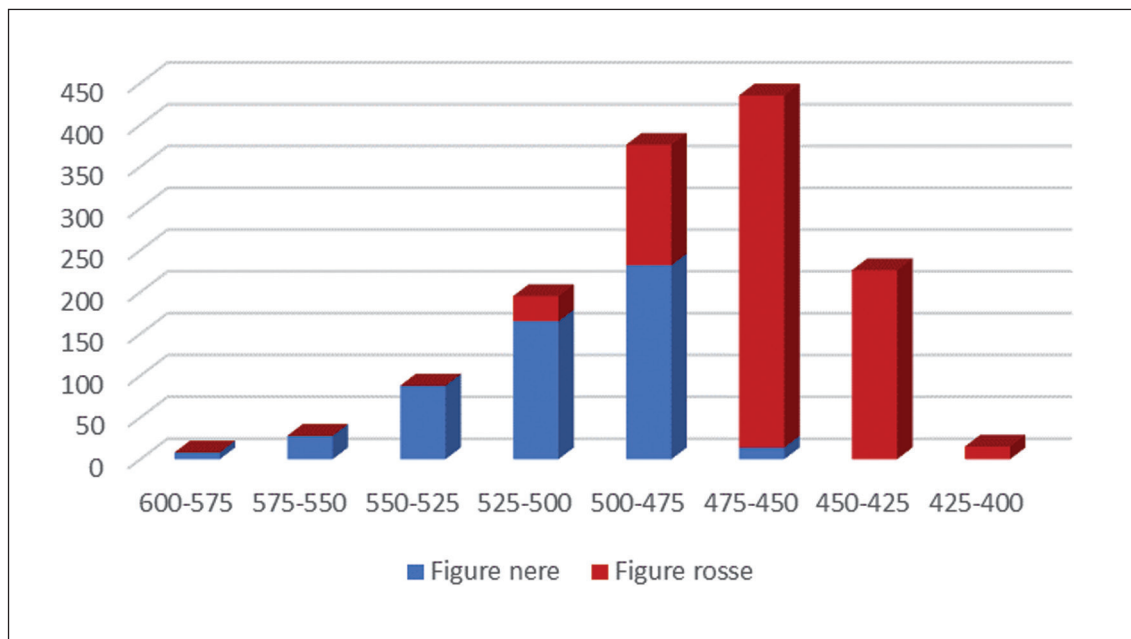


Fig. 7: Quadro generale delle importazioni in Sicilia.

Accostando l'istogramma del quadro delle importazioni a Gela (fig. 1) al grafico della distribuzione dei prodotti attici in tutta la Sicilia (fig. 7), l'andamento è analogo. In ogni caso nell'istogramma in cui vengono posti a confronto i principali centri della Sicilia greca (fig. 8), Gela è senza alcun dubbio la città della Sicilia in cui si registra la più alta concentrazione di ceramica attica, con notevole scarto rispetto alle altre.⁸⁶

Sinceramente grata alla Prof.ssa Rosalba Panvini, per l'esortazione e l'incoraggiamento a riprendere gli studi sulle importazioni attiche a Gela, ed al Prof. Filippo Giudice, mio maestro negli studi di Ceramografia attica, per la sua sempre pronta e squisita disponibilità.

Note

¹ Tale ricerca è iniziata come tesi di specializzazione, con gli auspici della cattedra di Archeologia Greca dell'Università di Catania, retta negli ultimi venticinque anni dal Prof. Filippo Giudice, il quale – com'è noto – ha condotto studi riguardanti la distribuzione della ceramica attica in tutta l'area mediterranea (Giudice 1991, 126 s.), grazie alla progressiva computerizzazione dei dati relativi (Giudice 1993, 181–196).

² Il lavoro, parzialmente pubblicato in Panvini – Giudice 2003, rientrava in un progetto finalizzato a riunire e schedare in un volume monografico il copioso e pregevole vasellame attico rinvenuto a Gela.

³ Haspels 1936.

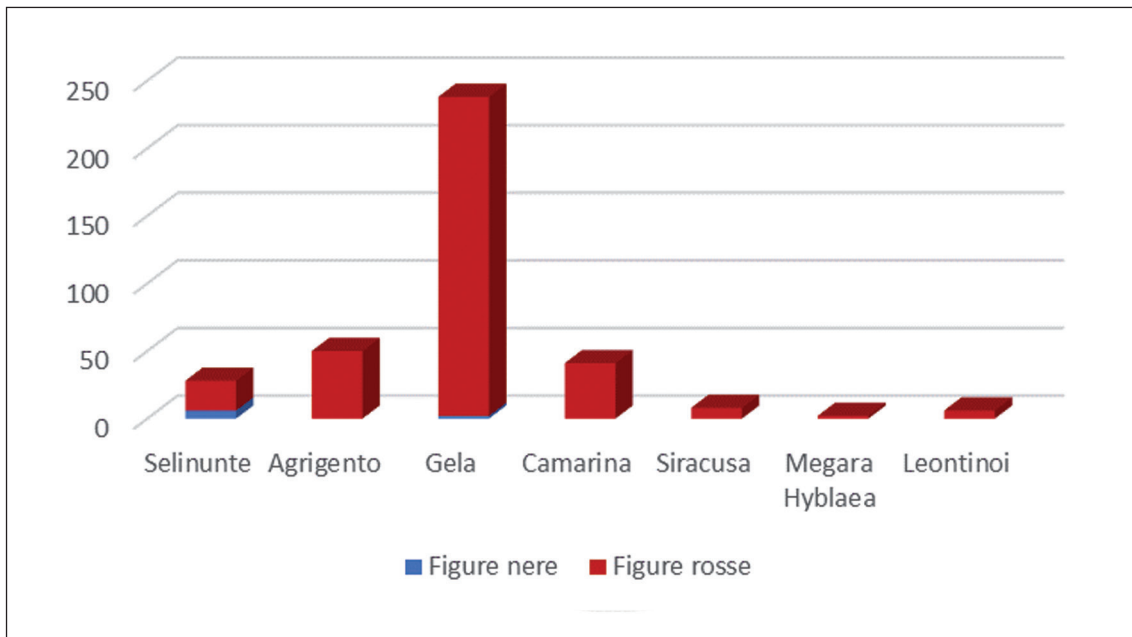


Fig. 8: Colonie greche in Sicilia 475–450 a. C.

⁴ Beazley 1956; Idem 1963; Idem 1971.

⁵ Burn – Glynn 1982; Carpenter 1989.

⁶ Giudice 1974; Giudice 1979 a; Accolla et al. 2003, 407–489, in: Panvini – Giudice 2003; Panvini 2003 a, 491–501, in: Panvini – Giudice 2003; Panvini 2003 b.

⁷ Giudice 1993, 181–196.

⁸ Si ringrazia il Prof. Giudice per aver messo a disposizione i dati dell'Archivio Ceramografico di Catania.

⁹ Giudice et al. 2003, 32 s.

¹⁰ Haspels 1936, 264, 37.

¹¹ Haspels 1936, 183, III, a.

¹² Beazley 1963, 490,119; 490,120; 490,123.

¹³ Beazley 1963, 497,12; 497,13.

¹⁴ Beazley 1963, 500,29.

¹⁵ Beazley 1963, 505,11.

¹⁶ Beazley 1963, 510,1.

¹⁷ Beazley 1963, 512,11.

¹⁸ Beazley 1963, 519,18; 519,19; 519,20; 520,32; 521,2.

¹⁹ Beazley 1963, 522,2.

²⁰ Beazley 1963, 525,32.

²¹ Beazley 1963, 530,14; 531,39; 534,4 bis; 535,2.

²² Beazley 1963, 535,1; 535,2.

²³ Beazley 1963, 537,22; 537,23; 538,32.

²⁴ Beazley 1963, 541,4.

- ²⁵ Beazley 1963, 553,43; 555,87; 556,102; 556,104 e Beazley 1971, 388; Beazley 1963, 556,106 e Beazley 1971, 388; Beazley 1963, 556,109; 557,113; 557,114; 557,117; 557,118; 557,119; 557,122; 561,13.
- ²⁶ Beazley 1963, 561,8; 561,9.
- ²⁷ Beazley 1963, 565,32.
- ²⁸ Beazley 1963, 568,25; 569,44; 569,46; 569,50; 570,65; 570,66; 572,1.
- ²⁹ Beazley 1963, 576,34; 576,49.
- ³⁰ Beazley 1963, 583,7; 585,35; 588,73.
- ³¹ Beazley 1963, 592,32.
- ³² Beazley 1963, 599,2; 600,16; 608,101; 608,1; 610,26.
- ³³ Beazley 1963, 613,6, Beazley 1971, 397.
- ³⁴ Beazley 1963, 618,7; 621,41, 1662; 622,48; 622,58; 624,75; 624,76; 626,3; 627,1.
- ³⁵ Beazley 1963, 630,37; 631,38; 631,39; 631,40.
- ³⁶ Beazley 1963, 636,4; 636,22; 638,41; 639,57; 640,67; 640,72; 641,80; 641,82; 641,83, 1586; 641,84; 641,85; 641,86; 641,87; 641,91, 1586; 641,97; 642,108; 642,109; 642,115a, 1579; 644; 644,1; 644,3.
- ³⁷ Beazley 1963, 648,38; 649,42 e Beazley 1971, 402; Beazley 1963, 649,43; 1663.
- ³⁸ Beazley 1963, 651,14; 651,23; 651,28; 652,29bis, 1663; 652,31; 652,32; 653,3.
- ³⁹ Beazley 1963, 654,4, 1572.
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- ⁴⁴ Beazley 1963, 671,4; 671,5; 671,10; 671,11.
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- ⁴⁹ Beazley 1963, 678,2; 679,37; 680,57; 680,63; 680,70, 1665; 680,71; 681,82; 682,99; 683,120; 683,126; 683,130; 683,134; 684,136; 684,147; 684,152; 685,163; 685,168; 685,169; 685,170 e Beazley 1971, 406; Beazley 1963, 685,178; 686,187; 686,191; 686,193 e Beazley 1971, 406,193; Beazley 1971, 406,199bis; Beazley 1963, 687,209; 687,226; 690,4; 690,9; 691,11; 691,28; 691,29, 1666; 692,32; 693,4γ.
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- ⁶¹ Beazley 1963, 743,2, 1560, 1668; 743,3, 1610.
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- ⁶⁶ Beazley 1963, 857,2.
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- ⁶⁹ Beazley 1963, 957,44.
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- ⁷³ Beazley 1963, 1610,2.
- ⁷⁴ Beazley 1963,1613.
- ⁷⁵ Giudice 1993.
- ⁷⁶ Giudice et al. 2003, 67–70.
- ⁷⁷ Musti 1994, 305.
- ⁷⁸ Giudice 1979 b, 160–162; Idem 1985, 137–139; Idem 2004, 182.
- ⁷⁹ Panvini 1996, 91 s.
- ⁸⁰ Giudice 1989.
- ⁸¹ Idem 2004, 192.
- ⁸² Per il quadro di riferimento delle importazioni di ceramica attica figurata in Sicilia si veda Giudice – Santagati 2020.
- ⁸³ Cfr. nota 78.
- ⁸⁴ Per le forme si veda Giudice et al. 2003, 35–37; Giudice – Santagati 2020.
- ⁸⁵ Giudice et al. 2017, 147.
- ⁸⁶ È legittimo chiedersi come mai a Siracusa, sede dei sovrani Dinomenidi, non si sia riscontrata una situazione analoga a quella di Gela. Ebbene, si è voluta trovare, nel legame mai del tutto reciso con la madrepatria Corinto, la risposta a questo quesito, presupponendo una preferenza dei prodotti vascolari corinzi a quelli attici, che garantisse la continuità dei rapporti commerciali con Corinto. Anche i rapporti politici, in realtà, potevano influenzare i commerci, come, per esempio quando, nel corso della guerra del Peloponneso, Camarina si allea ad Atene e le importazioni di ceramica attica in quella città superano persino quelle della vicina Gela (Giudice 1979 c, 277–354; Idem 1988, 49–57; Idem 2010, 3–21). Ed, in effetti, nel 413, dopo la sconfitta inflitta agli Ateniesi da parte dei Siracusani presso l'*Assinaros*, si interrompono bruscamente i rapporti commerciali tra Atene e la Sicilia greca. Nell'ultimo venticinquennio del V secolo gli istogrammi di distribuzione registrano un crollo delle importazioni attiche a Gela e in tutta la Sicilia (Giudice et al. 2003, 71 e 73 fig. 2). Pertanto la ceramica attica in Sicilia verrà presto soppiantata dalle produzioni locali siceliote (Giudice 1986, 243–260; Idem 2002, 169–202; Giudice – Giudice Rizzo 2004, 137–140). Nel IV secolo, infine, si ravvisa in Sicilia la presenza di soli tre vasi attici figurati provenienti

dall'area occidentale, probabilmente grazie al commercio dei Punici diretto, via Mozia, nella penisola iberica (Giudice 2006, 93–95).

Indice delle figure

Tutte le figure dall'autrice.

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The Leagros Group and the Mechanisms of Trade: Trademarks Revisited¹

Bettina Kreuzer

This article is devoted to the study of a distinct group of letters, to their placement and their form as well as the manner they have been painted or incised: Trademarks on Athenian black figure vases of the late 6th century BC. Different models have been used, single marks, complex sets of marks, as well as combined marks and those added at various stages during the transport.² Those marks were the topic of two publications, by Rudolf Hackl in 1909 and by Alan Johnston in 1979, who arranged the marks into lists, resulting in a typology.³

In the following, I shall concentrate on one workshop, which has the advantage of combining the different typological strands. The comparison illustrates the different strategies with which the painters and traders prepared and carried out the transport. I chose the Leagros Group because of the surprisingly high number of trademarks⁴ on its large vessels, hydriai and amphorae (smaller vessels were marked only occasionally).⁵ The aim is to reconsider Johnston's suggestion of a direct collaboration between a specific painter and trader.⁶ But to stop here would just rewrite Johnston's conclusions from a different angle.

My goal is rather to use the evidence for two purposes. The first point concerns the transfer of knowledge or: did painters in Athens know what their recipients in Etruria wanted? While much that has been argued on this topic, since solid conclusions can only be drawn from the two ends that are able to convey information: painters and traders.⁷ A second field, at first glance a field for specialists, is that of attribution. As certain marks can be argued to indicate certain painters, this offers us a means to assign vases not yet classified: a method that moves beyond style. Groups or single painters would be more easily recognizable, and we would get a better idea of how many painters worked for the few potters, and of their relationship to each other.

This short contribution is part of a work in progress, which can only be realized by studying the originals. It already benefits from visits to museums and further visits will follow in the near future. A main reason for studying the objects in the museum is that only by looking at the original itself (and best by using a microscope) can the decision be made about the moment of incision, especially concerning pre-firing. Still, we profit from a change in publishing trademarks: instead of drawings⁸ we now offer photographs.

In the following I shall introduce three networks that transported most of the large vases produced in the workshop of the Leagros Group. This group is the most productive workshop of the late 6th century in Athens. Their repertoire consists mainly of large vases, amphorae, and hydriai. Almost all of them were shipped from Athens to Etruria and almost exclusively to Vulci. As a whole, the Leagros Group is not difficult to define.

At least two potters produced the vessels and demanded a certain form of ornament: the Lea Potter was the main potter and the one exclusively employing painters of the group, and requested palmettes; on the other hand, the Club-foot Potter asked for lotus buds.⁹ Shape and ornament work as a corporate design which both potters and painters prefer in order to promote their artistic personality.¹⁰ This creates many problems in defining individual painters.¹¹ Beazley limited himself to just a few, the most prominent being Painters S and A whose vases will be the core subject of the following presentation.



Fig. 1: Kalpis Munich, Antikensammlungen SH 1729.



Fig. 2: Kalpis Würzburg, Martin von Wagner Museum der Universität L 323.

I would like to start with one clear example. The feet of two kalpides in Munich and Würzburg (figs. 1. 2),¹² which were both found in Vulci; they have matching marks (two marks each), and the IA is obviously incised by the same person while the second sign seems to differ a bit. Both marks have been added after the firing of the vase, incised with different instruments and to different depths. Two hands writing the same mark indicate a company with “employees”. The two trademarks indicate that these two vessels were transported by two traders and/or companies; the sequence of the two, however, is difficult to establish. A look at the vases themselves shows us that they share shape and ornament; they are the work of the same potter and painter, thus confirming Johnston’s thesis of a direct collaboration between painter and trader.

Let us now turn to the first of the three networks, that of the S Painter. The feet of two hydriai in Munich and London, respectively, show the same sequence of marks (figs. 3. 4).¹³ With regard to the writing and the depth of incision, the following go together: Λ HKY:K Θ : Λ H – the deltoid sign – the strokes and the neighboring Λ H. They give first a vase-name, probably lekythoi; Ionic numerals were confirmed by the same number of strokes, and finally Λ H, in two versions. The clean-cut edges of the signs show that the sequence of the first marks, including the first Λ H, have been incised prior to firing. The second, bigger Λ H, however, is incised in a deeper manner that left



Fig. 3: Hydria Munich, Antikensammlungen SH 1717.

more ragged edges, which means that it was added at a later point.¹⁴ It certainly serves as a countermark¹⁵ and proves the delivery of the vase to trader ΑΗ. The set of marks thus proves that the sequence of traders was clear from the beginning, even when the vase was still in the workshop. Two traders were involved, namely ΑΗ and the one using the monogram of the deltoid sign.¹⁶ This close connection is further confirmed by the foot of another hydria in the British Museum whose Α of the ΑΗ has been used as the top of the triangle of the deltoid mark.¹⁷

So, what at first looks like a complicated system, in fact is quite simple and straightforward. According to the information from the feet of the above-mentioned large hydriai, two traders organized the transport to Etruria. But not only hydriai served as



Fig. 4: Hydria London, British Museum 1843,1103.84 (B 320).

media for this set of information but also belly amphorae (fig. 5).¹⁸ Neck-amphorae provided the basic mark ΛH ¹⁹ or ΛH and the deltoid sign,²⁰ thus not necessarily all the information but obviously enough to secure the transport. The small vases, at least the lekythoi, do not seem to have been marked, other than the lids of neck-amphorae: they carried the deltoid sign on the underside.²¹ This one mark was seemingly needed to confirm their belonging to the neck-amphorae of this painter, the more so since lids for neck-amphorae were produced at this time in one shape (“Einheitsform”).

To conclude, we have collected evidence for a network that transported master vases (hydriai and belly amphorae) with the complete set of information together with an assortment of smaller vases. This was done in two steps from the workshop to Vulci as indicated by the traders ΛH and the deltoid sign. The marking in the workshop proves that it was here where people prepared the shipping; if we were allowed to speculate, we would imagine that the master vase was laid on the shelf with the underside of its foot visible, and its accompanying vases put next to it.

That it was the workshop of Painter S, so-called and established by Beazley, is evident by the conformity of the hydriai in terms of shape and ornament. The combination of features of potting, ornament, as well as its mark stress that more vases have to be at-



Fig. 5: Amphora Type A Munich, Antikensammlungen SH 1413.

tributed to this workshop.²² Trader ΔH additionally transported the hydriai painted by Phintias, whose vases travelled with a number of XY.²³ Phintias was one of the main painters in the workshop of the Pioneer Group, thus adding to the growing evidence for a strong connection between these two workshops.²⁴

A second network transported vases by Painter A.²⁵ Several marks appear in different assemblages (figs. 6. 7), namely the dipinti ME and AP, as well as the graffiti ME – Δ – ΔF (as ligature) – Σ – A.²⁶ The A is certainly the best visible letter as it is deeply incised. What is striking is the consistent writing: in almost all cases it is done with a curved line. This letter consistently has rougher edges than the other marks and has therefore been incised later than those, and was the last added to the sequence.²⁷ I take this as an indication that this mark probably stands for an Etruscan, as suggested by A. Johnston and J. de la Genière.²⁸ This trader would have taken care of the last part of the transport to Etruria, and finally to Vulci. The dipinto is painted in black glaze, the same material used for the decoration that marks the opposite end. This has undoubtedly been added by somebody in the workshop, probably the painter himself, certainly pre-firing. As in the case of the workshop organization of Painter S, it de-



Fig. 6: Hydria Munich, Antikensammlungen SH 1708.

clares that the marked vase should be assigned to traders ME or AP respectively, the person who would eventually collect the piece. It is worth noting in this context that both abbreviations were also marked as graffiti, thus confirming that the vase has not been custom-made but chosen at some later point. This point seems to be when it was still in the workshop judging from the light incision with no apparent rough edges on the letters.

ME is most interesting because in two cases, the E has been combined with a Δ . A. Johnston took this to be an over-incision;²⁹ in the case of Munich SH 1708 I disagree.³⁰ My argument would be that there is no intention to destroy the lower mark as is the case on a hydria in Leiden.³¹ There several horizontal strokes covering the Δ F, part



Fig. 7: Hydria London, British Museum 1837,0609.48 (B 314).

of the system of Painter A, in order to replace it with the mark BY: this is an interesting process, to which I will return. Both the marks ME and Δ are furthermore characterized by their shallow incision, contradictory to the other marks with their deeply cut letters and rough edges; this supports the assumption of early marking. All other marks must have been incised later and therefore stand for the traders who covered the way from Athens to Vulci.

In comparison with the system of Painter S, there are similarities and differences. Again, vessels are marked in the workshop or just a bit later through dipinti or graffiti. The transport starts with two names – ME and AP – and from there takes a different way since several traders are involved: Δ – ΔF – Σ . If we accept this compilation as the network of Painter A, whose vases are the work of the Lea Potter and are decorated with palmette chains hanging upside down, further vases belong in this workshop.³² One example is the hydria Munich SH 1708, which had been assigned by Beazley to the heterogeneous group of the Painter of Vatican 424.³³

The third and last network is once more different. Mostly, it has single marks – as ΛE or BY – that indicate just one trader who acquired the vases on the market. In this case, the marks were added sometime after the firing process (since they have rough edges),



Fig. 8: Hydria Munich, Antikensammlungen SH 1719.

and were then shipped to their place of destination. The Λ E-Hydriai (fig. 8)³⁴ share the shape – they all are the work of the Lea Potter – and the ornament, a chain of palmettes alternately hanging and standing, with an inserted ivy leaf. In Beazley’s lists, these vases ended up in different groups, on the basis of stylistic criteria. If we, however, take shape, ornament and trademark as defining elements, the vases all belong together. The BY-hydriai (fig. 9)³⁵ are the work of two potters and therefore display two systems of ornament. Louvre F 302 proves that traders Λ E and BY occasionally worked together. The fact that vases are in danger of ending up in the wrong shipload is evident in the case of the hydria in Leiden that we have already seen. A third trader, Π , is involved in this network, through cooperation with BY. Therefore, single traders transport vases of



Fig. 9: Munich, Antikensammlungen SH 1715.

this painter who works for two potters, single traders who only occasionally cooperate. Their relationship to the workshop is more casual than in the networks of Painters S and A.

In conclusion, all three networks have confirmed Alan Johnston's thesis of a link between painter and trader, with different levels of intensity. For the first two networks, there are direct traces of traders ordering or choosing their commodities in the workshop. This enabled an intensive exchange of information, in both directions, with traders acting as agents. The painter could get to know what his recipients in Vulci would prefer, in terms of topic and composition, and he could relay to his potter what shapes they favored.

These different kinds of networks invite us to review questions such as commissions, or at least to think about the extent of influence traders and networks could take. Trading networks as well as workshops matter. This has been a first insight into the workshop of the Leagros Group. More networks have to be studied, and more letters and signs have to be scrutinized in order to get the whole picture of the export of these commodities to Etruria. In a second step these abstract networks have to be translated into the world of actual trade, with the aim to substantiate the process of transport.³⁶

Notes

¹ My deepest thanks for their inspiration as well as help in framing this article go to Alan Johnston and Astrid Möller. The attendants of the AIAC lecture were a wonderful audience stimulating further research by their questions, remarks and comments. I especially thank E. Kefalidou, M. Kiderlen, N. Massar, A. Tsingarida and V. Vaelske. Work in museums was made possible by A. Coulié, J. Griesbach, N. Massar, G. Plattner and, most of all, A. Villing, whom I also thank for stimulating discussions about the making of marks. Last but not least, J. Gebauer and A. Buhl were extremely helpful not only in providing the same vases again and again but also in discussing my problems. – For further results of this project see now B. Kreuzer, *In der Mitte der Leagros-Gruppe: Die Bauchamphora München SH 1417 und die Simos-Gruppe zwischen A- und S-Maler*, in: E. Giudice – G. Giudice (eds.), *Studi miscellanei di ceramografia greca 7* (Catania 2021) 153–182; B. Kreuzer, *A-Maler und Euphronios: Mehr als nur Kollegen?*, in: *O pais kalos. Scritti di archeologia* (in print 2022).

² Kreuzer 2017, pl. 78.

³ R. Hackl, *Merkantile Inschriften auf attischen Vasen*, in: *Münchener archäologische Studien. Dem Andenken Adolf Furtwänglers gewidmet* (Munich 1909) 5–106; Johnston 1979. See also the important additions in Johnston 2006, particularly for the overall picture of “Trademarks, Trade and Economy” on p. 28–33.

⁴ Over two-thirds of the vases of this group, according to Johnston 1974, 142. For the group see ABV 354–391; Kreuzer 2017, 81–82, for the trademarks see Johnston 1979, 45 and types 5E, 8E, 9E, 10E, 11E, 17E, 24E, 1F, 2F and 9F.

⁵ E.g. the oinochoe Altenburg 209: BAPD 351235; CVA Altenburg (1) pl. 20, 6; Johnston 5E, 15. Many thanks to S. Reim for providing a photograph.

⁶ Johnston 1979, 45.

⁷ Cf. the remark by Johnston 2006, 28.

⁸ As for example in the early volumes of the CVA for the Munich Antikensammlungen, CVA Munich (1) for the black figure belly amphorae or CVA Munich (5) for the early red figure hydriai.

⁹ Kreuzer 2017, 82.

¹⁰ The neck-amphora add a second type of this corporate design by using a specific form of handle ornament, see E. Kunze-Götte, *Ornament und Werkstatt*, in: M. Bentz (ed.), *Vasenforschung und Corpus Vasorum Antiquorum, Beih. 1 CVA Deutschland* (Munich 2002) 97–110.

- ¹¹ B. Kreuzer, Töpfer und Maler, Klasse und Gruppe, in: S. Schmidt – N. Eschbach (eds.), *Töpfer Maler Werkstatt*, 7. Beih. CVA Deutschland (Munich 2016) 96–106.
- ¹² Munich SH 1729: BAPD 302893; Kreuzer 2017, pl. 79, 2 and Würzburg L 323: BAPD 302899.
- ¹³ Munich SH 1717: BAPD 302031; Kreuzer 2017, pl. 78, 4 and London, BM 1843,1103.84 (B 320): BAPD 302044; Johnston 2F, 51 fig. 11h; 14F, 13.
- ¹⁴ If indeed after firing or just late in the process of drying remains open.
- ¹⁵ Johnston 1979, 222.
- ¹⁶ The foot of the hydria Stockholm 1968.123 further underlines the strong coherence by writing together LH and the deltoid mark: BAPD 302016; Johnston 1979, 153 2F, 44; C. Scheffer, *Two late Attic black-figured vases*, *MedelhavsMusB* 11, 1976, 32 fig. 5–6.
- ¹⁷ London, BM 1837,0609.49 (B 313): BAPD 301996; Johnston 1979, 2F, 43; for further examples see Johnston 1979, 221. Again, the marks have been incised in the same way – in terms of handwriting and depth of incision.
- ¹⁸ As Munich SH 1413: BAPD 302080; CVA Munich (1) p. 30; Johnston 1979, 2F, 52.
- ¹⁹ Johnston 1979, 2F, 3–5.
- ²⁰ Johnston 1979, 2F, 12–14.
- ²¹ Johnston 1979, 3F 2–4.
- ²² As Munich SH 1716: BAPD 302020; Kreuzer 2017, pl. 78, 3.
- ²³ Munich 2421 and 2422: BAPD 200126. 200127; CVA Munich (5) p. 17 and 15, as well as London, BM E 159: BAPD 200130; Johnston 1979, 2F, 34–36.
- ²⁴ The same mark on the amphora of type A by the Leagros Group London, BM B 1837,0609.47 (B 158: BAPD 302100; Johnston 1979, 24E, 3 and fig. 10), and the pelike by Euphronios Rome, Villa Giulia: Johnston 1979, 24E, 10; CVA Rom, Villa Giulia (4) p. 21.
- ²⁵ Johnston 1979, types 9E – 11E.
- ²⁶ Kreuzer 2017, pl. 77, 2–4. 6; 78, 6; 79, 4.
- ²⁷ These marks provide rare examples of writing along the road, by the trader himself or a member of his crew. This is opposed to all the marks that have been or seem to have been added in the workshop. Cf. also Johnston 1974, 144.
- ²⁸ Johnston 1979, 211; J. de la Genière, *Quelques réflexions sur les clients de la céramique attique*, in: M.-C. Villanueva Puig et al. (eds.), *Céramique et peinture grecques. Modes d'emploi. Actes du colloque international Paris 1995 (Paris 1999)* 419; Johnston 2006, 28.
- ²⁹ See Johnston 1979, 210 (11E, 21). 221.
- ³⁰ Munich SH 1708: BAPD 302000; Kreuzer 2017, pl. 77, 2.
- ³¹ Leiden PC 33: BAPD 302052; Johnston 1979, 5E, 21 and 11E, 48 pl. 19.
- ³² Munich SH 1712 (BAPD 302029; Kreuzer 2017, pl. 77, 6) shares the marks (in different handwriting) and the palmette ornament (in different style) with the hydria SH 1713, a work of the Rycroft Painter (Kreuzer 2017, pl. 76, 4). SH 1712 and NI 9818 (BAPD 351199; Kreuzer 2017, pl. 78, 6), have, according to the A-mark, been transported by the same Etruscan trader as the previously mentioned vessels painted by Painter A. Furthermore, SH 1712 shares the same marks, the A and Z, with SH 1710 (Kreuzer 2017, pl. 77, 4). 1712 and 9818, however, complicate the picture because of their ornamental decoration: the palmettes differ in their direction from Painter A.

³³ ABV 359. 360, 5.

³⁴ See Johnston 1979, 17 E; all vases of the late 6th century are products of the Leagros Group, e.g. Munich SH 1714 and SH 1719: BAPD 302061 and 302008; Kreuzer 2017, pl. 78, 1 and 78, 5, in different handwriting.

³⁵ Johnston 1979, 5E, the overwhelming number being products of the Leagros Group. For the two potters, see Munich SH 1702 and SH 1715: Kreuzer 2017, Beilage 15, 2 and 22, 1; pl. 34, 5. 6 and 46, 3. 4. For the marks see Kreuzer 2017, pl. 76, 6 and 78, 2. The mark supports the attribution of the hydria London, BM 1837,0609.61 (B 306): BAPD 302063, assigned by Beazley to the Antiope Group I (ABV 365, 68) and by H. Bloesch to the Club-foot Potter (Bloesch Archive, Zurich), supports the attribution to the same group as SH 1715 as suggested on the basis of shape and ornament: Kreuzer 2016, 102.

³⁶ The remarks concerning stowing and packaging on board of the ship by Johnston 1974, 143 fn. 1 could be a starting point.

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**Networks at Work: Trade and Transport
of Roman Building Materials in the Mediterranean**

Panel 5.13

**Organized by
Lynne Lancaster**

Selling Tiles by the Thousands. Roman CBM Cargoes in the Mediterranean

Elizabeth Jane Shepherd

In recent years, there has been a welcome increase in studies of the economy of ceramic building material (CBM). Most importantly, the data on the CBM are now studied in the field at the moment of discovery, unlike in the past when historical interpretation was based largely on an epigraphic analysis of the brick stamps or a stylistic analysis of the decorative parts.

Moreover, the field of economic history is establishing a new way to evaluate the results of data relating to CBM by shifting the focus to networks of production and consumption, placing emphasis on building materials as a unified economic phenomenon rather than simply a collection of individual elements, and by considering the social, organizational and economic impact of their transport from production site to construction site.

I have myself stressed the existence in Roman Italy, but also elsewhere, of basically two different types of Roman plain rooftiles (the “*tegola con risega*” and the “*tegola con incasso*”, i.e. with a recess that affects the entire lower end of the flange for about half of its thickness, or with a cavity of roughly trapezoidal shape in the outer part of the lower end of the flange). These types point to different geographical and cultural areas of production in the countries of the Central-Western Mediterranean but can, albeit more rarely, be found in the same contexts; however, they also require different construction practices in the laying of the roof.¹

From an archaeological perspective, the analysis of the chronological and geographical distribution of the two types reveals that the *risega* type from the Roman period is derived from the archaic tiles of central-southern Etruria, and parts of Lazio and Campania; while the *incasso* type is widespread in Magna Graecia and mountainous central Italy. From the 4th c. BC Roman colonial expansion southward reached the areas where the *incasso* tiles were used: from that point this was the type of tile introduced by the Romans during their colonization and also the one introduced by the military after their conquests. Epigraphy tells us that the Roman magistrates charged with managing the new foundations made sure to include among the colonists their own clients and workers from territories where they owned land in central Italy. These people spread the typical “building style” of their own tradition – the use of the *incasso* tile is thus the result of this system of colonization and expansion by the Romans.

From an engineering perspective, the choice to use the *incasso* tile was based mainly on technical and functional criteria. The essential purpose of the roof was to guarantee resistance to snow, rain, wind, frost and to protect the wooden roof structure; the *incasso* tile was better suited to resist snow loads, water infiltration and high winds because of the “locking” action of the interconnected tiles. Roman colonization followed

an arc around the Adriatic and the Alps and then spread into the northern territories: from a technical standpoint, this is the same geographical area of the greatest snowfall, another explanation for why the most rigid and self-locking tile is the one that settlers and the military decided to employ.

However, the pattern we have just outlined must be corroborated by examining the “closed context” of CBM cargoes from shipwrecks, twenty-six of which have been found in the Mediterranean. It is widely accepted today that some of them (9, dated between late 1st c. BC and the mid 2nd c. AD) are in fact specialized consignments for specific building projects and not simply return cargoes (or even ballast), as was commonly thought in the past. Also the interconnection between these wrecks, epigraphic data, and land finds can shed light on the trend of commercial activities. For example, tiles produced ca. 50 BC–50 AD by the *gens Arria*, a family from Campania who owned factories and ships engaged in trade with Gallia, reveals that the family supplied the military annona and its associated negotiators with their own *incasso* type roof tiles.

Another example is provided by the presence in Tunisia of *risega* tiles with urban stamps of the *Domitii* brothers, *Lucanus* and *Tullus*, who were among the largest producers of brick along the Tiber valley and who also held magistracies in North Africa (under emperor Domitian, late 1st c. AD). The tradition of *risega* tiles imported from Rome must have taken root locally, as in the first half of the 5th c. the Scauri wreck (near Pantelleria) was carrying a load of the urban *risega* tiles that archaeometric analysis has identified as Tunisian products – the *risega* tiles apparently had been adopted in Africa and had then become an export item, on a reverse route to Rome, where tile production was by then limited and its transmarine export had ended.

The study of CBM finds offers great potential for our understanding of production, commercial dynamics, and even cultural transmission in the Roman world. In order to continue this line of research, it is important to record information regarding CBM finds, including typological characteristics and archaeometric data, and even to revisit the material from previous excavations.

Notes

¹ Shepherd 2015.

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The Timber Trade and Transport in Roman Italy

Francesca Diosono

The degree, to which wood represented a fundamental material in the Roman period, is difficult to evaluate today due to various factors: the profound technical and technological changes that differentiate our world from ancient times, the perishable nature of wood,¹ and lacunas in the ancient sources regarding its trade and use due to its ubiquity.² In order to investigate timber production and trade in the ancient Mediterranean³ (and, in our case, Roman Italy) one must use a variety of sources to tackle such a complex sector of the market: historical, archaeological, and epigraphical. The latter provides a useful example of speculation on the price of wood, charcoal, and timber at Delos in the first half of the 3rd c. BC. Given the scarcity of trees on the island; the need to import these materials took foreign traders to sell and buy timber in Delos where high demand led to an increased sales and a consequent rise in prices. In order to maintain a reasonable price, a law was enacted (preserved in an inscription)⁴ to control the speculation in wood.

The timber trade represents a substantial slice both of ancient commercial activity due to the volume of material and number of buyers involved. Romans distinguished between *lignum* and *materia*, as is noted in the Digest,⁵ which defines as *lignum* as all wood used *comburendi causa*, and *materia* as *quae ad aedificandum fulciendum necessaria est*.⁶ Timber (*materia*) was used on construction sites, it served as temporary structures such as bridges, theatres, and fortifications, and it was used in shipyards both for shipbuilding and for jetties and wharves. Wood (*lignum*) represented the main source of energy, together with its derivative charcoal. One of the main factors regulating the timber supply network was its transport. It was felled in rural areas but was typically destined for urban areas where it was stored, worked, and put to use. The costs of timber are linked to multiple factors: the distance between the place of production and final consumption, the production times, and the material weight, volume, and perishability.⁷

Timber (*materia*) is the most costly wood product because it must correspond to particular requirements in length, resistance, and volume. For carpentry more attention is paid to choosing a species that is best for the purpose, although there is a tendency to use what is available in the surrounding territory. On the contrary, wood (*lignum*) is a product that is less specialised and is consumed at a much greater rate. It is supplied from branches, logs, shrubs, young trees and other materials of little value, that are more easily available. For fuel wood, the quantity is more important than the quality. Furthermore, non-wood combustible materials, such as agricultural waste products, are often used alongside wood as fuel.

In Diocletian's Price Edict⁸ the prices for *materia* are fixed in reference to the length and volume of the trunk and squared beam. The fir and pine cost almost twenty times more than the wood from other species, given that they are the trees most commonly used for construction and shipbuilding (as they grow taller than other trees in a rela-

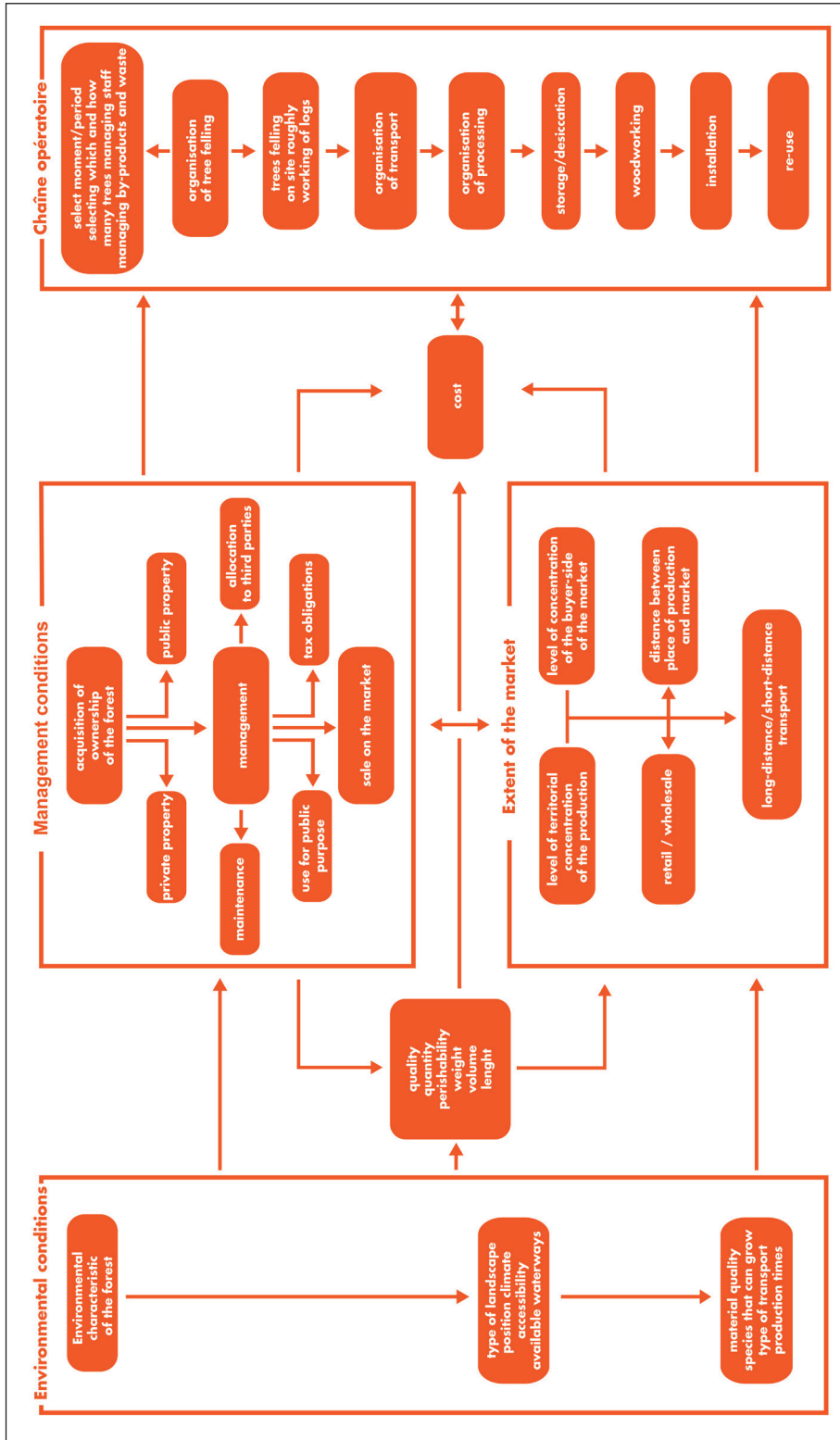


Fig. 1: Timber in Roman economy: production, market and chaîne opératoire.

tively short time and guarantee adequate resistance to bending forces). The prices of *lignum*⁹ simply vary according to weight. Prior to the Edict, we only have the testimony of Pliny, who refers to the price for a raft of timber¹⁰ and the price of precious woods,¹¹ which are however only used in small quantities for the creation of luxury furniture.

Consequently, we can state that wood (*lignum*) was normally supplied by the local market (with the exception of territories with a particular lack of vegetation or where demand exceeded availability, as in the case of Rome), while timber (*materia*) also arrived from forests that were far from the place of use. Therefore, the timber trade was wider ranging and more profitable, but required greater organisation and planning for the selection of the species and the individual trees to be felled, the rough-working on site, the storage for seasoning and, above all, the long distance transport (fig.1).

Production

Timber could come from publicly or privately owned forests. In the Roman period, forests and pasture, as non-agricultural land, were usually common land and destined for use by the local community. According to Cicero, this type of timber supply from public lands dates as far back as Ancus Marcius, to whom he attributes the *publicatio* of the Roman forests.¹² The public forests could be managed by the community for profit¹³ or for the needs of the community itself.¹⁴ For example, the wood for the local baths or timber for repairing public monuments could also come from state or municipally owned forests.¹⁵ Clearly, this could satisfy the needs of medium-small urban centres but not those of large cities. As this was *ager publicus*, Rome probably received an income from its own forests by contracting out their use to *publicani*. E. Rawson¹⁶ has identified a forest in the part of the *ager publicus* rented by Terentia and for which a fee was requested by the *publican*.¹⁷ In a second passage, Cicero¹⁸ refers to violence and murders in the forests of the Sila, where a company of *publicani* managed the extraction of pitch. The imperial administration gradually substituted the system of contracting to *societates publicanorum* and took over the collection and management of revenues from the *ager publicus* destined for the public sphere¹⁹ (perhaps still largely paid in kind)²⁰. Other forests had to be located within the *res Caesaris*. Consequently, the emperor had at his disposal a large quantity of building timber both for his own construction projects and for public ones.

Latin authors writing on agriculture advised the owners of agricultural estates on the good practice of having a *silva caedua* (from *caedo*, to cut, which is subjected to regular cutting/coppicing)²¹ on their lands, as it required low investment with a guaranteed revenue²² and almost no costs given that there was hardly any maintenance. Forests were even considered preferable to a vineyard,²³ so much so that a forest is also defined as “the daughter’s dowry”.²⁴ According to Cato,²⁵ the *silva caedua*, which produced both wood and timber, was more profitable than the *silva glandaria* (mast-wood), which was

linked to grazing and primarily to the collection of acorns and beechnuts. The vineyard was a speculative cultivation, whose production depended on the weather and the profits from market demand, whereas the forest guaranteed a conspicuous and constant income because wood (for fuel or construction) did not depend on the quality of the season and was always in demand. Cicero²⁶ called the heir, who sold the forest before the vineyard foolish, given that a forest provides a revenue that also safeguards the patrimony. In fact, a forest represents a form of insurance for a landowner: the *dominus* can go without cutting trees for years, then when extraordinary expenses occurred, the sale of the tree trunks would cover a large part of the losses. Furthermore, the landowner could sell the right to cut trees in his own forest for several years, or sell the trees still standing on his land.²⁷ Pliny defines the income from the sale of timber from the woods he owned as modest but assured;²⁸ in this case, the vicinity of the Tiber made the exportation of wood to Rome one of the most profitable activities in the region. An examination of the ancient sources shows that the presence of *silvae* within a patrimony represented a good option for those interested in diversifying investments, especially for the owners of several and/or extensive *fundi*. Therefore, trade in wood was primarily the domain of economic elites.

Forests were subject to lower taxation than that imposed on agricultural land, given that the immediate earnings were also lower. The Theodosian Codex²⁹ and Siculus Flaccus³⁰ both attest that forest owners were subject to the *munus* of providing wood to the Roman state for the army, fleet, public works, the baths, and imperial workshops. Therefore, the central administration also received wood and timber necessary for public use through taxes paid in kind by private landowners.³¹

Trees were usually felled in the autumn, once the yearly period of growth was over. At that point, the number and choice of specific trees to be harvested was made. The tools of the woodcutter in the Roman period were the axe, the saw, and wedges. Once felled, the tree, still with its bark, was roughly worked in order to facilitate its transport. The waste materials could then be used for faggots, charcoal, wood for burning or to be worked.

Transport

After the tree was felled, the trunk was transported, by means of wagons or boats, to the place where it was to be worked and stored. The trees were cut down at the roots and transported by water to the nearest ports for the creation of beams for shipbuilding whereas trees that were too far from transport routes were cut into sections, carried over land and used for carpentry or as fuel.³² At this point, the wood was dried in large warehouses, and the surfaces were treated to prevent warping and the appearance of marks. The drying process could take years, according to the type of wood. Dionysius of Halicarnassus praised Italy for the number of navigable rivers that facilitated the

transport of its abundant supply of wood.³³ Pliny³⁴ describes trunks 30 metres long, dragged down from the Apennines by ten or fifteen mules to then be transported to Rome on the Tiber. Dionysius, in his description of the transport of timber from the Sila forests of southern Italy, distinguishes between trees that were found near the sea or rivers.

Wood is a commodity often harvested on high land and transported to lower regions by floating them down rivers.³⁵ If the flow was insufficient, rivers were blocked with temporary dams artificially increasing the flow by releasing the accumulated water all at once thus facilitating and accelerating the wood's journey. The free floating of the trunks only occurred on the smaller rivers, whereas on major rivers the trunks were assembled to form rafts and guided downstream or hauled from the bank by animals or slaves³⁶, which was a way of avoiding losses through sudden flooding, of minimising obstructions and backups, and of protecting from theft. Binding the timbers into rafts facilitated passage under bridges and through locks, and helped prevent damage to riverbanks, ferries, mills and other structures along rivers. Moreover, the rafts could be used to transport other heavier commodities such as other wood, *opus doliare*, barrels, brick/tile, stone, and amphorae. The rafts also allowed for the organisation of loads according to ownership, wood type, and trunk dimension. Pliny the Elder³⁷ notes that the only navigation on the upper reaches of the Tiber was by floating timber (*trabes*) and rough, flat *rates*, which according to Festus³⁸ were originally rafts of bound tree trunks.

I have previously proposed³⁹ that the organisation of the transport of lumber by river was largely handled by the college of *dendrophori*. Organised as a religious association and a professional corporation at the same time, the college of *dendrophori* (tree-bearers) was formed under the reorganisation of the cult of the Magna Mater during the reign of Claudius, who linked the cult of the Phrygian goddess of the mountains and waters and that of the tree-god, Attis, to the *dendrophori*, thereby placing the latter under the control of the central administration (*sub cura quindecimvirosum*). Thus, the imperial authority gained greater control over the corporation tied to the exploitation and management of forests,⁴⁰ a large number of which were imperial property or *ager publicus*. The emperor was the largest private owner of forests, and thus administered the exploitation of the State forests by using the *dendrophori* to manage them.

The *dendrophori* have been defined as woodsmen or carpenters, as carriers of timber and most commonly wood and timber merchants.⁴¹ A. Zamboni⁴² has identified the *dendrophori* of *Berua* and *Feltria* as those who piloted the timber rafts.⁴³ In 415 AD, the Christian emperors Honorius and Theodosius issued a law⁴⁴ against the gathering of pagan religion associations, which also foresaw the confiscation of goods and properties belonging to the *professiones gentiliciae*, including the *dendrophori*, but not the dissolution of such colleges. The latter continued to be useful to the state in their professional capacity and for the *munera* the state obliged them to fulfil.⁴⁵ A high percentage of places where the *collegium dendrophorum* is attested occur in centres situated in for-

ested areas overlooking river valleys or lakes and sea,⁴⁶ thus emphasising their activities in water transport.

The literary sources tell us that timber arrived in Rome from the Apennines along the Tiber⁴⁷ and also by sea on board ships.⁴⁸ Vitruvius⁴⁹ lists the best trees for use in construction: primarily fir, which together with pine provide the longest timbers. He adds that the best trees grow on the Tyrrhenian side, as it gets more sun, but concludes that it is unnecessary to import expensive materials from distant places when adequate local alternatives are available at lower cost because the transport is less onerous. As long as construction development in a town remained modest, the timber was easily found in nearby forests. However, in Rome⁵⁰ the continued growth of public and private building and the expansion of the fleet soon upset the balance between demand and availability in the area. As buildings increased in dimensions, it was necessary to find trees of exceptional size. With the growth in its market, Rome induced the Italic communities to contribute and the local market systems were gradually integrated into the network supplying Rome, thus large quantities of wood products were rerouted away from local markets to supply to the capital. Rome became the greatest centre of timber consumption within the vast production area serviced by rivers and the sea.⁵¹ A symbolic case is the transport of larch from the Alps, described by Vitruvius.⁵² The trunks were tied together to form rafts hauled by slaves or floated on barges made of lighter wood. These were transported along the various valleys as far as the river Po, where once they reached its mouth at Ravenna the timbers were loaded onto special ships that travelled down the Adriatic, through the Straits of Messina and then up the coast as far as Ostia.⁵³

Sale and Use

The distinction between *lignum* and *materia* is also reflected in the names of those who dealt with each: the *lignarius* and the *materiarus*. Plautus⁵⁴ writes of a *materiarus* as a seller of wood products, which is probably the occupation of the *materiarii*⁵⁵ (who are also known *sectores materiarum*⁵⁶ (fig.2) and *negotiatores materiarium*)⁵⁷, whereas those who worked the wood destined for construction and naval carpentry were the *fabri tignarii* and the *fabri navales*. The Digest⁵⁸ refers to a case, in which a college of *fabri* is named as the heir to the woods that *caedere solent*. Gaius⁵⁹ defines *fabri tignarii* (from *tignum*, beam) as *non eos dumtaxat, qui tigna dolarent, sed omnes qui aedificarent*, i.e. those who worked and built with beams, while the *fabri navales* worked in the shipyards. Both were jobs that required a high level of professionalism and skill, organisation and experience, which is also reflected in the complex internal hierarchy existing among those who worked on large building sites. According to Meiggs,⁶⁰ when wood ceased to be the main construction material, the name *fabri tignarii* was used to indicate builders in general.



Fig. 2: Funerary stele of a *negotians materiarius* from *Florentia* (CIL 11, 1620), with representation of professional tools.

The *lignarii* were woodsmen or traders in wood for use as fuel.⁶¹ In the *glossae*⁶² they are defined as *operarii qui ligna caedunt, dolant, vendunt*. Palladius⁶³ and Isidore of Seville⁶⁴ defines them as *fabri* specialised in working small sized wood, thus carpenters. The *lignarii plostrari* in Pompeii are identified with the suppliers who transported timber from the forest to the city on wagons.⁶⁵ Probably, the term *lignarius* was more generic than *materiaris* and could refer both to the sellers of fuel wood and to those who worked wood.

Like other commodities and materials, timber was probably also stamped⁶⁶ to indicate the ownership, its commercial or fiscal nature or to guarantee quality. The epigraphic evidence regarding wood comes mainly from harbour structures, in which timber construction elements are preserved underwater: the evidence from Anzio⁶⁷ (fig.3) shows that these marks also provided commercial information, not only indications useful for their positioning.

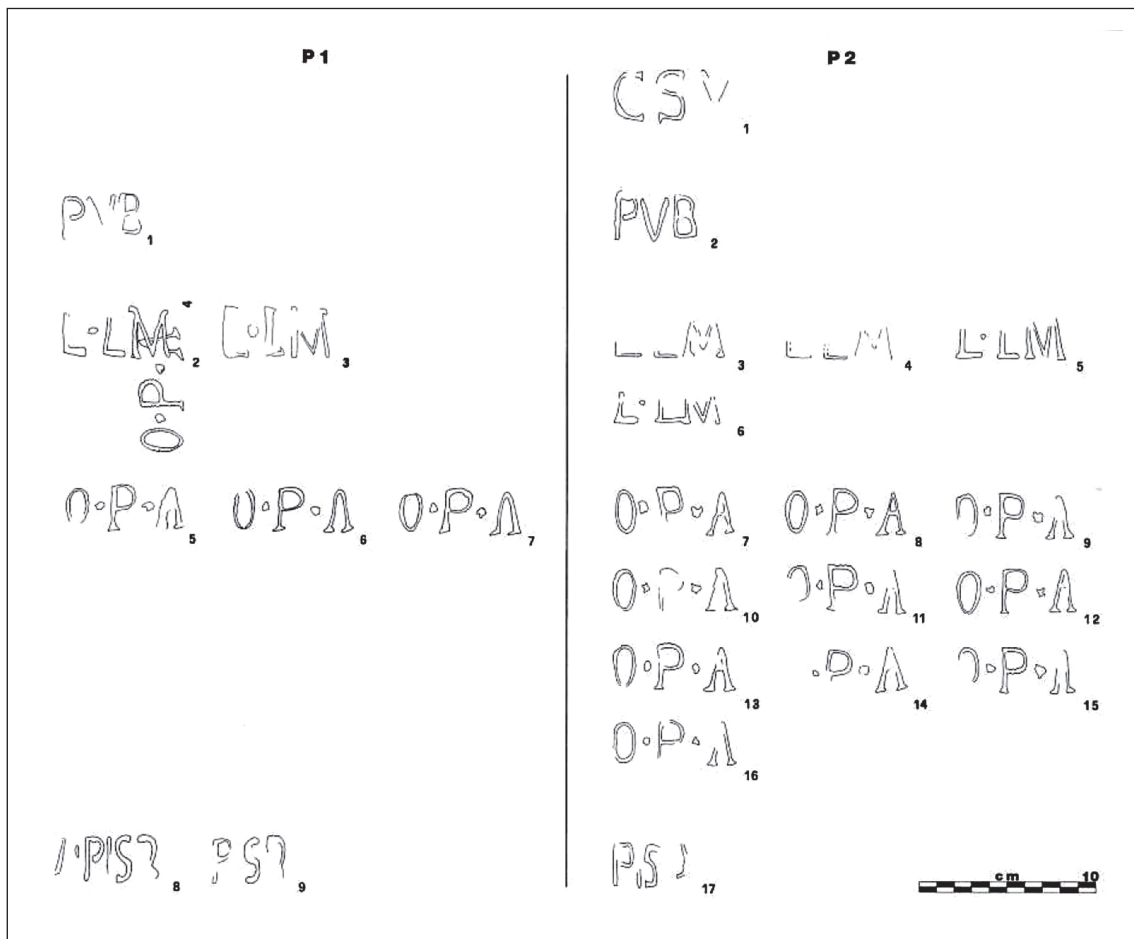


Fig. 3: The marks on the wooden beams of the Anzio wharf.

The Data from Anthracology and Dendrochronology

Laboratory analysis of wood samples has been increasingly employed in recent decades to identify the species, working methods, chronology, and provenance. The two most common methods are anthracology and dendrochronology. Unfortunately, the application of these methods in Roman archaeology has been limited. Regarding Italy, the data is only sporadic, mainly concentrated in the territory of Pompeii and environs.

Anthracology is usually used to identify the species from charcoal samples, but these data have primarily been used to reconstruct the environmental context surrounding the site from which they were gathered. The methodology is based on the premise that the species are local given that wood for fuel and charcoal would not have travelled long distances. However, we have seen from the historical and epigraphical sources that for the Roman world, this was not always the case. Wood for fuel sometimes circulated over long distances; for example, various Italian and African territories were obliged to supply it to the baths of Rome.⁶⁸ Therefore, the analysis of the anthracological remains alone, without the support of other palaeo-environmental analyses, cannot be used to reconstruct the local landscape but rather to understand which species were in use in a particular period on the sites in question.

Most of anthracological studies deal with charcoal from wood used as fuel. At Pompeii, R. Veal has analysed charcoal samples from fire wood (particularly the House of the Vestals and the House of the Surgeon) and has showed how the type of fuel changed in species, quantity, and uses between the 3rd c. BC and 79 AD.⁶⁹ She also identified the range of the supply network based on the altitude, at which the identified species grows and has attempted to reconstruct a model for supply strategies from local forests. Veal's analytic work is accurate, but the reconstruction of the quantitative model of the economic-commercial picture of the wood market goes beyond what the available data allow, both for Pompeii⁷⁰ and for Rome.⁷¹

Data from samples of both fuel wood and timber have been analysed from the late antique phases of two villas at Somma Vesuviana and Pollena Trocchia,⁷² and the results suggest that the extent of the supply network for construction timber (much wider for the first site) can differ according to the resources of the owners. In this case, the identification of the provenance was based on the elevation, at which the identified *taxa* grow with respect to the elevation of the find context (i.e., the presence of trees that grow at over 900 m a.s.l. were identified as long distance importations). Furthermore, dendrochronology showed that the roofs of the buildings were in use and restored for centuries, particularly the supporting elements.

The same methodology of using the elevation, at which the species grow, was used in a reconstruction of the commercial network for timber in the Vesuvian area.⁷³ In this case, most commonly used *taxa* in house building were silver fir, umbrella pine, and cypress (chestnut only in some single buildings), while there were few examples of oak and larch. The authors of this study stressed: "*The frequency of Picea/Larix in Campania*

attests the large trade of timber in the Roman Empire and the circulation of the best wood resources even far from the production areas”.

Recently, dendrochronology has also been used as a method to determine the provenance of timber⁷⁴ by comparing the ring-growth patterns of the same species to create chronological sequences within particular territories as a means of determining provenance, which is now possible due an ever expanding database. Examples of such studies for Dutch territories⁷⁵ have shown that based on the geographical provenance of the timber, the most likely transport routes of imported timber for the Roman period can be reconstructed, especially along the Rhine, Meuse and Scheldt river valleys. This data is then compared with other archaeological materials, to establish the existence of long-distance commercial networks.

Dendrochronological analysis was undertaken at Pompeii and Herculaneum in 2002, and the reports noted that the fir and spruce came mainly from the western Austrian Alps; however, it has been pointed out that other sampled timbers do not fit the Alpine curve and may be local material from high Apennines.⁷⁶ Anthracology and dendrochronology have also been more recently used in the House of the Telephus Relief at Herculaneum:⁷⁷ here the most attested species is the white fir, considered locally sourced. Although in this case too the chronology of the accretion rings analysed showed synchronisation with that of southern Germany and the Alpine areas, the authors however tend to say that this analogy is due to large-scale climatic signals, which overlap with the regional effects and that therefore the hypothesis that the analysed timber is imported cannot be based on dendrochronological evidence alone.

However, more recent evidence also points to long distance transport. During the excavations for the construction of the Metro C Line in Rome at the Lateran, archaeological remains were found of a porch dated to 40–50 AD,⁷⁸ which is probably part of a house. The foundations of the walls revealed extraordinarily well preserved wooden formwork composed of horizontal planks, propped up by poles, on which vertical planks were sometimes superimposed. The dendrochronological analyses showed that these oak planks came from forests in the upper Rhine valley. If, as in other cases, the identification had been based only on the height, at which the species grows, this oak timber would probably have been identified as coming from the Apennines. This indicates that the timber was imported over a very long range, which was only possible thanks to an extremely homogeneous, organised, and secure commercial network. Previously it would have been unimaginable that supply of construction timber in early Imperial Rome came from the forests of central Europe, but now we must re-examine our hypothetical reconstruction of the timber trade and integrate production areas that are further afield than those considered thus far. In the case of the Metro C example (probably a private property), the transport cost over such a long distance and the complex logistics must have been offset by the low cost of felling the trees in lower Germany and by the high demand for the raw material on the Rome market.

To conclude, only further dendrochronological analyses will be able to provide an adequate scientific basis for the reconstruction of timber importation in Roman Italy and in the rest of the Mediterranean. The existing analytical data suggest that the supply network stretched further than the literary and epigraphic sources have indicated, and future research must integrate all these types of evidence to clarify our picture of the trade networks at work for the timber industry.

Notes

¹ Mols 1999, 6f.

² Theophrastus (4th c. BC) wrote about these topics from a scientific point of view. Pliny the Elder (Bk. XVI–XVII) borrows from Theophrastus as well as other writers. Cato, Columella and Palladius mention trees with regard to their economic potential within the management of landed estates. Vitruvius only discusses wood in relation to building.

³ Main bibliography on the wood and timber in the Roman world: Meiggs 1980; Giardina 1981; Meiggs 1982; Nenninger 2001; Ulrich 2007; Diosono 2008a; Diosono 2008b; Antico Gallina 2011; Veal 2017a; Harris 2018.

⁴ *ID* 509 – *SIG*³ 975, 1.2–4. About the price fluctuation of firewood in Delos see also Reger 1994, 185–186 and 290–294.

⁵ Ulp. *dig.* XXXII 55.

⁶ Paul. *dig.* L 16, 168. See Diosono 2008a, 8–11.

⁷ De Neeve 1984, 44; Ziccardi 2000, 138; Destro 2004. A quantitative approach about fuel supply for Roman production and consumption activities in Veal – Leitch 2019. See also Pucci 1986.

⁸ *Edict. de pret.* XII: *De materiis*. Giaccherio 1974, 117 and 160; Crawford-Reynolds 1977, 134f. and 143–146; Meiggs 1982, 367; Delaine 1997, 214f.

⁹ *Edict. de pret.* III.

¹⁰ Plin. *n.h.* XVI 202.

¹¹ Plin. *n.h.* XIII 90–95.

¹² Cic. *rep.* II 18; *de vir.* 5.

¹³ Frontin. *contr.* 54, 17–19.

¹⁴ Hygin. *Grom. limit.* 161 L.

¹⁵ Hygin. *Grom. cond. agr.* 114 L.; Agenn. *Urb. comm. de contr.* 86 L.; Frontin. *contr.* 55, 4. For the State turning to private owners for the timber to repair aqueducts, see Frontin. *acq.* 125.

¹⁶ Rawson 1980, 113.

¹⁷ Cic. *ad Att.* II 15, 4.

¹⁸ Cic. *Brut.* 85.

¹⁹ Maiuro 2012, 18f. with bibliography.

²⁰ Lo Cascio 1986, 38.

²¹ Gaius *dig.* L 16, 30.

²² Cato *r.r.* XLV; Varr. *r.r.* I 7, 10; Colum. III 3. See also Harris 2018, 226–229.

- ²³ Cic. *leg. agr.* II 48.
- ²⁴ Plin. *n.h.* XVI 141.
- ²⁵ Cato *r.r.* 1, 6.
- ²⁶ Cic. *leg. agr.* II 18, 48.
- ²⁷ Labeo *dig.* XVIII 80, 2. Pomp. *dig.* XIX 1, 40. See Corbino 2019.
- ²⁸ Plin. *ep.* III 19, 5.
- ²⁹ *CTh.* XI 16, 15 and 17–18; XIII 5, 10.
- ³⁰ Sicul. Flacc. p. 165 L.
- ³¹ See the *pondus lignarium* from Otricoli: *AE* 1994, n. 577. Diosono 2008a, 21–26; Diosono 2008b, 262–265.
- ³² Dion. Hal. XX 15, 2.
- ³³ Dion. Hal. I 37, 4.
- ³⁴ Plin. *n.h.* XVI 197.
- ³⁵ Makkonen 1969, 33–35; Mulliez 1982; Nenninger 2001, 73–81; Diosono 2008a, 75–84; Diosono 2008b; Faleschini 2018. On the difference in costs for transport of goods by sea, land or river cf. Duncan Jones 1982, 361–372.
- ³⁶ Lewin 1983; Meiggs 1982, 337; Diosono 2008a, 75–84; Diosono 2008b. On hauling, see Diosono 2009.
- ³⁷ Plin. *n.h.* III, 53–55.
- ³⁸ Fest. s.v. *rates*.
- ³⁹ Diosono 2007, 65–67; Diosono 2008a, 80–84; Diosono 2008b, 274–276; Diosono 2015, 262–269. Curiously, A. Wilson later presented it as a hypothesis he had formulated himself (Wilson 2012, 140). See also Pavolini 2013, 429–431. Contrary Liu 2009, 52–54. Doubtful but not totally contrary to Harris 2018, 225, 229 f.
- ⁴⁰ Graillot 1912, 268.
- ⁴¹ Waltzing I, 243 and II, 196; Aurigemma 1910, 1684; Graillot 1912, 266; Giardina 1981, 101; Meiggs 1982, 334; Salamito 1990, 164.
- ⁴² Zamboni 1974–75, 85.
- ⁴³ For the refutation of the 19th-century idea that the *tria collegia* of *fabri*, *centonarii* and *dendrophori* acted as municipal firemen, see Diosono 2007, 56–67.
- ⁴⁴ *CTh.* XVI 10, 20, 2.
- ⁴⁵ Salamito 1987; Diosono 2015.
- ⁴⁶ Diosono 2008a, 81 f.
- ⁴⁷ Strab. V 2,5; 28; 35. Dion. Hal. III 44, 1; Sid. Apoll., *pan. maior.* 441–445. Meiggs 1980, 190; Meiggs 1982, 220; Lewin 1983; Diosono 2008b.
- ⁴⁸ Strab. V 2, 23. Meiggs 1980.
- ⁴⁹ Vitr. II 9, 5–9.
- ⁵⁰ Theoph. *h.p.* V 8, 3.
- ⁵¹ Diosono 2008b with bibliography.
- ⁵² Vitr. II 9, 14–16.
- ⁵³ Plin. *n.h.* XVI 204.
- ⁵⁴ Plaut. *mil.* 915–921.
- ⁵⁵ Meiggs 1980, 186; Meiggs 1982, 359; Caldelli 1994, 729–731.

- ⁵⁶ *CIL* V 815.
- ⁵⁷ *CIL* XI 1620 (with relief representing woodworking tools – fig.2). See also *CIL* XI 363 and 6212; III 12924; *AE* 1960, 29.
- ⁵⁸ *Scaev. dig.* XXXII 92, 4.
- ⁵⁹ *Gaius dig.* L, 16, 235.
- ⁶⁰ Meiggs 1980, 360.
- ⁶¹ Waltzing I, 249.
- ⁶² *CGL* II 378, 28 and 30; 586, 33.
- ⁶³ *Pallad.* I 6, 2.
- ⁶⁴ *Isid. orig.* XIX 19, 1: *lignarius generaliter ligni opifex appellatur.*
- ⁶⁵ *CIL* IV 485. Meiggs 1982, 359.
- ⁶⁶ On the *signacula bronzea* for marking wood, see Baratta 2007, 102. The practice of marking the beams sold is also found in the Roman legal texts: *Paul. dig.* XVIII 6, 15(14).
- ⁶⁷ Felici 2002, 111–115, with bibliography. An example of signs carved into the wood related to positioning in the construction of a ship in Radić Rossi et al. 2019; another in the assembly of barrels in Mille – Rollet 2020.
- ⁶⁸ *CIL* II, 5181; *SHA Alex. Sev.* 24, 5; *cod. Th.* XIII 5, 10 and XIV 5, 1. Diosono 2008a, 85 f. with bibliography.
- ⁶⁹ Veal 2012; Veal 2013; Veal 2014.
- ⁷⁰ Veal (2013) reconstructs population, consumption and availability within the territory and the forestry productivity, but all is based on the provenience determined only on elevation. See also De Simone 2016.
- ⁷¹ Veal 2017b, however, based on the Pompeii model in Veal 2017a. A completely different database from the point of view of the amount of analysed data, for example, was used to reconstruct the economic and geographical picture of the importation of timber in ancient Palestine (Liphschitz – Biger 1995).
- ⁷² De Simone et al. 2013.
- ⁷³ Di Pasquale et al. 2012.
- ⁷⁴ Bernabei et al. 2019a.
- ⁷⁵ Jansma et al. 2014; Domínguez Delmas et al. 2014; Van Lanen et al. 2018.
- ⁷⁶ Kuniholm 2002. See Harris 2018, 222 for doubts in this regard, mainly due to the fact that there is little data available with which to carry out checks.
- ⁷⁷ Kastenmaier et al. 2015, 294 f.
- ⁷⁸ Rea et al. 2017; Bernabei et al. 2019b.

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Fig. 1: F. Diosono. – Fig. 2: S. Guerrini, *CIL* XI, 1620: un *negotians materiarius* ritrovato, *Epigraphica* 37, 1975, 213–216. – Fig. 3: Felici 2002.

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Transport and Trade of Volcanic Building Materials in the Mediterranean: State of the Question

Lynne C. Lancaster

The impetus for examining Roman trade networks for volcanic building stones began in 1992 when J. P. Oleson and G. Branton first reported results of chemical analyses of volcanic ash and tuff in the concrete of the harbor at Caesarea Maritima in Israel.¹ They showed that the chemical signature most resembled that of products from Campi Flegrei volcanic system on the Bay of Naples. Since this time, advances in chemical analysis have allowed for further isolation of provenance by focusing on particular trace elements, often called “immobile”, because they do not go undergo the same degree of alteration that affects other elements during deposition and subsequent weathering; thus, the present paper examines the latest research to establish what we can now say about these maritime trade networks.

This paper deals mainly with the work of two research groups that have analyzed volcanic products used in ancient concrete: ROMACONS, which focuses on maritime structures throughout the Mediterranean, and an Italian group led by F. Marra, which focuses on structures in Italy, both maritime and terrestrial. Both groups sampled pozzolanic mortar from maritime structures dating from the 1st cent. B.C. along the Tyrrhenian coast of Italy and found that Campi Flegrei volcanic ash was present, but Marra’s group also found that a few cases also contained ash from the Colli Albani volcanic complex south of Rome.² The discovery of the mixing of ash from different sources revealed a greater level of complexity than previously realized. Another example of the importance of the new analytical method comes from the study of the volcanic ash contained in an amphora found on Shipwreck B at Pisa, which was originally hypothesized to have contained ash from Campania. Trace element analysis revealed that ash is actually from Bolsena in Tuscany.³ The question of how far the Campi Flegrei ash was exported proved difficult to establish. In addition to re-examining the samples from Caesarea Maritima, ROMACONS took analyzed cores from harbor structures at Chersonisus, Pompeiopolis, and Egnatia. The results excluded Santorini, Milos, Cos, or the Aeolian Islands and generally fell within the range of products from the Bay of Naples, but they did not match the known deposits, which led to the conclusion that 1) there could have been mixing of ash from different sources, which skewed the results or 2) there is another potential source for which data is not published. One suggestion is that microprobe analysis could be used in the future to control against ash mixing.⁴ Further analysis is necessary before the question of long distance trade in volcanic ash can be answered definitively.

Lightweight volcanic aggregate (scoria and pumice) used to lighten the vaults of terrestrial structures was also analyzed. The earliest use of scoria in Rome occurs in vaults at the Forum of Caesar in the mid-1st cent. B.C. Both mineralogical and chemical

analysis has shown that it came from Mount Vesuvius.⁵ Thus, shipborne trade in both volcanic ash and scoria from Campania is confirmed from the 1st cent. B.C. Outside of Italy, regional trade networks can be detected. Trace element analysis of scoria samples from the Antonine Baths at Carthage reveal a provenance of Sardinia whereas mineralogical analysis of pumice from the East Baths at Leptiminus reveal the presence of aenigmatite thus giving a definitive provenance of the volcanic island Pantelleria.⁶ Both places were sources of millstones of volcanic rock, and the building stones were probably part of this regional trade network. Finally, trace element analysis confirmed that the scoria cones in Smooth Cilicia provided scoria for vaulting at nearby Anazarbus as well as the for some of the *cubilia* in the Reticulate Baths at Elaeussa Sebaste.⁷ However, the scoria at the latter was not used in any strategic way and cannot be considered to have been intentionally shipped to the site.

The result of these recent studies confirm early seaborne trade in both volcanic ash and lightweight scoria from the Bay of Naples by the 1st cent. B.C., and it suggests that long distance trade could have existed by the time of Augustus. However, the definitive confirmation of long distance seaborne awaits further advances in the analytical techniques used for sampling and analysis.

Notes

¹ Oleson – Branton 1992.

² Marra et al. 2016b, 68.

³ Marra – D’Ambrosio 2013. Note, however, that the date of Ship B (Augustan) was misreported as 4th–2nd cent. B.C., which resulted in a problematic historical assessment. Likewise, in another of the studies, the misdating of the context for the sampling resulted in the faulty assertion that volcanic ash was being traded as early as the 3rd–2nd cent. B.C. (D’Ambrosio et al. 2015, 201).

⁴ Brandon et al. 2014, 154–159.

⁵ Lancaster et al. 2011.

⁶ Lancaster et al. 2010.

⁷ Lancaster et al. 2010.

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Contextualizing the Late Antique Stone Trade: The Marzamemi “Church Wreck” Reconsidered

Justin Leidwanger

Since 2013, investigations of the famous Marzamemi “church wreck” have aimed to shed new light on this unusual 6th-cent. AD assemblage off southeast Sicily, a site initially brought to scholarly attention in the 1960s through survey and limited excavation by Gerhard Kapitän.¹ With a load of 100 tons of prefabricated religious and decorative architectural elements, the vessel has long been associated with the monumental building program described by Procopius (*Aed.*) in the wake of Justinian’s brief re-conquest of the Roman West.² Viewed through this lens, the wreck has become emblematic of the last vestiges of Mediterranean connectivity amid the increasing fragmentation that marked late antiquity.

The site rests in shallow water, concentrated around a sandy patch 7–8 m deep and largely surrounded by a reef that rises to within 4 m of the surface. Some well-preserved material was recovered within this reef toward the seaward edge, and the dynamic environment here was clearly instrumental in dispersing the assemblage over a broad area. Annual fieldwork campaigns have aimed not only to bring new cargo materials to light, but also to understand the depositional context of the site, and to critically re-examine the narrative of an imperially sponsored structure designed for rote assembly at its destination.³

A Thessalian *verde antico* ambo, Proconnesian marble chancel screen, and perhaps a ciborium and altar also in marble leave little doubt that the major cargo elements were destined for a church of some prestige. As focal points for the early Christian liturgy, these components carried obvious symbolism beyond their aesthetics, but understanding the impetus behind their import is dependent on the historical and social context of the assemblage as a whole. Should these elements be read as the architectural manifestations of imperial imposition on liturgical practice across the empire, or as a shared urban style favored by the patronage of local elites?

Although the fragmentary nature of the columns themselves makes complete quantification difficult, the corresponding capitals and bases yield higher numbers than initially recorded by Kapitän, higher in fact than might have easily been incorporated into the interior of a church. Some variation in the dimensions, and perhaps also in the stages of finishing process,⁴ may indicate that these columns were destined for several projects, or at least multiple parts of a single project. Additional materials recently recovered hint at a broader decorative program in action: golden yellow and reddish-orange mineral pigments, raw brown glass, and small polished fragments similar to *opus sectile* but likely serving here as stone samples. These finds complicate the cargo narrative by signaling anticipated additional stages of architectural production and associated maritime supply.

Other non-architectural finds have shed the most important new light on the ship and its Mediterranean maritime context. The recovery of transport amphoras, particularly Aegean LR2 and likely Cypriot or Cilician LR1 jars, has yielded higher numbers than can safely be ascribed to crew provisions. If the jars' corresponding ceramic lids offer reasonable proxy evidence, they point instead to what may be a secondary cargo of olive oil or other processed agricultural goods. While the wood from the hull has fared poorly on this shallow and dynamic seabed, hundreds of fasteners are preserved as concretions; their x-rays and casts offer important indirect evidence for a hull that does not appear particularly heavily built for a vessel likely more than 30 m in length and charged with a dense stone cargo.⁵ Patches of lead sheathing suggest a considerable history of voyages for the ship, an image further supported by the mixed assemblage of fine and common wares belonging to the galley.

Together, this overview of the cargo and shipboard assemblage reveals the intersection and interdependence of elite and everyday commerce: the mundane movements of agricultural staples and those that furnished urban tastes across the Mediterranean. The shipment of fine architecture underwrote a journey that allowed agricultural goods to travel from the East; at the same time, those elite materials were moving through networks and on infrastructure created by the regular journeys of ships like the one that sank at Marzamemi. In short, the unusual nature of this "church wreck" cargo should be taken as evidence not for the uniqueness of this endeavor, but rather for the persistence of certain interregional connections in the face of economic, political, and religious fragmentation that marked the last centuries of classical connectivity.

Notes

¹ Kapitän 1969; Kapitän 1980.

² Kapitän 1980, 129–130.

³ For a report on the 2013–2017 field seasons, see Leidwanger 2018.

⁴ Leidwanger – Tusa 2018; Castagnino Berlinghieri – Paribeni 2015, 1035.

⁵ Leidwanger – Tusa 2017, 118 f.

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Trade and Commerce in the Harbour Town of Ostia

Panel 5.14

Organized by

Alice Landskron – Mariarosaria Barbera

Introduction

Alice Landskron – Mariarosaria Barbera

Manifold evidence of trade and commerce has come to light in Ostia, such as inscriptions, images on mosaics, reliefs, etc. Epigraphic evidence and images provide information about many club houses and guilds, as well as private financing of public buildings such as baths, sanctuaries, and public gathering places. The mosaics of the Piazzale delle Corporazioni, the court of the guilds, are situated in the *area sacra*. This complex provides unique and comprehensive information regarding economic growth and trade in the harbour town and, further afield, in Rome. The evidence is a unique source of information for the organization of commerce and trade in Ostia, highlighting its importance as a hub city. This area was intended as a place of interaction for both economic and sacred events.

Furthermore, the numerous archaeological and artistic remains feature different kinds of work and spatial areas in which different occupations were practiced. Together, they provide excellent information about how society in Ostia and beyond reacted to the demand for craft and trade, and how such commerce was represented both communally and individually. Researchers have recognized in this a new social class that developed in Roman society and furthermore played a significant role in society, with proud individuals who were well-accepted as skilled craftsmen and professionals. Numerous guilds and guild houses were established in Ostia since early Imperial times. Often, *liberti* became affiliated with guilds and *collegia* in order to enhance and strengthen their social prestige. There is epigraphic evidence for about 60 *collegia* in the Imperial period, most of them situated along the main streets.

The aim of the panel contributions is to discuss what kinds of trade and commerce are represented in written and visual sources and what information exists about the people involved in the economic processes of production, and especially of distribution, in Ostia.

The papers deal with contributions to visualizations as well as epigraphic evidence in the context of trade and commerce in Ostia, and moreover with the individuals involved in these occupations. Furthermore, the contributions focus on forms of representation of merchandising, the function of guilds or infrastructural facilities. In addition, the contributions address questions regarding the value of specific kinds of trade and commerce within Ostian society, as well as the social status and origin of the individuals.

First, Simone Ciambelli discusses the guilds, the *collegia* and the *collegiati* in Ostia and their social status. Next, Ghislaine van der Ploeg investigates migration in the context of trade and how these immigrants were perceived and accepted, and ultimately commemorated in Ostian society. Paola Baldassarri discusses evidence of artistic relationships between Rome, Ostia, and Spain using the example of the decoration in the Roman villa below the Palazzo Valentini in Rome. Ria Berg concentrates on the iconography of the “omnipresent” *modius* as a standard unit for grain in the city of Ostia and records

a large number of images in floor mosaics, reliefs, and the like. Finally, Marcello Turci investigates the infrastructure of Ostia and the coastal region, focussing on the baths, in particular those of the Porta Marina (compare also: A. Landskron – C. Tempesta [eds.], *Trade and Commerce in the Harbour Town of Ostia*, *Keryx* 7 [Graz 2020]).

Il patronato dei *collegia* professionali e l'ascesa sociale dei *collegiati* ad Ostia (II–III secolo d. C.)

Simone Ciambelli

Ostia, come è noto a tutti gli studiosi che hanno avuto modo di confrontarsi con la sua ricchissima documentazione, è una città romana *sui generis*. La sua particolarità risiede nell'essere divenuta, durante il II sec. d. C., il principale porto dell'Urbe sul Mediterraneo. Difatti, proprio la costruzione dei porti imperiali di Claudio e di Traiano innescò un repentino processo di trasformazione che provocò un consistente incremento demografico e un notevole sviluppo urbanistico, ma che fu altresì capace di modificare irreversibilmente la struttura sociale. La comunità tiberina subì un tale ed accelerato cambiamento che Russell Meiggs, uno dei più penetranti indagatori di Ostia, non esagera affatto nel dipingerlo come una vera e propria rivoluzione.¹

Qui indagherò uno degli aspetti della «social revolution», ovvero l'ascesa sociale di uomini d'affari e più in generale di lavoratori appartenenti a quel mondo associativo sempre più florido e prospero grazie al fermento commerciale ed economico. In particolare, mi focalizzerò sul patronato delle associazioni professionali, in quanto l'analisi di questo fenomeno ci permetterà di osservare il cambiamento entro la società ostiense da una posizione privilegiata, ribadendo la straordinaria particolarità di questa città.

L'ingente mole del patrimonio epigrafico mi ha permesso di individuare 90 patroni di associazioni professionali per il periodo compreso entro i primi tre secoli della nostra era.² Tra loro 15 (16,7%) erano di rango senatorio, 17 (18,9%) di rango equestre, 12 (13,3%) appartenenti all'élite municipale, 4 (4,4%) liberti, mentre per 42 (46,7%) di loro non è possibile ricostruire lo status sociale di appartenenza. Da questi dati è possibile osservare un'estrema eterogeneità nello status sociale dei patroni che includevano dal senatore, protagonista della grande politica imperiale, all'ex-schiavo.

Anche il *milieu* di provenienza dei 90 patroni individuati è molto eterogeneo: 15 provenivano dall'ambiente senatorio (16,7%), 3 da quello equestre (3,3%), 4 da quello dell'élite cittadina ostiense (4,4%), circa 25 dal mondo collegiale (27,8%), mentre per 43 resta ignoto (47,8%). In questo caso considero provenienti dall'ambiente collegiale quei personaggi che risultano essere iscritti ad un *collegium* oppure quelli che avevano dei chiari e marcati legami di parentela con individui appartenenti ad un'associazione. Il dato più sorprendente che emerge è proprio la massiva presenza dei *collegiati* tra i patroni delle associazioni.

La scelta di cooptare un *collegiatus* come patrono è indice della grande eterogeneità presente nell'associazione stessa. Chiaramente i corporati avevano circa lo stesso status sociale, tuttavia, alcuni ambienti, quali quelli più prossimi alle attività portuali o quelli legati all'Annona, riuscirono a plasmare la stratificazione sociale interna ad alcuni *collegia*, rendendola più marcata e strutturata. Perciò il divario tra i membri *tenuiores* e quel-

li *locupletes* divenne sempre più sensibile e fu proprio nel titolo di *patronus* che alcuni dei membri più abbienti videro il mezzo per affermare la loro posizione entro il collegio stesso. L'ascesa di questi personaggi poteva avvenire sia nella *parva res publica* collegiale, così come nella *res publica* cittadina. Difatti non pochi furono i collegiati che, una volta divenuti patroni, furono cooptati tra i decurioni o, addirittura, che entrarono a far parte dei cosiddetti *equites minicipales*.

Quello dell'accesso dei corporati all'ordine equestre è un fenomeno che possiamo definire tipicamente ostiense, infatti su sei personaggi, a noi noti dalla documentazione epigrafica di tutto l'impero, che compirono questo *iter*, ben cinque provenivano dalla foce del Tevere. Questo, a mio avviso, è un dato molto significativo, perché ci testimonia la flessibilità e la fluidità a cui era giunta la società ostiense, la quale, mutando le proprie coordinate, era riuscita ad accogliere in seno alla classe dirigente diversi esponenti del ceto mercantile ed artigianale. Essi, al contempo prodotto e attori principali della «social revolution», andarono a confondersi con la vecchia nobiltà locale, riuscendo, a volte, a sostituirla. Di contro, quest'ultima, ancora troppo legata all'ideologia aristocratica tradizionale fondata su una forte clientela personale e sulla proprietà terriera, si dimostrò diffidente nei confronti del mondo collegiale. Concludo affermando che, alla luce dei dati emersi, i *collegia* professionali ad Ostia possono essere visti come uno dei principali ingranaggi della vita sociale e politica della colonia durante il II e il III sec. d. C.

Notes

¹ Russe. Meiggs intitola proprio *The social revolution* il capitolo incentrato sui mutamenti della struttura sociale ostiense durante II. sec. d. C., vd. Meiggs 1973, 196–208.

² I dati che presento sono tratti dalla mia tesi di laurea magistrale, vd. Ciambelli 2016, 106–218.

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Identity, Trade, and Mobility in Ostia Antica¹

Ghislaine van der Ploeg

Vast amounts of people and goods arrived at Ostia. Among these were many people from Roman North Africa: it was with Africa that Ostia appeared to have the strongest commercial connections. This contribution examines the establishment of identity that took place when an individual came to Ostia, and how this was displayed. It does this by investigating an inscription set up by Lucius Caecilius Aemilianus, a veteran from the first praetorian cohort as well as a *decurio* and *duovir* in the city of Aelia Uluzibbira in Africa.

*L(ucius) Caecilius / Aemilianus / veteranus ex coh(orte) / pr(ima) praetoria decu / rio duovir Aeliae / Uluzibbirae Africae / corporatus in tem/plo fori vinari(i) impor / tatorum negotian/tium fecit sibi.*²

Aemilianus also enjoyed a commercial career in Ostia and was a member of the *corpus splendidissimum importatorum et negotiantium vinariorum*.³ Displaying the combination of these three facets of identity is unusual. The reason for this display was that these identities were highly interconnected: Aemilianus' former career aided him in his current commercial occupation in Ostia.

Aelia Uluzibbira was probably founded as a military colony under Hadrian and was located in Africa Proconsularis.⁴ Based on recruitment patterns and military traditions in North Africa, Aemilianus likely came from a military family; it had become common for the children of veterans also to pursue a military career. Being born into a military family would explain how Aemilianus gained his citizenship and how the praetorian guard recruited him. While veterans of the guard could remain in Rome after their period of service had ended, most returned to their places of origin.⁵ Aemilianus does not actually state in his inscription where he came from, but this veteran habit indicates that he came from Aelia Uluzibbira, as after his time in the praetorian guard he returned there and held the positions of *duovir* and *decurio*. Cébeillac-Gervasoni noted that there were many Africans who held important positions in Ostia.⁶

Aemilianus mentions that he was a member of an association of wine importers. African viticulture developed after the Roman expansion of the province in the 2nd century AD, and the region of Aelia Uluzibbira commonly produced wine.⁷ The consumption of wine started to develop further in an urban context during the Imperial period. Purcell notes that periods of rapid urban expansion, such as occurred in Ostia during the 2nd century AD, promoted a drinking culture.⁸ The Ostian wine *collegia* appear to have been mainly a 2nd century AD phenomenon. The reason for this may have been the increased demand for wine as well as the possibility to import greater quantities of wine due to increased production in the provinces.⁹

As Aelia Uluzibbira was a wine-producing region, it is possible that Aemilianus met wine producers while working in Proconsularis, which is why he placed such an emphasis on both his past and present offices in his inscription. He utilised his established, former contacts in order to facilitate the importation of wine to Ostia. Colossal-sized farms existed in Roman North Africa and Aemilianus only needed to negotiate with a few landowners in order to be able to import large quantities of wine.¹⁰ The trade and shipping connections with Africa are especially visible in the Piazzale delle Corporazioni in Ostia. Its *stationes* hosted traders from various cities, and helped form a social network and bridge for people coming from the provinces who wanted to live and work in Ostia. In a society without formal means of identification, this had to be established via social networks, especially those connected to one's place of origin.¹¹ The Africans who were already established in Ostia could vouch for a newcomer, facilitating his infiltration into Ostian society. At that time, ethnicity was the primary basis for the creation of these trade networks and was the springboard from which other networks could be created.¹² Aemilianus used his inscription for precisely the same purpose; although it was erected in Ostia, he used it to emphasise his African past. In doing so, he was not showing off his past in the Roman army or his status as an ex-official, but instead he used his past as a way of publicly demonstrating his trustworthiness. This dependability helped him to establish his identity in this new place which would, subsequently aid him in establishing new trade contacts and connections.

Notes

¹ A longer version of this article has been published in *AncSoc* 47, 2017, 221–236.

² *AE* 1940, 64.

³ Meiggs 1973, 275.

⁴ Terpstra 2013, 119 note 99.

⁵ Bingham 2013, 58 f.

⁶ Cébeillac-Gervasoni 1996, 559. 564.

⁷ Hobson 2015, 99; Redaelli 2013/2014, 28.

⁸ Purcell 1985, 15.

⁹ Unwin 2005, 123; Purcell 1985, 12.

¹⁰ Hobson 2015, 43; Sears 2011, 43; Shaw 1981, 57. See *CIL* VIII no. 10570.

¹¹ Moatti 2006, 117.

¹² Terpstra 2014, 123 f.

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Spain – Ostia – Rome: Evidence of Economic and Artistic Relationships from the Excavations of the Palazzo Valentini in Rome

Paola Baldassarri

The archaeological excavations beneath the Palazzo Valentini, conducted by the Città Metropolitana di Roma Capitale, have brought to light a residential quarter of the Middle and Late Imperial period. In particular, these excavations have uncovered two sumptuous *domus* with two building phases, dating to the 2nd and to the first half of the 4th century AD. In this late phase they probably became a single, large *domus* with annexed *thermae*. The vastness of the building, the splendour of its internal decoration, and the location in the heart of the city suggest that the owners/inhabitants belonged to the highest social class, perhaps senators or high dignitaries of the imperial court.

The focus of this contribution is on the thermal complex in its Late Antique phase: a two-storey structure on the east side included an *apodyterium* connected with the large *frigidarium* on the ground floor. A room upstairs probably was dedicated to the care of the body, but also to cultural activities, and this room opened onto the *frigidarium* via a sort of loggia. The latter room had a unique *opus sectile* floor, found collapsed on the ground floor and now reassembled and partially exposed. The floor belongs to a limited group of examples of ‘*opus sectile a modulo quadrato con motivi complessi*’ following Guidobaldi’s classification.¹ The uniqueness of the composition, due to the complexity of the pattern and the preciousness of the marbles, only allows comparison with four other floors: one in Rome, now lost (Vigna Lupi), one at Ostia (Domus of Amor and Psyche), and two at Seville from Italica (the area of ‘olive groves’ and Domus of the Exedra).² In particular, the different patterns seem to use the same giallo antico almond-shaped motif and, at both Ostia and Palazzo Valentini, they are associated with porphyry eyelets which are not found elsewhere.

The chronology of the floor in Palazzo Valentini, as assured by the excavation data, dates to the years around 320 and 360 AD. A similar date is proposed for the Spanish floors, and also could support the reconsideration of the dating proposed for the two other examples, particularly for the floor at Ostia.

Among the reused marbles, the presence of an inscription from a dismantled funerary monument at Ostia could suggest a connection of our buildings with Ostia’s milieu. Moreover, the reuse of antique sculptures from older contexts as furnishing elements of Late Antique *domus* seems to be a common feature of both the *domus* of the Palazzo Valentini and of Amor and Psyche at Ostia.

On the other hand, the two *domus*, especially the *domus* at Ostia, appear to show a connection with a Hispanic, particularly Baetic residential context. While the *domus* at Ostia shows strong similarities with the Domus of the Exedra in Italica in terms of its floor, the *domus* of the Palazzo Valentini has a number of pieces of evidence that allow

us to hypothesize that its owners could have had a Spanish origin, or at least relationships with the Spanish provinces. The presence of Iberian amphorae, particularly from Baetica, supports this theory. The types and products are representative of a domestic life, that however reflects the general economic situation linking Rome with Baetica. Furthermore, in the *opus sectile* pavements of the *domus*, the presence of *broccatello* of Dertosa has been recognised, a Spanish marble commonly utilised in Spain but rarely further afield.³

All these clues could suggest a triangular situation between Rome, Ostia/Portus and Spain, as is attested for other provinces of the Late Empire. The owners of the *domus* of the Palazzo Valentini could have had a Spanish origin and/or their wealth could have come from the ownership of large properties in a Spanish province. This wealth may have been based on trade in a variety of goods, not only foodstuffs, but also furniture and marbles, which originated from Spain and travelled to Rome through the harbour of Portus. In the opposite direction, ideas and images for the decoration of the Spanish *domus* could have started from Rome and arrived in the province. Having a foothold *domus* in Ostia could have supported the control of the overseas affairs of this family.

Notes

¹ Guidobaldi 2001.

² References in Baldassarri 2017, 265–268; Baldassarri 2020.

³ Gutierrez 2014.

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Il *modius* ostiense – simbolo dell'unità e della diversità economica dell'Impero

Ria Berg

Questo intervento si concentra sull'iconografia del modio, strumento non solo dell'economia romana quale misura per il grano, ma anche efficace simbolo visivo.¹ Il modio, un vaso dalla forma cilindrica o a tronco di cono, è conosciuto da pochi esemplari bronzei conservati integralmente o parzialmente e da molte raffigurazioni, particolarmente a Ostia.² Sono chiaramente di diverse misure, e solo raramente corrispondono esattamente allo standard (8,7 litri). Per esempio, nel mosaico della *statio* 5 del Piazzale delle Corporazioni, il misuratore è rappresentato inginocchiato con un modio piccolo (cm 30–40), forse un modio standard. Nel mosaico pavimentale dell'Aula dei misuratori del Grano (I, XIX, 2), invece, il vaso raggiunge circa la vita delle persone rappresentate ed è quindi chiaramente un multiplo di esso.

Gerard Minaud ha basato la sua stima di grandezza di quest'ultimo modio sulla relazione tra l'altezza delle persone raffigurate e l'altezza e il diametro del modio raffigurato, con risultati che vanno da 25 a 27 *modii*.³ Philip Mayerson ha invece suggerito che tale contenitore potrebbe corrispondere esattamente a una misura in uso nell'Egitto romano, dieci *modii*, ossia una sacca di tre *artaba*. Tale ipotesi prevede che il grano sarebbe arrivato fino a Ostia, almeno in alcuni casi, ancora quantificato in misure straniere, e solo all'atto della misurazione sarebbe stato convertito in *modii Italici*.⁴ L'immagine diverrebbe così anche una rappresentazione di cambio di misura di riferimento, quasi equivalente per certi versi a un «cambio di valuta estera».

Nei mosaici delle *stationes* del Piazzale delle Corporazioni, sono raffigurati dodici *modii*, tutti diversi:

1. contenitori grandi, su tre piedi, con due anse semicircolari o rettangolari (st. 7, 17, 53, 55);
2. contenitori piccoli, su due piedi, con anse rettangolari spesse, un quadrato e due puntini bianchi al centro del vaso (st. 33, 34);
3. contenitori più piccoli, su tre piedi, senza manico, divisi da uno a quattro listelli orizzontali bianchi (st. 5, 21, 38, 56). Questi ultimi sono duplicati in due *stationes* con due esemplari di diverse misure tra di loro (21, 38), e sono simili agli esemplari rappresentati nelle raffigurazioni della panificazione nei forni.⁵

Tali immagini del Piazzale delle Corporazioni non si rapportano quindi ad un unico modello ideale di modio, ma rimandano piuttosto a raggruppamenti specifici, che forse rispecchiano l'autorappresentazione dell'identità del gruppo di negozianti stranieri e le loro reti commerciali, ognuno con proprio *modius*.⁶

Esisteva comunque un *modius* standard: il campione conservato nel tempio di Giove, sul Campidoglio, da cui venivano copiate e distribuite in vari centri le misure ufficiali di pesi e capacità.⁷ Il suo aspetto materiale può essere riconosciuto solo sulle mo-

nete⁸ – simbolo dell'unità economica dell'Impero – e non appare simile ai *modii* rappresentati nella Piazzale delle Corporazioni.

Va peraltro per inciso notato che nelle monete coniate nell'Egitto romano, però, il modio italico viene sostituito da un vaso a forma di *calathus*,⁹ uno strumento di misura locale. Anche il copricapo delle divinità connesse con il grano, Cerere e Serapide, riprende in generale questa forma.¹⁰

Notes

¹ La mia ricerca complessiva, nell'ambito del progetto «Integrated or Segregated. Living and Dying in the Harbour City of Ostia», diretto dalla prof.ssa Arja Karivieri, sul multiculturalismo nell'antica Ostia, investiga il significato di diversi tipi di vasi quali simboli delle identità multiculturali.

² White 1975, 168 f.; Corti 2001; Baratta 2013.

³ Minaud 2004.

⁴ Mayerson 1998; Mayerson 2006, 101; Duncan-Jones 1976.

⁵ Baratta 2013, 87 f. fig. 6.

⁶ Terpstra 2014.

⁷ Rizzi 2013.

⁸ RIC I, 84; RIC II, 981; RIC II, 113; RIC II, 89.

⁹ Emmett 2001, 1166; RIC III, 95.

¹⁰ Auffarth 2013, 26–30.

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The Development of the Maritime District of Ostia from the 3rd to the Beginning of the 6th Century AD

Marcello Turci

An overall urban reorganization took place in the maritime district of Ostia during the reign of Hadrian, evident in its sumptuous thermal complexes (fig. 1).¹ After the period of 'military anarchy' construction activity resumes at the Baths of Porta Marina, whose inscriptions document restorations up until the beginning of the 6th century.² At the same time, the construction of smaller *balnea* took place along the coastal road.³

In the southern part of *insula* IV, X is a building organised around a central courtyard (fig. 2). Three main phases can be identified. Despite the absence of stratigraphic data, the third phase may be dated to the second half of the 3rd/first half of the 4th century. From this period also dates the *balneum* located in the central part of the southern side of the complex. Some features which were distinctive of hotels and accommodation facilities, such as *mansiones* and *mutationes*, demand consideration. Firstly, the building type is focused on an inner courtyard and on hydraulic structures, such as thermal spaces and a large basin in the east wing of the complex. There is no clear evidence for the presence of animal stables; however, the room on the outer side of the eastern perimeter wall reveals some features compatible with stabling. Finally, the west wing,



Fig. 1: District outside Porta Marina: in red the Via Severiana (Google Earth 2007).

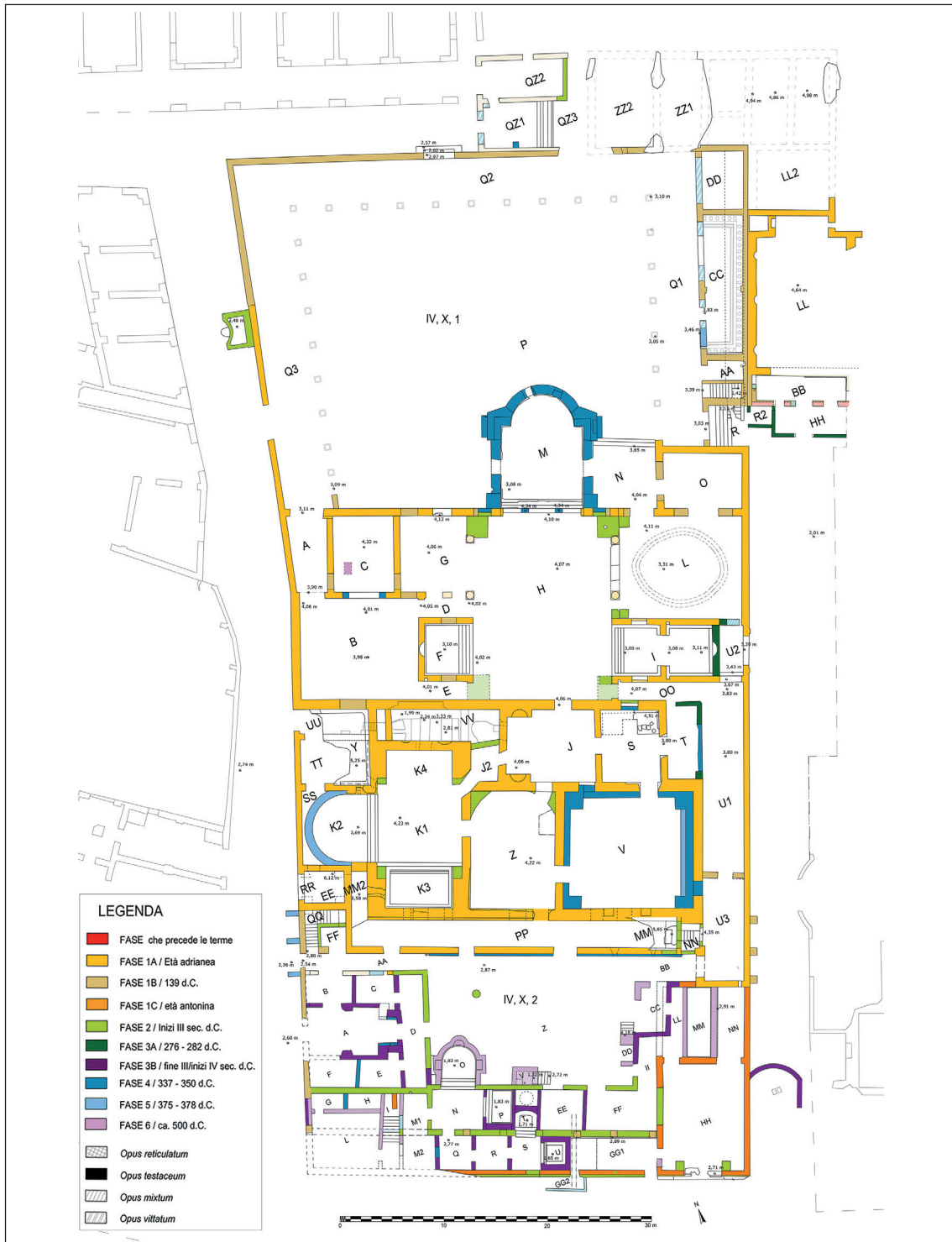


Fig. 2: Baths of Porta Marina and building organized around a courtyard in the southern part of insula IV, X.

being larger and divided into many spaces connected to the *balneum*, could have served accommodation purposes. The upper floor, documented by the presence of a staircase, could have housed dormitories.

The concentration of *balnea* along the coastal route shows the intensity of traffic during the 4th century, enough to attract private investment in the building of baths.⁴ In Late Antiquity the supply of wood for, and the maintenance of the baths in Rome was the responsibility of a guild under the control of the *Praefectus Urbi*: the *mancipes thermarum*.⁵ From other sources we know that the city of Terracina provided the timber for the baths.⁶ The *mancipes* probably travelled along land routes, such as the Via Appia, and presumably the Via Severiana, especially considering the fact that the majority of public baths were still active in Ostia and Portus in the 4th century.

Another kind of material imported to Rome was lime to repair buildings. It was requisitioned as a tax for certain properties of producers within Campania, Samnium, Picenum, and Tuscia-Umbria. The lime was transported from the producers' land to Rome by the guild of the *vectuarii*, who could count on three hundred oxen in the four regions.⁷ It is known that the Terracina lime supplies covered the needs of the lighthouse and the harbour facilities of Portus.⁸ The Via Severiana represents therefore the most direct way to Portus. Several Late Antique sources insist on the role of Campania as a *frumentifera* region linked to the supply of the *urbs*. Unique among the suburban regions, Campania was able to supply, with the exception of oil, all the foodstuffs part of public distributions in Rome: wheat, wine, and pork.⁹ The existence of an Aurelian forum at Ostia (later transformed into a *praetorium publicum*) near the sea seems perfectly consistent with the picture outlined above.¹⁰

That this complex should be located near the district outside the Porta Marina seems supported by certain elements. First of all, it must be considered that by its nature, it required a huge space. In the 19th century, Canina proposed the only hypothesis for its location; he postulated that the forum/*praetorium* was located to the east of the Baths of Porta Marina.¹¹ This position in the south-west part of region IV, close to the entrance from the Porta Marina and immediately to the east of the Baths of Porta Marina, appears reasonable also on the basis of the urban topography and the shoreline of Ostia. New identification data with the Aurelian's Forum proceed from recent investigations carried out in 2018–2019 (Turci et al. 2020, fig. 3).

The topographical contiguity with the Baths of Porta Marina, restored under imperial initiative up to the time of Theoderic, could be justified thanks to the presence of the *praetorium publicum*. In Late Antiquity, it could indeed be hypothesized that these baths ended up being connected to the *praetorium* following the intervention of Aurelian and especially during the 4th century. Following this interpretation, we could consider the intervention of Theoderic at the baths as an attempt to revitalize the *praetorium publicum* of Ostia, in connection with the ration requirements and the supply system of Rome and its port.

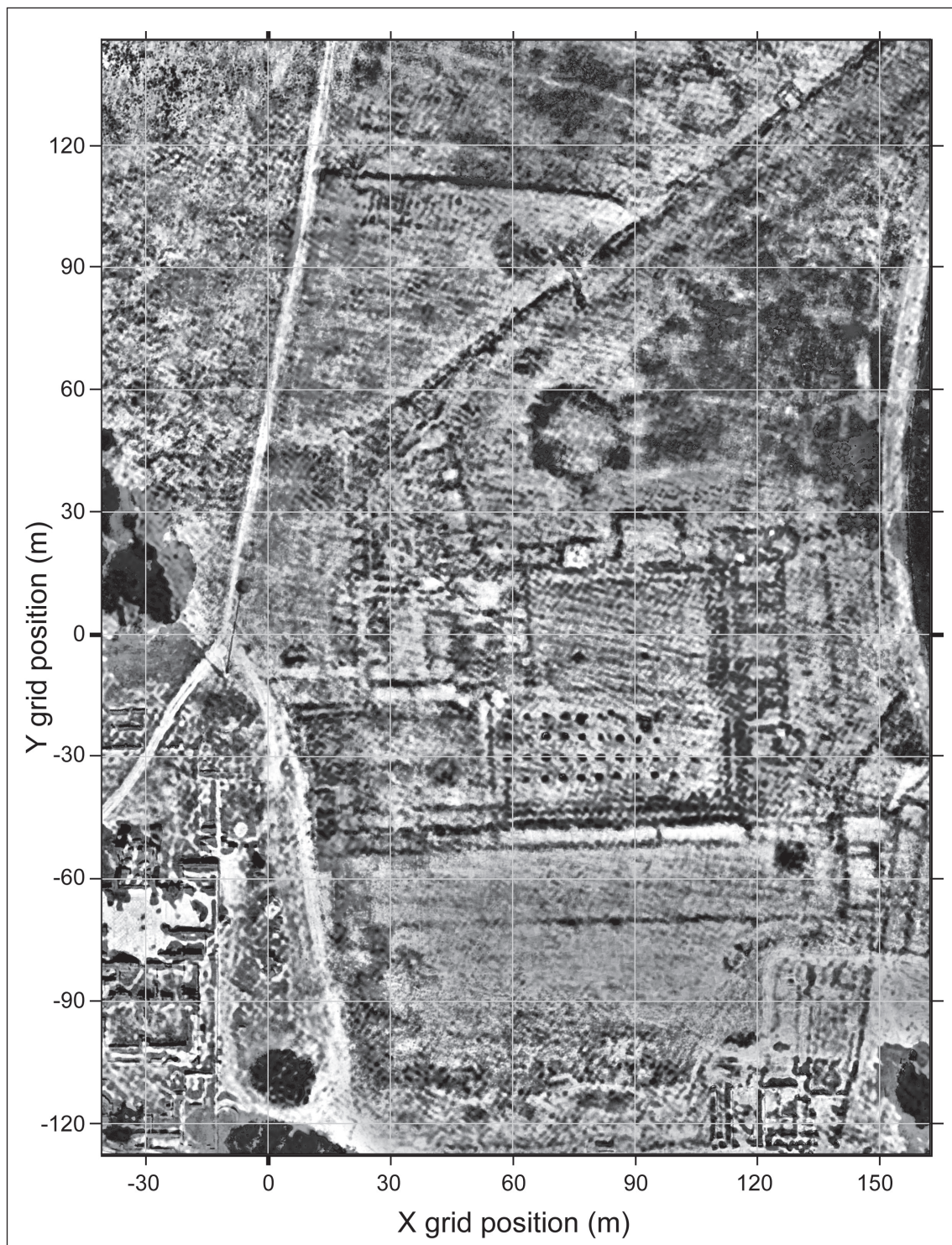


Fig. 3: Anomalies of vegetation based on the satellite images and orthoimages of the complex IV, XVII, 4 identifiable with the Aurelian's Forum of Ostia.

Notes

- ¹ Becatti 1969, 51. Basic literature: Calza et al. 1953; Pavolini 1980; Valeri 2001; Poccardi 2006; Pensabene 2007, 226–233; Turci 2019; Turci 2021.
- ² Valeri 2001, 307 f.
- ³ Pavolini 1980, 121; Poccardi 2006, 177–183.
- ⁴ Turci 2016, 170.
- ⁵ Chastagnol 1960, 361.
- ⁶ CTh. 14, 6, 3 (365 AD); CTh. 14, 6, 4 (382 AD); Symm., Rel. 40, 3 (384–385 AD).
- ⁷ Chastagnol 1960, 348.
- ⁸ CTh. 14, 6, 3 (365 AD).
- ⁹ Cracco Ruggini 1989, 232–236.
- ¹⁰ SHA Aurel. 65, 2.
- ¹¹ Canina 1838, 274 f. 307.

Image Credits

Fig. 1: Google Earth 2007 – Fig. 2: M. Turci – Fig. 3: Google Earth and Bing Maps processed by M. Uehara, M. Turci

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**Roman Transport Systems I: New Insights
on the Roman Transportation Systems.
New Applications and Methodologies
for a Better Understanding of the Transportation
Networks and the Movement of Commodities**

Panel 5.19

Organized by

Pau De Soto

Nodes.

New Perspectives on Road- and River-Stations and Communication Networks in Roman Italy

Cristina Corsi

Introduction. Integration between Land and River Transport

The influential theory by Moses Finley,¹ who argued that Roman roads did not play a key role in the economic development of Roman power, but that they mainly impacted political and military aspects, as costs of terrestrial trade were much higher than those of maritime trade, and that land transport had to be considered negligible, has recently been challenged by Ray Laurence, who rather stressed the role played by the overland route network.² The opinion that in the Roman world it was much cheaper to transport goods by sea rather than by land was so rooted that even non-specialised literature insisted on the dominance of water-transport, to the point that for *Gallia* it is argued that “bien souvent la voie de terre constitue alors qu’un simple trait d’union entre deux cours d’eau navigables”.³ Indeed, the figures of estimated costs per maritime, riverine and overland transports, mainly based on the Edict of Diocletian, still show an astonishing difference.⁴ On the other hand, the importance of combining land and river transport has been increasingly emphasised.⁵ Probably, different strategies were adopted depending on the fragility or the weight of goods, and mobility of people undoubtedly followed different patterns. Incidentally, rivers and seafaring were hampered by seasonality and for “independent travellers” they implied many more restrictions with less freedom in the organisation of the journey itself, since timing, schedule and direction of travel were much more subject to someone else’s regulation.⁶

The schematic map of the communication networks in early Imperial central Adriatic Italy (fig. 1), recently elaborated by Frank Vermeulen, shows how the web was woven pivoting around the towns and road-agglomerations that worked as cross-points between overland routes and waterways.⁷ In this peculiar geographical configuration of the region, where parallel river valleys generally link in a linear fashion the central mountain range of the Apennines to the sea, transversal intra-valley connections had the specific role of complementing the riverine network, especially between the middle valleys and the coast, where several rivers are thought to have been seasonally navigable in that era. Indeed, navigable rivers, providing the settlements that bordered them, with “a natural highway to and from the sea”,⁸ can be considered as agents in Roman history,⁹ and even if the location on the banks of a river exposed these settlements to the dangers of frequent floods, many towns were founded along them or at their mouth (Rome, Lyon and Miletus, just to mention an handful), with a penchant for confluences of small tributaries.¹⁰ This position at the crossroads of overland routes and waterways

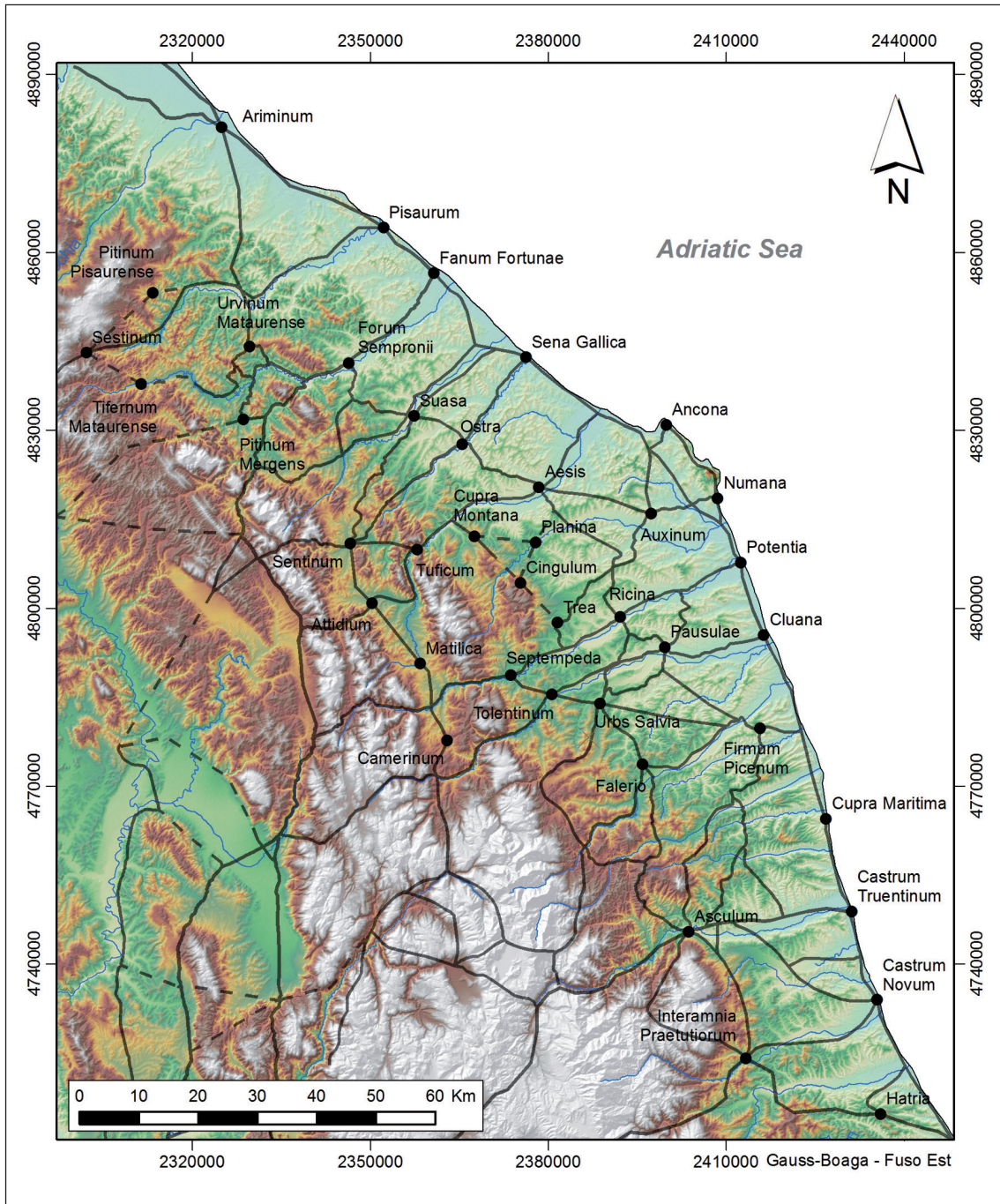


Fig. 1: The road network and its interconnection with towns in central Adriatic Italy.

turned these settlements into nodes, junctions and exchange points. Most frequently, these junctions were settled where there was a “breaking point”, for instance where the riverine navigation was no further possible, nearby confluences or at important crossings, position which ensures that settlement patterns can be explained by the layout of the watery environment.¹¹

Moreover, not only roads were necessary to convoy goods to harbours and ports from their production sites and to their final destination for use and consumption, but also – in some cases – paths and roads developed alongside a river, following their course and at the same time reinforcing their banks or making use of the earthworks that contained them.¹²

Indeed, as was well expressed by Koenraad Verboven, “riverine transport routes are as much man-made as roads”, since different sorts of infrastructure (ports, warehouses, tow-paths and roads to connect waterways to inland destinations) are necessary to make these routes accessible and functional.¹³ Obviously, the movement of large volumes of goods by river implies the construction or presence of ports, at the mouth and alongside the river. The harbours at the mouth are interchange nodes between land and seaward trade, and also works as storage spaces for merchandise that has to be transferred from large seagoing ships to boats of shallower draft (and vice versa). The inland ports are collection and clearing points for goods manufactured in the surrounding interior regions, that are further moved downstream to be distributed by seafarer trade, and at the same time are distribution spots for merchandise imported from remote areas that reached the marine harbours at the mouth.¹⁴

This infers that, besides private use and initiative, also public institutions were involved in the management of waterways and in the construction and maintenance of infrastructures. State initiative is actually confirmed by textual and material sources, but is less documented compared to overland traffic.¹⁵

The Ancient Sources

An early testimony of the integration between overland and waterway transport is offered by Horatius, who reported about his bad experience on the barge of the channel flanking the Appian Way (known as *Decennovium*), between *Forum Appi* and *Tarracina* (miles XLIII – LXII: Hor. *sat.* 1, 5).¹⁶ Indeed, regardless of the fact that a journey via waterways was generally cheaper and faster, in Antiquity there is a rich documentation on the fact that most travels implied both. A good example is provided by the journey of Piso from Greece to Rome, reported by Tacitus: landed in Ancona after sailing the Adriatic, he followed the Via Flaminia until Narni (the ancient *Narnia*), where he boarded on a boat and sailed along the rivers Nar and Tiber (Tac. *ann.* 3, 9).¹⁷

Strabo pinpoints the efficiency of the integration of water and land transport along the Rhone, where the river is paralleled by a *carriageway* (Strab. 4, 1, 14), and its tes-

timony is confirmed three centuries and a half later by Ausonius, who affirms that most rivers in *Gallia* were flanked by roads (Auson. *epist.* 18, 163–165; 25, 126. 127).¹⁸

In ancient sources, for instance, the idea that the water and land networks were deeply cohesive emerges with clarity, in the conceptual framework (e.g. the *Geographia* by Strabo)¹⁹ as well as in the practice of travel.

The State Bureau for the Management of Transportations

Integrated waterways and overland communication networks featured in the ancient itinerary sources, like the *Tabula Peutingeriana*: in the northern Adriatic, the link between *Septem Maria* and *Altinum* is represented by water-channels (*Tab.* III), and a line in red ink connecting Ostiglia to Ravenna is captioned as *Hostilia per Padum*.²⁰ Similarly, the icons placed in the Nile Delta confirm that in that large estuary there were infrastructures for assisting travellers and supporting trade.

Also in the *Itinerarium Antonini* we observe that the connection between Milan and the *limes* on the Rhine made use of ferries on the lakes of Como and Konstanz (Antonine Itinerary 278.3–279.1).

The mention of *traiecti* between the two shores of the Adriatic Sea in the same Itinerary²¹ has been automatically related to a special department of the *cursus publicus* devoted to sea transport, and allegedly to the fact that it managed its own (small) fleet.²² However, as pointed out in other occasions,²³ since there is no proof of any direct relationship between the itinerary sources and the state office, the only sure thing is the predictable existence of ferries.²⁴

On the contrary, in the 5th century AD, the testimony of Sidonius Apollinaris, travelling from Arles to Rome, confirms that – at least in the later phase – the route from Pavia (the Roman *Ticinum*) to Ravenna was covered by a *cursoria navis* (Sid. Apol. *epist.* 1, 5, 2: 467 AD; see Cassiod. *var.* 2, 31; 4, 45), where the interconnection between water and land was ensured through the Via Flaminia.

Other literary sources confirm that at least in a later phase, travel via (certain) rivers was integrated in the system of the state transport and that – as in overland travel and following the different chronology and geographic context – a combination of requisitions of provisions and supply, compulsory services and a permanent dotation of staff and means of transport underpinned the whole administrative machine.

In general, however, it is not clear to what extent the state office managed the traffic on waterways. For instance, apart the predictable use of the largest rivers of the Empire (substantially, the Nile and the Po), as already stressed above, sea crossing was not systematically integrated in the public management of transport, and overland routes appear to be favoured, even for cargo handling.²⁵

These considerations open the way to some remarks on the state office for the management of transfer of information and people, and its relationship with water transport.

The last twenty years have seen many changes of perspective in the wide study-field of transport in the Roman world. Some milestone studies have been carried out about the way in which transport and mobility were organised and managed by central and provincial governments.²⁶ These essays have finally disseminated the concept that the state office that we are accustomed to call *cursus publicus* – improperly translated as “postal service” – and that is generally described as an immutable and unbearable load on provincial citizens, was effectively a very flexible institution that is better defined as the Imperial transportation and communication system. At the same time, we should definitely dismiss the traditional vision of road-stations as “post-stages” classifiable as *mansiones* and *mutationes*.²⁷

Bearing in mind that the office in charge of handling the traffic of people and goods (and, of course, information) that circulated for official reasons, worked mainly as manager of the services provided by local communities in various types of infrastructure, we can take the further step. This means detaching the Imperial information and transportation system from the places where exchange, rest and stocking took place, and therefore considering these “places of the road” exclusively from the functional point of view.

Riverboats and Landing Places

When tackling the study of the riverine places, where it was possible to stopover and that functioned as hubs, we have to admit that archaeological evidence is less substantial than for the overland routes. Evidently this depends on some general factors – there were less navigable rivers than roads and on environmental dynamics, such as persistent alluvial activity and erosion bringing about changes in the configuration of rivers and land, and in some cases altered the shape of coastlines and deltas. River sediment has buried archaeological remains, and small river ports and wooden wharves of landing stages have completely disappeared from the record. Moreover the discovery of rivercrafts and barges is rarer than the one of shipwrecks from the sea, and finds are usually confined to sunken boats in completely silted palaeo-riverbeds, canals or lagoons.²⁸

Among the few available case studies from Roman Italy, a first example comes from the surroundings of Rome, in a place called Magliana Vecchia, midway between the mouth of the Tiber and the city centre, on the right bank of a dead bend of the river, not far from an ancient bridge and a lock. It is a river-port placed near the towpath along the Tiber (via Campana?), and well connected to a paved road partially excavated on the northern edge of the complex (fig. 2). The buildings, built in *opus reticulatum* and *incertum*, are displayed on the sides of a large paved yard. Some of these structures have been interpreted as warehouses, whereas, in other rooms, the presence of tubs and basins, in a later phase connected by a platform with a well, indicates that processing of

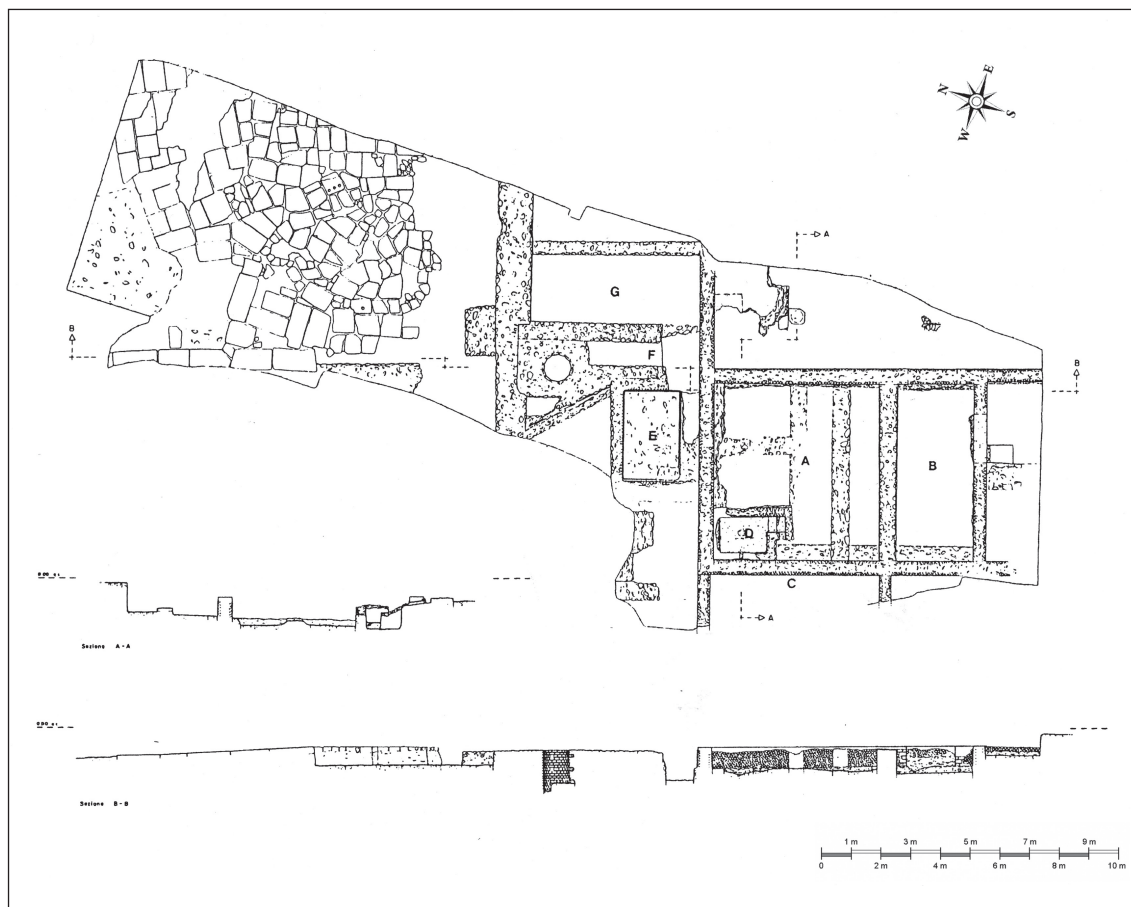


Fig. 2: Magliana Vecchia, Rome. Plan of the structures for landing along the Tiber.

agricultural products (oil or wine) was performed here. The construction of the buildings started in the 2nd century BC, and works were also done during the 1st century BC and the 2nd century AD, when the bridge was replaced. Occupation lasted until the 3rd century AD. Notwithstanding the fact that there is no evidence for proper quays or landing stages, the presence of the yard suggests that this complex functioned as marshalling and loading area.²⁹

The same uncertainty that shrouds the identification of many rural settlements as *villa* or *mansio*³⁰ casts the qualification of the complex of San Basilio (at Ariano Pole-sine, province of Rovigo) in *Venetia*. It is identified with the site captioned in the *Tabula* as *Hadriani* along the route that the emperor Claudius built as alternative to the *via Popilia* (fig. 3), connecting this place to *Altinum* (*Tab. III*). It was configured as a sparse settlement, without an urban character, but surrounded by *necropoleis*. One of the clusters was located on the banks of the “Po di Gori”, protected from the waters by a sandbar. It was composed of several buildings displayed around an open court. The site has been alternatively classified as *mansio* or *villa rustica*, given the presence of parts of thermal

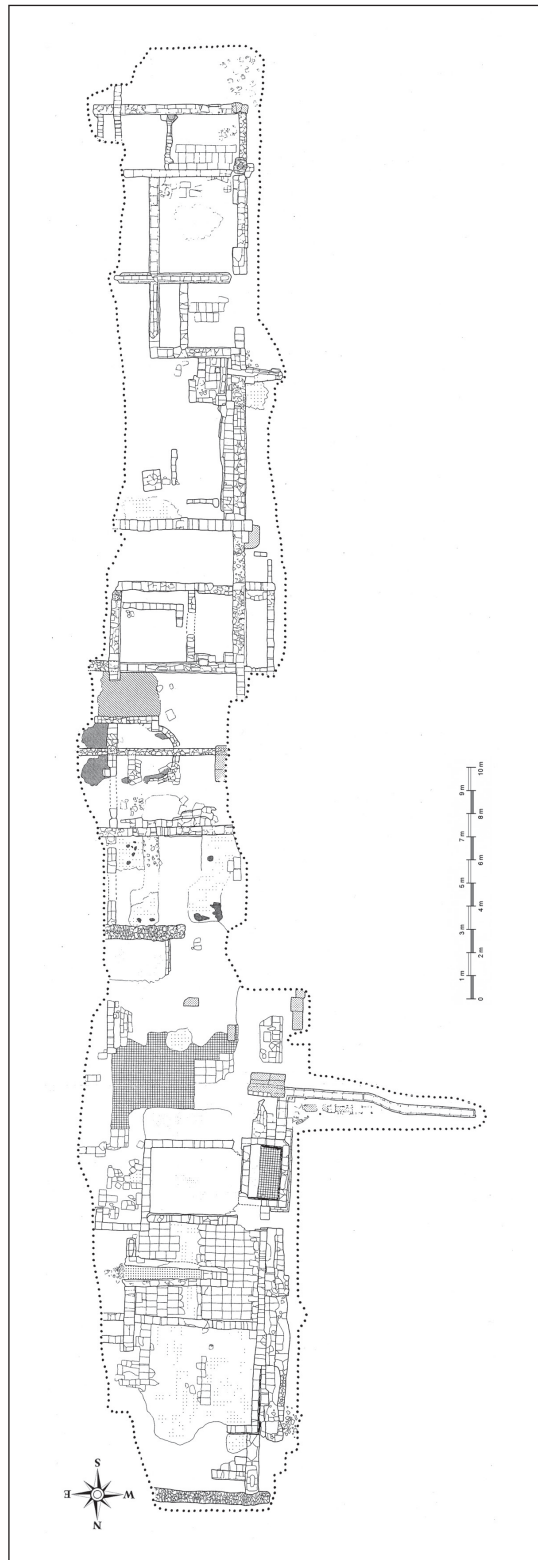


Fig. 3: S. Basilio, Ariano Polesine (Rovigo). Plan of the structures at the delta of the river Po (branch of the Po di Gori) identified with the remains of the settlement of *Hadriani*.

baths and of a river-port, the existence of which is proven by the two barges loaded with pink marble of Domegliara,³¹ found in the silted basin.

Along the same road connecting *Hadriani* to *Altinum* is another site, also showing how blurred is the divide between villa and road station, and how insufficient is a strict and simplified classification (fig. 4). The excavations at Corte Cavanella d'Adige (in Loreo, province of Rovigo) brought to light a complex that can be identified as a rural villa with landing. Installed on a coastal palaeo-sandbar, on the right bank of the river Adige, this site has been recognised as the stop of *Fossis*, pictured in the *Tabula*. Part of this complex (fig. 4, rooms 5–7, especially no. 6), overlooking a porticoed courtyard, had a residential function, whereas in the north-eastern sector, protected from the water by a wooden palisade, was a peculiar installation for water harvesting (fig. 4, no. 8). The whole complex was surrounded by a buttressed wall (fig. 4 A).³² The dock house, where a flat-bottomed boat was found,³³ was connected by means of an artificial canal to the main waterway. This complex was built between the Augustan age and the mid-1st century AD. In a second phase, starting in the mid-1st century AD, substantial renovation works were undertaken, probably as part of a larger programme of reorganisation of the communication network of the whole district. Abandonment at the end of the 3rd or the beginning of the 4th century AD was caused by flooding.

Already from this short review, it is clear that it is impossible to establish linear and simplified parameters to identify riverine complexes that worked as hubs and had a public attendance, and distinguish them from private landings connected to rural villas. Clearly, the tools of traditional archaeology are insufficient to frame the complexity of the matter, and correct answers cannot be given as long as we cannot formulate the proper questions and rephrase the scientific questionnaire.

For this reason, we should renew our approach adopting theoretical frameworks borrowed from other disciplines. Here, only the application of the tenet of “mobilities” will be discussed. It is a contemporary paradigm, which is focused on how movement (of people, things, and ideas) affects contemporary and past societies, and how those movements generate social implications.³⁴ Substantially, there is an arising acknowledgement of the role that mobility played in modelling societies in the past.³⁵ Mobility is tackled as material and immaterial phenomenon, and the objectives of the analysis are the cultural, political, and economic effects of mobility as well as the moving things and beings that generate these effects. The paradigm finds a perfect testing ground if applied to the analysis of communication networks during the Roman age, particularly if deployed for the study of the weight that roads and communication networks had not only in the conquest of the landscape, but also in the cultural change phenomenon and in the shaping of individuals and societies.³⁶

In this context, we would like to explore how the mobilities paradigm could profitably be used to frame the study of interconnected systems of transport, and specifically the hubs where this connection of overland routes and waterways materialised. These “exchange poles” can be defined as the nodes of a complex system, in which people,

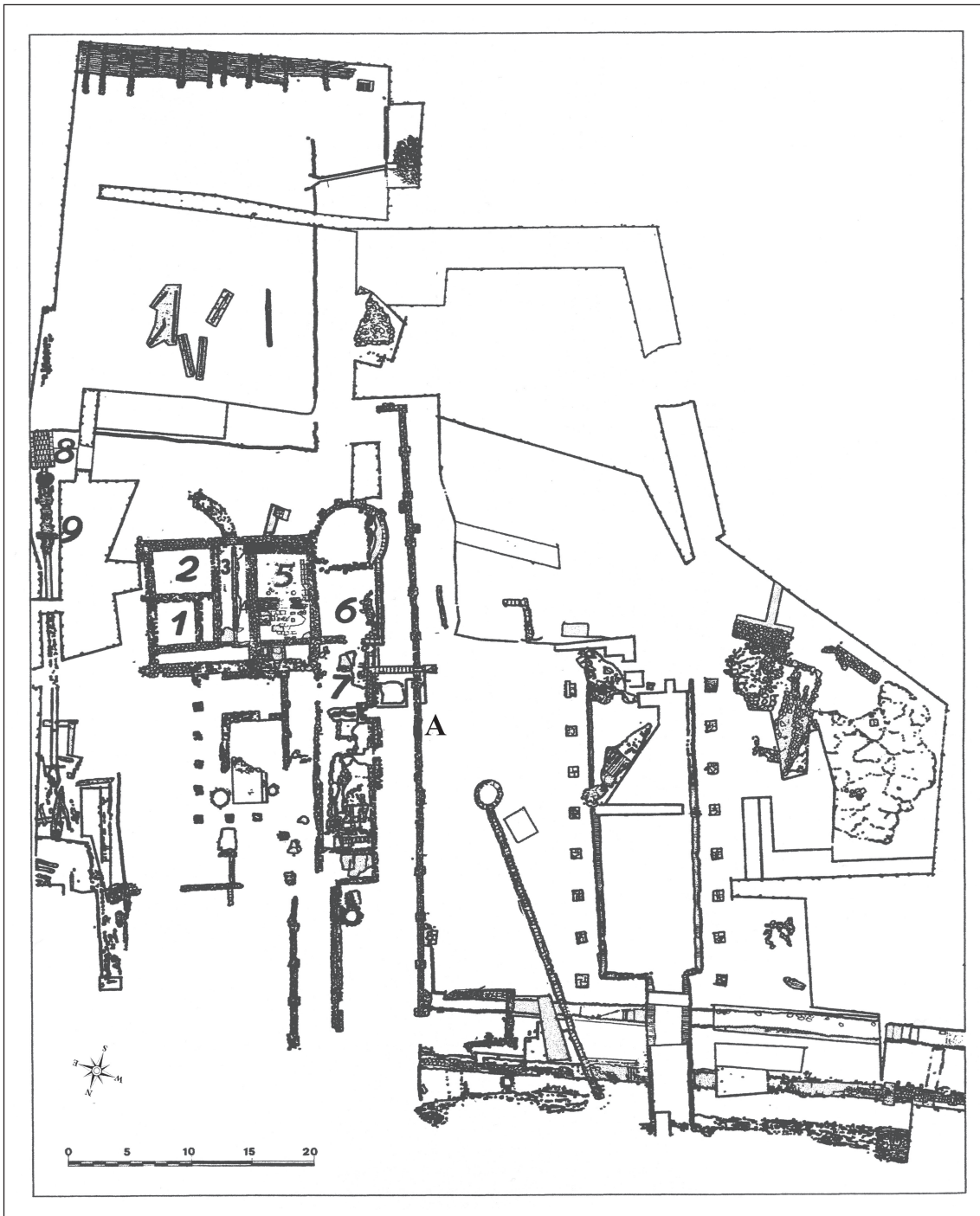


Fig. 4: Corte Cavanella d'Adige, Loreo (Rovigo). Plan of the structures of the settlement identified not far from the river Adige.

things, ideas, information, and culture are conveyed by means of communication networks.

Consequently, the distinction between villas, i.e. relatively complex settlements, which worked as production sites but also as poles for trade, and harbours or “public landings”, i.e. nodes for trade and exchange but also storing and distribution, would be meaningless, since all these settlements would play the same role as hubs for social encounters and economic exchange, functioning as transit areas for people and goods.

Conclusion: River Connections

Although riverine transport played an important role in ancient economy, it left very few traces, mostly when it was managed by small entrepreneurs on a local scale. The limits to waterborne trade, such as hydro-geographical factors, predictably affected the volume of traffic and related infrastructure. This scarcity of material evidence can also be attributed to the fact that, with a few exceptions, Roman centralised authorities made little effort to impose their control on waterways. Exceptions were especially related to the supply of military posts located along the Rhine and the Danube, even if the commercial character of the riverine traffic along other rivers of Gaul, Spain and Italy shows that rivers were used for movement of goods beyond the military *annona*.³⁷

The tenet of mobilities can enhance our study. Profitably applied to the analysis of how movement affected Roman society, it has good potential for a better understanding of the character and evolution of road- and river-stations and communication networks in Roman Italy.

This analysis highlights the role of the “nodes” in the integrated communication network. They are in the first place the towns, of course, but also small settlements play the pivot role of interconnection between water and road transport, fundamentally affecting the mobility or flow of people, goods and capitals. Towns, as well as the multitude of small agglomerations and hubs spread in between them, constitute together the nodes of active confrontation between land and river networks, at the same time functioning as areas for social encounters and representation.

Notes

¹ Finley 1973, 126. 127.

² Laurence 2009, 1.

³ Coulon 2007, 11.

⁴ Campbell 2012, 215–216.

⁵ Adams 2007, 3–16; Campbell 2012, 201–202.

⁶ Salway 2004, 96.

- ⁷ Vermeulen 2017, 109.
- ⁸ Campbell 2012, 201.
- ⁹ Franconi 2017, 14–16.
- ¹⁰ Campbell 2012, 297, with some examples from the Danube region.
- ¹¹ Chevallier 1997, 299.
- ¹² Campbell 2012, 201.
- ¹³ Verboven 2018, 200.
- ¹⁴ Campbell 2012, 202. It is worth noticing that often river-ports are not only interconnected with overland routes but also that breeding of pack animals is documented in their vicinity: Chevallier 1997, 299. 300.
- ¹⁵ Franconi 2017, 23–25.
- ¹⁶ See Strab. 5, 3, 6. An interesting reading of the passage of the *Satira* is offered by Francesca Diosono, who proposes that in the *viator* mentioned in the text we should identify the person in charge of the towing: Diosono 2009.
- ¹⁷ Chevallier 1997, 301.
- ¹⁸ Chevallier 1997, 299–301.
- ¹⁹ Chevallier 1997, 301.
- ²⁰ Levi – Levi 1967, 114–116.
- ²¹ Antonine Itinerary 317, 5, 6: “*A Brundisio traiectus Dyrrachium usque stadia ĪCCCC*”.
- ²² Crogiez 2001, 102.
- ²³ Corsi forthcoming.
- ²⁴ This reading can be extended to the transfer of dispatches across the channel: the fact that messengers were entitled to board any ship crossing the strait possibly demonstrates that there was not a state fleet devoted to such service (contrary to what is argued by Crogiez 2001, 102–104). Indeed, the fact that in the early Empire, at least along the Nile, the state office did not own a fleet is confirmed by a papyrus of M. Petronius Mamertinus, forbidding illegal requisitions of boats for the transport of officers and personalities (PSI V, 446; AD 133–136): Crogiez 2001, 101.
- ²⁵ Evidence can be found in the passage of Libanius who, failing to be awarded the right to make use of the *cursus publicus* to travel from his hometown Antioch to Athens, opted for the maritime route across the Aegean Sea, only as second fiddle: Libanius *orat.* 1, 14. See Lemcke 2016, 48. Further demonstration can be found in a decree by Theodosius (AD 386), who disposed that “breaking with old customs” linen and cloaks had to be transported with *angariae* or boats (*naves*) rather than by the traditional *redae*: Codex Theodosianus 8, 5, 48. See Lemcke 2016, 48.
- ²⁶ Di Paola 1999; Kolb 2000; Lemcke 2016.
- ²⁷ Corsi 2000.
- ²⁸ Campbell 2012, 33–34.
- ²⁹ Corsi 2000, 121. 122.
- ³⁰ Corsi 2020.
- ³¹ Corsi 2000, 160–161. The construction of the complex started in the 1st cent. BC and lasted until the mid-1st cent. AD, when a consistent reorganisation of the communication network in the area was undertaken by Claudius. Occupation lasted at least until the 5th/6th cent. AD, even if with caesurae due to flooding. Part of the finds are displayed at the Centro Turistico Culturale San Basilio.

³² Corsi 2000, 161. Materials from the excavations and the wreck of the boat are partially exposed in the National Archaeological Museum at Adria and in the Antiquarium of Loreo.

³³ The complexity of the hydrographic set of this region in Antiquity is proven by several finds of boats in the area: e.g. Fozzati 2009.

³⁴ Cresswell – Merriman 2011, 3–4.

³⁵ Sheller – Urry, 2006.

³⁶ Purcell 1990, 8. 23; Witcher 1998, 63.

³⁷ Campbell 2012, 328–329.

Image Credits

Fig. 1: Vermeulen 2017, 109. – Fig. 2: Corsi 2000, 271. – Fig. 3: Corsi 2000, 312. – Fig. 4: Corsi 2000, 313.

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Roman Transport Systems

Panel 5.20

Organized by

Koenraad Verboven

Rivers and Lakes in the Roman Transport Economy

Koenraad Verboven

Modern scholars generally follow the opinion of ancient authors that transport by river and lakes was more efficient, profitable and cheaper than over land. Even Finley agreed that “[w]ater transport...created radical new possibilities”.¹ Archaeological data showing the transport routes for ceramics, wine, oil, fish-sauce, and stone cargoes, confirm this view.² The epigraphically documented prestige enjoyed by the barge-skipper guilds in Narbonensis, Germania Superior, and southern Lugdunensis further supports the picture.

But the efficiency of river and lake transports is not self-evident. Basins are not naturally connected. Without roads the contribution of riverine trade to overland transport is doomed to remain limited. Waterfalls, narrows, and rapids obstruct navigation. Levels and flows depend on unpredictable rainfall. River banks erode. Sediments change the course of rivers. Rivers and lakes may freeze in winter or run dry in summer. Currents hamper upstream traffic. Administrative divisions pose problems related to different regulations, control procedures, management practices, tolls and fees. Barges are vulnerable to attacks by land from brigands, raiders or soldiers. Without tow-paths, canals, portages, locks, connecting roads, ports and warehouses, rivers offer only a marginal contribution to trade. Not surprisingly, rivers remained complementary to roads in early modern Europe until ‘national’ policies improved and regulated navigation.³ Riverine transport routes are as much man-made as roads are.⁴

What does this imply for the supposed efficiency of river and lake transport in the Roman period? The Roman Empire was not politically fragmented as medieval Europe was. Imperial authorities had the know-how, the man-power, and the funds needed to improve and regulate waterways. Canal projects show that authorities were aware of the advantages. They are badly documented, swallowed up in post-Roman times by changes in fluvial landscapes.⁵ Yet, they were a common part of Roman water management. Reliefs and archaeology document tow-paths, quays and harbours. The *Classis Germanica* patrolled the lower parts and estuaries of Rhine, Meuse and Scheldt. Guilds of barge skippers, protected by powerful Gallic aristocrats, were influential in Lugdunensis and Germania Superior. Some of their presidents belonged to the civic elites that ruled the Gallic *civitates*. Local, provincial and Imperial authorities invested heavily in creating and maintaining the required infrastructure for riverine trade, alongside (and in connection with) investments in the road system and in maritime harbours. In some cases, as the harbour of Voorburg-Arentsburg, building materials were imported from hundreds of kilometres away.⁶

Institutional diversity was nevertheless pronounced and various authorities were involved.⁷ Military camps dominated the area along the Rhine and North Sea. Their logistic needs decisively shaped the transport network of the Gallic provinces. The military provided a stable demand for local and Mediterranean goods (passing largely through

the Rhone and Saone basin) but imposed also fiscal burdens in addition to organising part of its own transportation needs. Local civil authorities enjoyed considerable autonomy over their territory. They were responsible for embankments and port facilities, local regulation and justice. During the Principate, barge skipper and merchant guilds (*collegia*) were important in the Rhône/Saone River basin and the high and Alpine Rhine area but conspicuously not in the north. Although they were not officially endowed with regulatory powers (as some later medieval guilds) their prominence and powerful patrons suggest they played a coordinating role.

Roman economic performance cannot be understood without its land transport system.⁸ This, however, raises a fundamental question: was there a transport revolution, supported by favourable institutions, investment in ships, waterways, and port facilities, boosting (and supported by) urbanisation and markets?⁹ Archaeological data show that the quantity, quality and distribution of production was matched in the west only in the 16/17th century. Various explanations have been suggested for this high level performance: the role of institutions and the state,¹⁰ market-dynamics,¹¹ technological innovation and diffusion,¹² or climate change.¹³ All of these presumably played some part. Without the increased connectivity made possible by interconnected transport systems in which rivers and lakes played a crucial part, however, development would soon have halted.

Notes

¹ Finley 1999, 128 f.

² See already Hopkins 1983.

³ See for instance Holt 2000; Blair 2007; Campbell 2012; Edwards – Hindle 1991; Edwards – Hindle 1993; Jones 2000; Langdon 1993; Langdon 2000.

⁴ Casson 1965; Franconi 2014, 32–71; Marlier 2008; France 2001.

⁵ Salomon et al. 2014; de Kort – Raczynski-Henk 2014, 52.

⁶ Domínguez-Delmás et al. 2014.

⁷ cf. Holt 2000; Blair 2007.

⁸ Hitchner 2012.

⁹ Greene 1986, 40; cf. Aldcroft – Freeman 1983; Freeman 1980.

¹⁰ Scheidel et al. 2007; Bang 2007.

¹¹ Temin 2013.

¹² Wilson 2002; Wilson 2009, 23–38.

¹³ Sallares 2007; Harper 2017.

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Changing Rivers during the Roman Period: Climate and Human Action

Jean-Paul Bravard

Have river features and their functioning been constant or changing throughout the past 2500 years or more in Europe? Does the present landscape provide a sound basis to describe the Roman river landscape and thus its capacity to support specific types of usage? These are important questions that require us to study the basic elements of river functioning in temperate regions and the causes and geography of change. The questions are all the more relevant because land occupation has deeply changed over centuries and climate change is a reality.

River Patterns and Responses to Catchment Changes

Natural rivers are physical ‘organisms’ transporting water, solutes and sediment from uplands to oceans. They are dynamic ‘organisms’ because their patterns and forms depend on the balance of water and mostly coarse sediments (gravel and sand) at the watershed scale. Meandering rivers develop when sediments are scarce and easily transportable by water, giving rivers a surplus of energy. Their sinuous design is a type of adjustment minimizing the expanse of energy through river course lengthening and slope reduction, bed incisions, and local landform adjustments, creating one unique and deep channel, alongside pools and riffles. When erosion on slopes produces too much sediment for the river flow to evacuate downstream, however, the excess is deposited inside the river channel itself. This pattern is called braiding because the water flow is divided into multiple channels across gravel and sand bars. Upstream deposition causes steep river slopes that better allow conveying sediment downstream. Steep braided rivers, able to transport gravel, display more energy than meandering rivers. A threshold of unit stream power¹ comprised between 35 and 50 $\text{W}\cdot\text{m}^{-2}$ is the lower limit for braiding patterns; while lower energy values shape meanders.

Contrasting Conditions for Navigation in Rivers and Floodplains

Navigation was usually easier on sinuous or meandering rivers thanks to their low slope and cross profile character with deep channels. In contrast, braided rivers with an equivalent discharge have shallow and unstable channels hampering navigation. Water depths on riffles of braided channels in the 19th century, for instance, did not exceed 50–60 cm at low flow, compared to several meters in a meandering reach. Historically, this major difference was accommodated by adopting transportation techniques: flat

boats and rafts in braided reaches instead of higher vessel draughts in meandering reaches.

Archaeology is affected also by the conditions of agriculture and settlement in the floodplains adjacent to different types of rivers. Braided patterns are prone to fast flowing floods, bank erosion, easy flooding over the alluvial plain, and sediment deposition onto the floodplain. Soils are sandy and poor close to the banks but marshes may extend in lateral depressions inducing conditions favourable to wet meadows, swamps and cattle raising. In contrast, thanks to less frequent flooding and finer sediments deposited over floodplains, agriculture enjoyed better conditions in plains adjacent to meandering rivers, with brownish soils (due to organic matter) and cereals, and better conditions for human settlement.

Basic Principles of Fluvial Metamorphosis in Europe

During the Holocene, some of the natural 'untrained' rivers of Europe adjusted their morphology to changing conditions at the watershed scale. The increase of sediment delivery from slopes to rivers whose flow was unable to evacuate the load (even if flood discharge increased), transformed meandering rivers into braided ones at the time scale of decades (or more). This change could last several centuries. River change could originate from climate change and erosive uses of the land, usually through deforestation. On the contrary, shortage of sediment supply to a braided pattern caused the reverse process. This type of change involving river patterns has been called fluvial or river metamorphosis.²

In watersheds and river reaches having experienced metamorphosis in Europe, the general scheme was the following sequence of pattern change: Meandering from ca. 400 BC to ca. AD 1350, a long period including some limited changes during the 1st c. AD and the 6th–8th c. AD. There were, however, very different degrees of intensity. This sequence of change, for instance, has been very pronounced along the Rhône from the Alps to the Camargue delta. Clearly the Rhône and its major tributaries, including mountain reaches, were meandering during the long sequence no. 2.

Geography of Fluvial Metamorphosis in Western Europe

To understand which reaches of Europe experienced changes in river patterns over time, we need to consider places where climate and basin-scale changes may have caused unit stream power to shift below or over 35–50 W.m⁻². Historical geography and palaeo-environmental studies have identified and documented river reaches that were meandering in the past as well as river reaches that have braided later during the Little Ice Age. In practice, metamorphosed rivers are ascertained in watersheds controlled

by mountains having delivered large amounts of bed load during the LIA. Those river reaches may be found in large mountain rivers and on their piedmonts. This was the case in the French Alps (Rhône, Arve, Isère) and on the piedmont of the Vosges (upper Mosel); possible also in the valleys of the Loire and Allier (Massif Central), in the foreland of the Italian Alps, on the Rhine downstream of Basel, and maybe in the upper Rhine and Rhône rivers in Switzerland. Other foreland rivers may have experienced partial or complete metamorphoses. Changes monitored since the Late LIA are mostly related to impacted watersheds, making it difficult to compare post-LIA conditions to conditions prior to the LIA. Rather than infer past conditions from unstable present ones, therefore, we can demonstrate more reliably which braided rivers of the LIA were in fact meandering previously. We argue that this is one of the tasks that archaeologists and specialists of past rivers have to face.

Notes

¹ Unit Stream Power (expressed in $\text{W}\cdot\text{m}^{-2}$) takes the form $\omega = \rho \cdot g \cdot Q_{\text{pb}} \cdot S/W$. In this equation ρ is a constant, g is the acceleration of gravity, Q_{pb} is the bankfull discharge in m^3/s (discharge occurring for the 1,5 or 2 years flood), and s is the slope of the energy line (m/m).

² Schumm 1977.

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The Environmental Context of Riverine Trade in the Roman World

Tyler Franconi

Riverine transportation was highly dependent on environmental conditions in the pre-modern world, and understanding these conditions is an important step in understanding how rivers fitted into an Empire-wide network during the Roman era.¹ Contemporary Roman written sources are mainly silent about these issues, and they are difficult (but not impossible) to understand through archaeological evidence alone. Recent advances in palaeo-environmental and palaeo-climatic reconstruction have an enormous amount of information to contribute,² and can be added to comparative historical analysis of material observed in a Roman context.³ This multi-disciplinary approach is the only way to fully appreciate the environmental realities of river-borne trade and transportation in antiquity, and has much to offer the economic historian. We must also recognize that modern rivers and modern shipping do not provide useful analogies to the ancient reality, influenced as they are by centuries of engineering projects and technological advancements. These issues are broadly applicable across the rivers of the Roman world, but are investigated here through the case study of the Rhine River and the provinces of Roman Germany.

Roman river ships, especially the barges that were used to move large cargoes of bulk products, relied on basic technologies of sail and oar to move with the flow of a river downstream. Examples of these ships from sites such as De Meern, Zwammerdam, and Woerden in the Netherlands or Mainz in Germany show that they could be up to 40 m long and 4.3 m wide with a 100-ton capacity.⁴ Upstream movement was more complicated and often required the ship to be hauled against the current by men or animals on shore. Scenes of this activity in the Roman world can be found on the Igel Column near Trier, Germany, on the Avignon Relief from southern France, or on the statue of the god Tiber in the Louvre. We also find descriptions by authors such as Ausonius (*Mosella* 39–42), Cassiodorus (*Variae* 12, 24) and Wandalbert von Prüm (29, 2) that demonstrate that human labor from shore was a critical part of upstream travel in the Roman, late antique, and early medieval periods.

Comparative evidence also shows that riverine transportation was limited to certain seasons because it was so dependent on riverine conditions. Seasonal risks, including ice in winter, floods in spring and autumn, and drought in summer dictated when and where a ship could travel and with how much cargo. The largest Roman ships traveling the greatest distance were the most vulnerable, and comparative evidence from the 19th century demonstrates that the period from July to September was the most active for shipping bulk products on the Rhine.⁵ Outside of this period, problems can be encountered: Tacitus (*Hist.* 4, 26–27) records a ship running aground as a result of drought in AD 69, and Ammianus Marcellinus (14, 10, 2–3) records that floods prevented the

movement of grain through Gaul in AD 354. Thus, the Roman shipping season in northern Europe was carefully confined to the best conditions, but even these would fluctuate and change by year.

Long-term changes in the climate and landscape of the Roman Empire are increasingly evident. Floods, droughts, alluviation, sedimentation, and channel movement all posed significant problems for shipping and the maintenance of riverside infrastructure such as harbours, canals, quays, roads, and bridges. Archaeological evidence from about a dozen sites along the Rhine shows repeated evidence of hydrological change under the Roman period, resulting in settlement abandonment, infrastructural change, and changes to frontier policy. The influence of human-induced erosion leading to subsequent hydrological crisis is best signalled through increased alluviation and channel movement. We can also see the impact of climatic change as reports of the Rhine freezing increase over the 4th and 5th centuries, coinciding with a cooler climate shown through palaeo-climatological records. As the Rhine froze over in winter, the river was removed as a barrier for incursions, and this new reality had a noticeable impact on frontier policy – finally leading to the collapse of the defensive system when the Germans crossed the Rhine in winter of AD 406.

All of this is to say that a number of environmental conditions had an impact on the functioning of river transportation networks. The Roman Empire could not control these conditions in any meaningful way, so the only defence that shippers had against environmental hindrances was their training, knowledge, and experience with particular river systems. Thus we see the development of specialised shipping guilds, such as the *corpora nautarum* of Gaul, where specific groups handled the movement on specific rivers, i.e. the *corpus nautarum Rhodanicorum* handled the Rhône, while the *nautae Mosallici* handled the Mosel.⁶ The development of these geographically-specialized groups ensured that goods traveling by river would be handled by experienced and knowledgeable captains and would therefore have the best chance of safe transit. This organisation bears striking resemblance to more recent groups, such as the Company of Watermen and Lightermen, based in London, England, who were responsible for the transshipment of goods in the lower Thames. This guild required seven years of apprenticeship to learn the character of the river, the seasonal variation in flows and tides, and how to safely handle a ship in these conditions.⁷ Once licensed, a shipper could work independently or for a number of different companies – but all operated under the licensing aegis of the Company of Watermen and Lightermen. We have no clear records of how the Roman-era *corpora* operated, but it may well be that their *raison d'être* was similar – to ensure that those shippers operating under their name on their rivers were highly trained and knowledgeable individuals who would guarantee safe passage to the best of their ability.

In sum, the environmental context of Roman riverine transportation required intensive local knowledge so that shippers could handle hydrological, climatic, and environmental obstacles that they faced on a daily, seasonal, and annual basis. These challenges

are evident in disparate pieces of information from the ancient world, but are best understood through interdisciplinary investigation that helps move past the obscuring blinders of modern riverine conditions. While the Rhine is used here as a case study, this situation holds true for all rivers in the ancient world, and we must understand the nuances of geography and environment to fully understand how river transportation functioned under Roman rule.

Notes

¹ Franconi 2016; Franconi 2017a; Franconi 2017b.

² Büntgen et al. 2011; Harper 2017.

³ Thacker 1914; Suttor 1986; Rossiaud 2007.

⁴ Bockius 2018.

⁵ Wickert 1903.

⁶ Schmidts 2011.

⁷ Fagan – Burgess 1966.

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How Central are Local Centres? Testing Archaeological Hypotheses of the Dutch Part of the Roman Limes through Spatial Analysis and Network Science

Mark R. Groenhuizen – Philip Verhagen

The integration of the Dutch Rhine-Meuse delta in the Roman Empire during the first centuries AD is thought to have led to an increased structuring of the settlement pattern and an increased level of interaction between the rural population and the military population that resided in the forts (*castella*) along the Rhine (fig. 1). The manner through which this interaction took place, for example in the form of the distribution of surplus-produced goods, is relatively unknown. Roman archaeologists such as Willem Willems and Wouter Vos have argued that the Dutch limes zone can be characterised by a dendritic settlement system, particularly for the (re)distribution of goods, wherein most interactions moved up and down this hierarchic system and fairly little ‘horizontal’ interaction took place. Besides the known rural centres, Wouter Vos in his study of the Kromme Rijn region also sees a role in this system for some atypical rural settlements.¹

This study makes use of two contrasting hypotheses: a null hypothesis, in which all surplus-produced goods flow directly from each rural settlement to a *castellum*, and an alternative hypothesis in which goods from individual settlements flowed to a more centrally located gathering point such as a storage facility or local market, i.e. the ‘local centres’ or ‘intermediary sites’ in the dendritic hierarchic system, from which bulk transport destined for the *castella* was organised (fig. 2). Since one of the primary costs of transport is the time investment, these hypotheses can essentially be compared on the basis of the time advantage that one of these systems has over the other.

This study makes use of a transport network modelled on the basis of a least-cost path approach that connects the rural settlements to each other and to the *castella*. The cost of movement between two places over such a network is expressed in units of time.² The aforementioned hypotheses can be tested using path length, a concept of network analysis, which in the modelled networks is therefore also expressed in units of time. For the alternative hypothesis to be more efficient than the null hypothesis, the total path length to reach an intermediary site from a number of rural settlements (in this study set at 25) in addition to the path length of that intermediary site to a *castellum* should be lower than the total path length of the same number of rural settlements to reach the *castellum* directly. Using this approach, the hypotheses essentially also test whether or not the sites that have been identified as potential ‘intermediary sites’ are indeed more ‘central’ in the distribution of goods in a dendritic system than the *castella* themselves.

For the *castella* in the westernmost part of the study area (Katwijk-Brittenburg, Valkenburg and Leiden-Roomburg), it is found that the alternative hypothesis is more

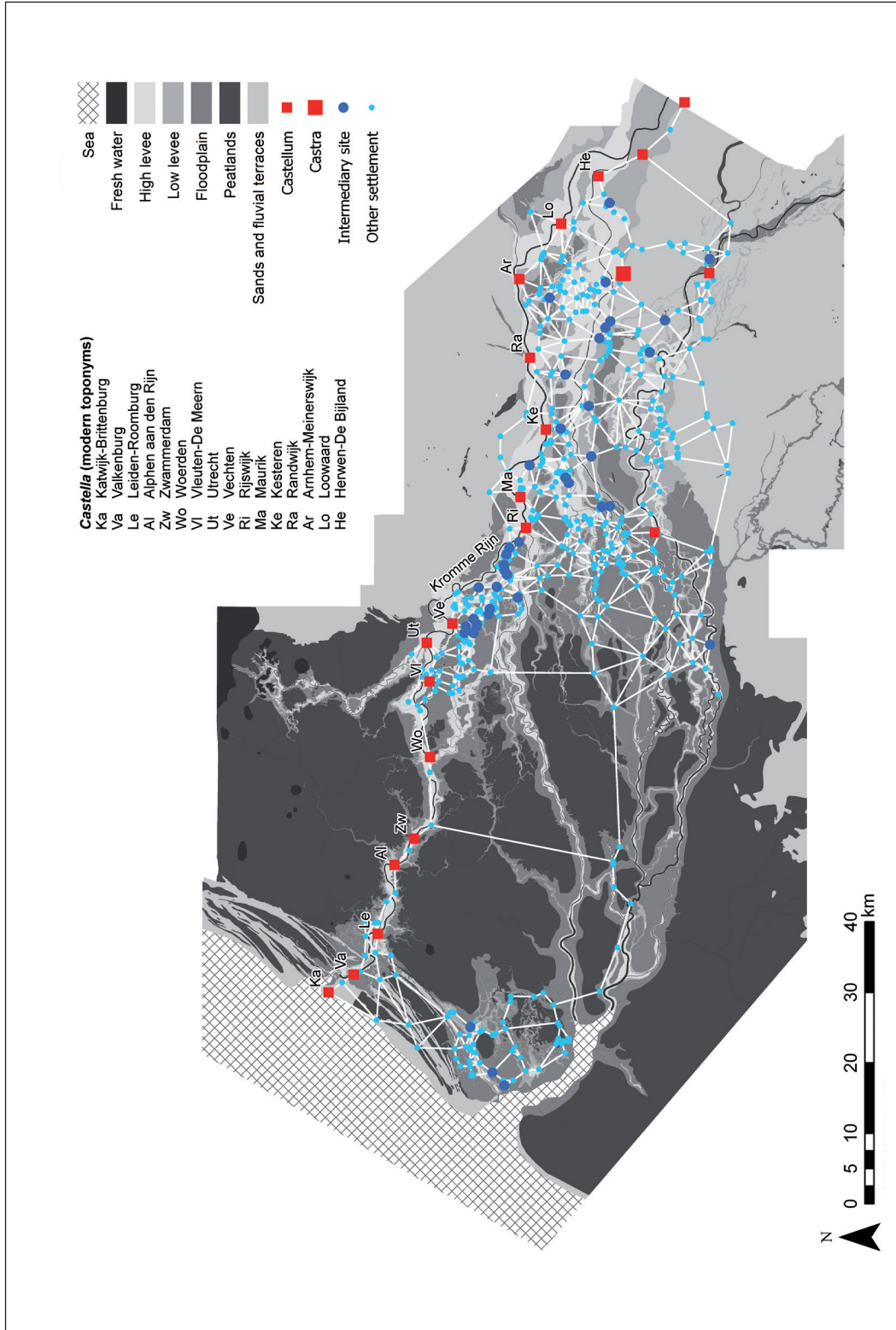


Fig. 1: Palaeogeographic map of the study area, showing castella, rural settlements and potential intermediary sites, as well as toponyms referenced in the text.

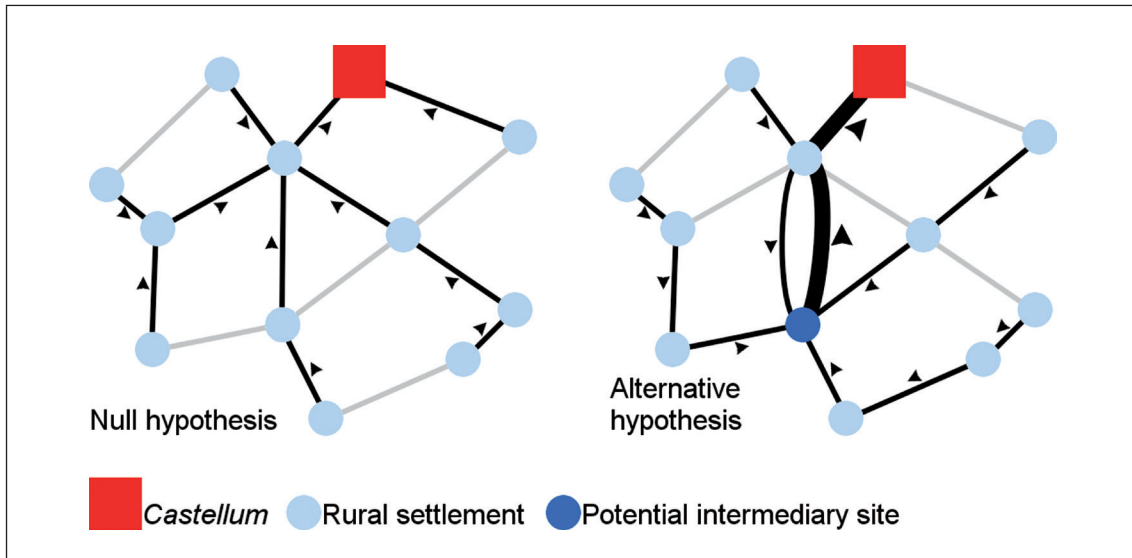


Fig. 2: Schematic examples of the null hypothesis (all goods flow directly to the castellum) and the alternative hypothesis (all goods flow to the intermediary site, and are subsequently moved in bulk to the castellum).

likely than the null hypothesis, indicating that it would be more efficient to move goods through intermediary sites rather than directly to the *castella*. However, it is noteworthy that the potential intermediary sites are all far removed from the forts, creating the possibility for a dual system wherein the *castella* have functioned as gathering sites for their direct vicinity, while at the same time some intermediary sites functioned as gathering sites for settlements further away.

The *castella* along the narrowest section of the Rhine channel belt (Alphen aan den Rijn, Zwammerdam and Woerden) have no intermediary sites closer to them than to any other *castellum*. Furthermore, there are so few rural settlements in their vicinity that their total path length to the 25 nearest settlements is much larger than that of other *castella*. It is therefore imaginable that these forts relied on their direct hinterland to a limited extent, in which they functioned as direct gathering sites, but were also dependent on regional provisioning lines for their requirements, including transport over the Rhine from the central and eastern parts of the Rhine-Meuse delta. The *castella* of Vleuten-De Meern and Utrecht are closer to the densely populated Kromme Rijn region and can to some extent be expected to have relied on that hinterland for their provisioning. This is reflected in their lower total path length compared to the three forts to their west. Similarly, these two forts may have functioned as gathering sites for settlements in their immediate vicinity, while at the same time relying on more distant intermediary sites, most likely in the Kromme Rijn region, to supplement their requirements.

In the Kromme Rijn region it is found that the alternative hypothesis is more likely than the null hypothesis, in particular for those sites identified as large rural settlements

by Vos,³ indicating that it would be more efficient to move goods through these intermediary sites than directly to one of the two *castella* (Vechten and Rijswijk). In contrast to the intermediary sites found in the western part of the study area, these sites are actually located between the forts rather than in more distant areas, indicating that a hierarchic settlement system in this part of the study region would be beneficial for local scale transport. Furthermore, the intermediary sites that are further away actually have a higher total path length than the forts, which leads to the conclusion that they may not have been intermediary sites in local transport networks, or that they may have functioned as such in a different context (e.g. as part of a Meuse-based transport network).

From the *castella* of Maurik to Herwen-De Bijland, all forts have at least one intermediary site closer to them than to any other *castellum*. These intermediary sites all have a lower total path length from their 25 nearest rural settlements than the *castella* themselves. It can thus be concluded that the alternative hypothesis is more likely for these forts: it would be more efficient to move goods through an intermediary site than directly to the *castella*, and in this case it is true both for intermediary sites that are near to the *castella* and those that are in more distant areas.

This study has given important insights into the possible functioning of military provisioning from the local hinterland, and has supported and refined current archaeological thinking about these socio-economic interactions between the local population and the Roman military population. Furthermore, this study has shown that by expressing our archaeological ideas into relatively simple testable hypotheses, we can use methods from spatial analysis and network science to further our archaeological understanding in a more quantifiable way.⁴

Notes

¹ Willems 1986; Vos 2009.

² Groenhuijzen – Verhagen 2015; Groenhuijzen – Verhagen 2017.

³ Vos 2009.

⁴ Groenhuijzen 2018.

Image Credits

Both images are the authors' own work.

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**Trade and Cultural Contact in the Iron Age
and Archaic Mediterranean**

Panel 5.21

Cultural Processes and Circulation of Prestige Goods in Pre-Roman Apulia.

The Influences of the Orientalizing Period and the Relations with Greeks and Etruscans

Andrea Celestino Montanaro

Daunia

The latest studies about the customs of the Italic aristocracies in Apulia have added relevant data concerning the Orientalizing period and the phenomenon of birth of the aristocracies between the 8th and 7th century BC. If we focus our attention on Daunian territory, it is very indicative the link that connects these aristocracies to those of the Tyrrhenian area, active since the 9th century BC. Testimonies of such relationships are the prestige goods coming from Etruria and Campania, especially personal ornaments and bronze vases, flaunted in the funerary assemblages of extraordinary burials, some of which they add, to the preciousness of the material, the sophistication of the workmanship and the rare and exotic character.¹

The Orientalizing and the “birth of the princes” reach Apulia with a certain delay (mid-7th century BC in Daunia), in less sumptuous and exuberant forms, and linger until the middle of the 6th century BC. In the early Iron Age (8th century BC), the Daunian society appears to be characterized by signs of strong articulations, with families who hold prestigious roles in the communities (see graves of Monte Saraceno, Salapia and Arpi).² Among these burials, a funerary assemblage from Salapia stands out (tomb 231, mid-8th century BC), which includes offensive weapons (cups of spear and javelin) and defensive ones, as two bronze shields. One shows an embossed decoration composed of points and pairs of water birds, the other has an embossed ornamentation with concentric circles that find strong comparisons with similar specimens from Tarquinia, Veio and Picenum. The deceased’s dress was embellished with bronze fibulae, glass beads of a necklace, and a bronze long pin. The assemblage includes also a bronze basin, containing the fibulae, iron spits, and a bronze chisel.³

With the great development of the proto-urban centers, and when the region shows its economic vitality, under the guidance of the emerging classes, Daunia reaches its moment of maximum splendor between the 7th and 6th century BC. The aristocracies strengthen their position with families that hold prestigious roles, with rich funerary assemblages attesting elaborate ceremonials.⁴ The main characteristics of these burials show an isolated position compared to the other tombs, with exceptionally large dimensions, with a precise intention to reserve a monumental preparation, the composition of the funerary assemblage, which exhibits the distinctive signs of particular functions and dignity, and in the presence of prestigious objects, often imported (pottery and bronze vases), to demonstrate the particular economic and political power enjoyed by

the deceased and his family within the community. These princely tombs are attested especially in the necropolis of Lavello, Canosa, Cupola (Sipontum) and Minervino Murge, between the mid-7th and the first half of the 6th century BC. Among these, we must consider the assemblage of tomb 1/75 from Canosa (mid-7th century), especially for its funerary ritual, rarely attested in Daunia, and for its artifacts that strongly recall the Etruscan area. In fact, a great bronze basin, containing cremated human remains and covered by a basin with pearled rim, had been placed at the center of the burial, according to a heroic ritual known in Cumae and Pontecagnano burials.⁵

In the same necropolis, the funerary assemblage of tomb 1/89, dated to the second half of the 7th century BC, takes on outstanding features. The importance of the deposition stands out for the special care given to the structure, monumental and isolated compared to the other burials, such as the cutting depths of the pit, the construction with blocks in the upper rows that mark the perimeter of the pit, and a mound cover with probable *sema*. Inside the burial, there is a distinction of the depositional plan between the space-loculus, reserved for the deceased and the personal objects, underlined by a ring of flat plates, and the space for the assemblage (see Pontecagnano's burials). The tomb has yielded a very rich assemblage, whose signs of prestige can be read in the intentional and emphasized iteration of pottery and metal shapes, arranged around the burial. Eighty vases of Daunian Subgeometric I (700–550 BC), forming the complex for the symposium, stand out with the prevalence of foot-krater class. The metal products, such as a great lebes, a basin with a brim-shaped edge and twelve basins with pearled rim, are classifiable in a Tyrrhenian cultural horizon (fig. 1).⁶ But are above all the *agalmata* that define the woman's position of excellence; in fact, a controlled system, in terms of exchange, allows the reception of luxury products with an intrinsic value. The silver *phiale* is one of the most representative objects that highlight the key role played by the female character, according to eastern models. It is a low bowl type with full handles and a plate type attachment, probably produced in a southern Etruscan atelier that imitates Phoenician and northern Syrian artifacts. The late chronology compared to the framework of chronological distribution in the Tyrrhenian region and its presence in a peripheral area can be explained as a "gift" by an Etruscan prince.⁷ Also the biconical gold beads, which were included the necklace of the deceased, alternating with a series of amber beads, are most likely artifacts coming from the ateliers of the Tyrrhenian coast. Among the personal adornments stand out a group of bronze fibulae, a knitted belt with welded rings, which remind of the Enotrian world, silver beads and fibulae, amber necklaces. Iron spits and andirons refer to an active participation of woman in the cutting and distribution of meats and especially to its dynamic presence in the practice of banquet like the high-ranking Etruscan women (fig. 2).⁸

Really outstanding is the funerary assemblage found at Cupola-Beccarini near Sipontum, belonging to a princess and dated to the mid-7th century BC. It shows, on the level of ideology and symbol, the Daunian élites completely integrated in that process of competition and exaltation between dominant groups through the objects that define

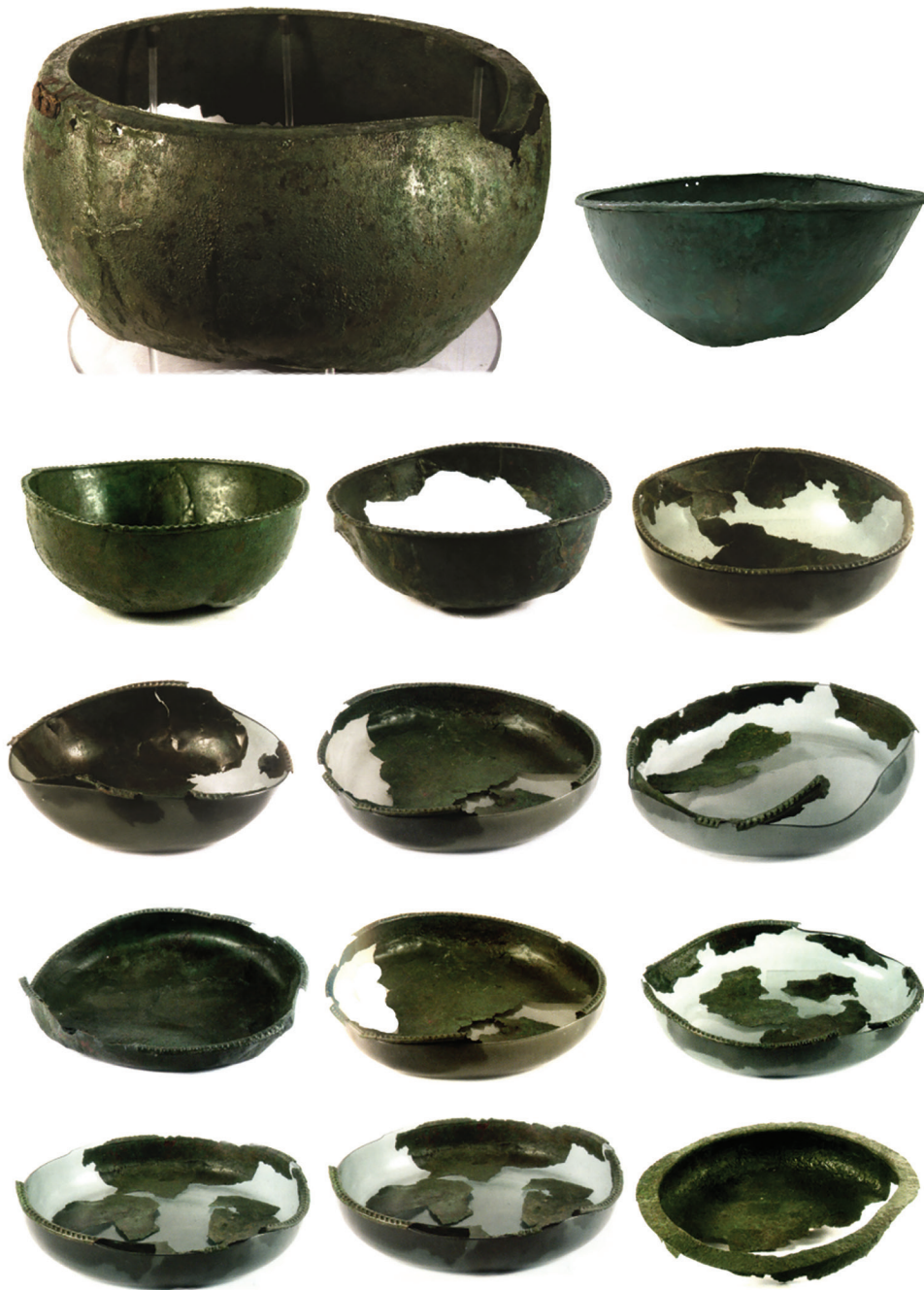


Fig. 1: Manfredonia, Museo Archeologico della Daunia. Group of bronze vases imported from Etruria and Campania from Tomb 1/89 of Canosa-Toppicelli, last decades of 7th cent. BC.



Fig. 2: Manfredonia, Museo Archeologico della Daunia. Tomb 1/89 from Canosa-Toppicelli: 1) Silver Phiale of Etruscan production; 2) Gold biconical beads from a necklace; 3) Amber necklaces with different beads; 4) knitted belt with welded rings.

the hegemony. The artifacts in precious metal, found on the body of the deceased, compose a very rich parure for a particularly sumptuous dress and they refer to the refined metallurgical experience of the Tyrrhenian coast. The extreme rarity of the gold specimens (four biconical beads as in tomb of Canosa) argues in favor of the importance of the gold metal as acquisition of further signs of prestige and social differentiation. From Campania come also the two globular silver pendants, particularly widespread in the Tyrrhenian area and very similar to others found in the Orientalizing tombs of Pontecagnano and Cumae.⁹ The several amber beads (at least 120), placed on the chest of the deceased, compose a sumptuous more wires-necklace, with mixed elements, alternating in shorter wire with gold beads, as in Canosa's assemblage, that finds strong comparisons with those excavated in the rich burials of Enotrian ladies (fig. 3).¹⁰ This is an association (gold and amber) that seems to evoke clearly Homeric reminiscences. See, for example, the "Abduction of Eumaeus", in which a magnificent gold and amber necklace, brought by Phoenician merchants, distracts the queen and her maids and allows the slave of Sidon to put in place the wicked plan (*Odyssey* XV, 459–464).¹¹

What catches our attention is the silver specimen in a cylinder shape, hollow, interpreted as a scepter decoration (fig. 4). The presence of this symbolic object, full of meanings, establishes the highest rank of the deceased as a holder of political power, and reveals the remarkable economic capacities to acquire the most refined prestige goods. But its morphological features also refer to a female instrument par excellence, like the distaff. It is well known how this object is related to spinning and wool's working, main activities of the aristocratic woman within the *oikos*. Similar artifacts are in precious material like amber (Braida),¹² molten glass (Cales and Campovalano),¹³ bronze and ivory (Etruria),¹⁴ They are significant objects of the prestige reserved for the activities of the female world, which presuppose the recognition of woman as a royal bride, destined to fundamental roles. Therefore, it is possible to imagine that Cupola's scepter has played a symbolic function by configuring itself as an expression of a double polarity of intent: the will to indicate the excellence of the deceased and to highlight the role and activity carried out by the princess within her own community.¹⁵

The princess can be traced back to the *oikos* space, by attributing her also the silver basket with embossed work. The plate, with zoomorphic and anthropomorphic decoration of Orientalizing style (theories of gradient felines, concentric circles, and a female winged figure), was found at the head of the deceased, as well as the distaff (fig. 4). This is a ceremonial gift, probably produced in an atelier of southern Etruria (Cerveteri), as well as other plates with the same decoration from the Tyrrhenian area (Vulci, Vetulonia, Cales, Cumae), used as diadems¹⁶ or adornments destined to embellish the sumptuous ceremonial garments worn for the funerary ritual.¹⁷ To the fundamental woman's hoarding function, guardian of the family patrimony, leads the precious metal vases of Etruscan production that expresses, in its exuberance, the social value of the *oikos*. They are ten basins, seven with pearled rim, three with taut rim and bottom decorated with embossed omphalos and concentric circles, and one characterized by a wide-brimmed

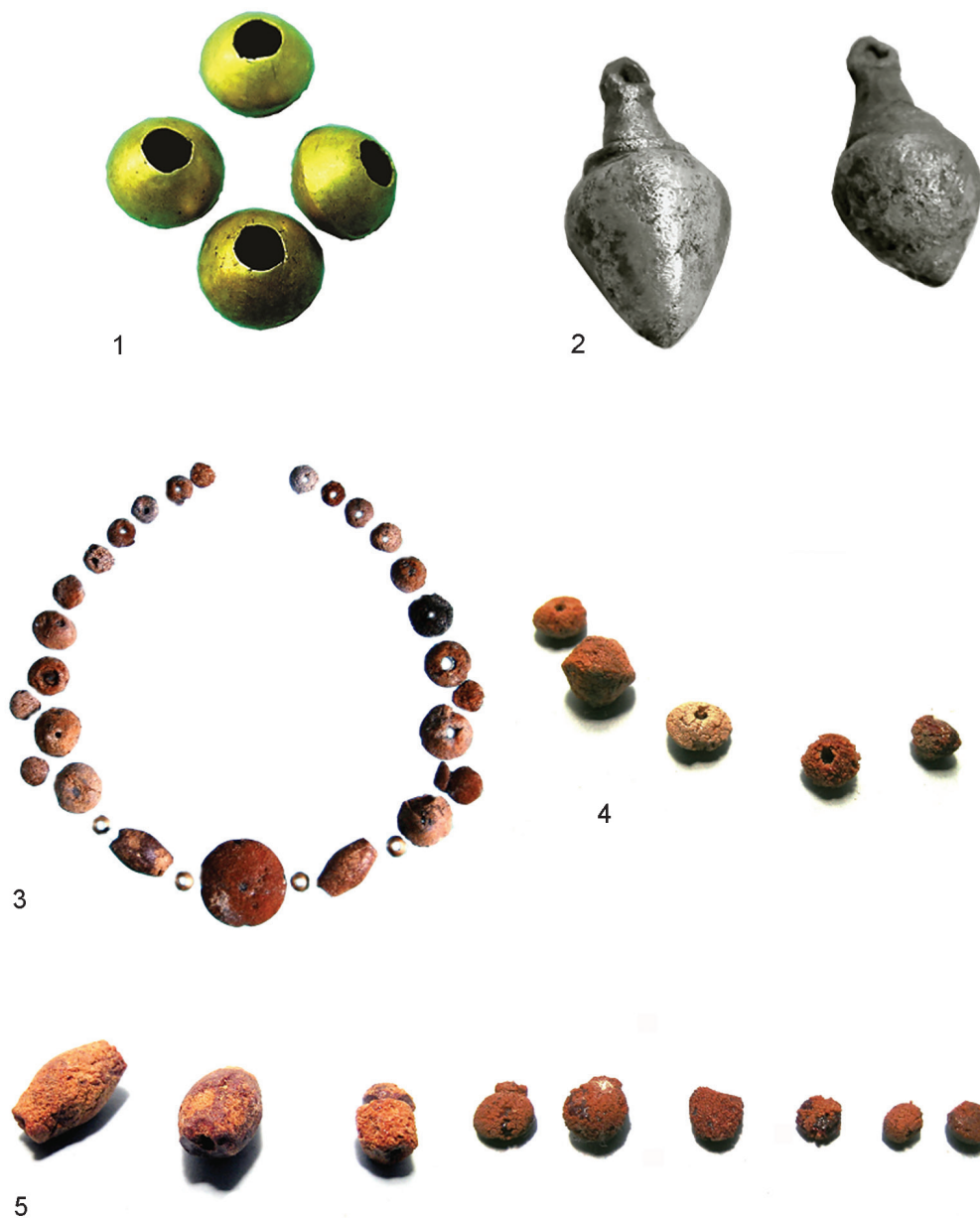


Fig. 3: Manfredonia, Museo Archeologico della Daunia. Funerary assemblage from Cupola-Beccarini, second half of the 7th cent. BC: 1) Gold biconical beads from a necklace; 2) Silver pendants in a globular shape; 3) Reconstruction of an amber necklace with different beads; 4–5) Amber beads of different shapes from a necklace.



Fig. 4: Manfredonia, Museo Archeologico della Daunia. Funerary assemblage from Cupola-Beccarini: 1) Silver scepter/distaff; 2) Silver plate with embossed decoration of Etruscan production; 3) Some bronze basins with pearled rim of Etruscan production; 4) Some bronze basins with taut rim and bottom decorated with embossed omphalos and concentric circles.

horizontal rim decorated with braid, which are widely diffused throughout the areas of Etruscan influence (fig. 4). Very interesting is the treatment reserved to a basin with pearly rim, to which iron feet of a tripod have been applied, highlighting even more its function as an element for food cooking.

The exaltation of the woman's high rank goes also through the sacrifice and the offer of noble animals like the horse: in fact, placed under the mound, there was an equine head, next to which a bell-shaped goblet was placed. This is not an unusual practice in Daunia, especially in female tombs, attested also at Canosa, Minervino Murge and Biccari. The meaning of this ritual is similar and equally emblematic of the deposition of the war-chariots inside the female tombs of the Etruscan area, where the use of the horse is connected to social life of the ruling class and to an aristocracy that to impose itself served of military power. The richness of the *oikos* is founded on a plot of owned goods, and the horses represented part of the wealth of the family clan. They constitute a reference to the importance for Daunian elites of practices as *hippodamia* and *hippotrofia* that conceal very ancient origins and have deep heroic values that recall the mythical ancestor of Daunian people, that of Diomedes known since the Homeric tradition as a tamer of horses par excellence. Therefore, it is possible that the princess of Cupola, in addition to highlighting her social and economic preeminence within the family and her community, wants to emphasize with the sacrifice of horse her descent from the mythical ancestor, according to a will of affirmation of her identity as *genos*.¹⁸

Other rare testimonies of exotic objects were offered by the Daunian sites, also interpretable as gifts, which attest a Mediterranean mobility of wide-ranging that involves Daunia during Orientalizing (fig. 5). The Egyptian vase in quartzitic stone from Cupola (and not from Coppa Nevigata) is really unique. The libation vase, probably dedicated as an *ex voto* in a sanctuary located in the area, where the Daunian stelae come from, preserves only the upper part, with a hieroglyphic inscription below the rim. It recalls a high dignitary at the court of the Pharaoh Psammetico II (595–589 BC), a certain Bokorinef "head of the Greeks' army". Other testimonies of eastern artifacts are known in Daunia, such as the *faience* pendants of Egyptian type depicting the images of the sacred family of Memphis (Ptah-Pateikos, his wife Sekhmet and Bes) spread from the Phoenician trade, perhaps received through Pitecusa and the Etruscan centers of Campania. These are real amulets, with a powerful magic-apotropaic function, which probably had to form the central pendants of complex amber necklaces well attested also in nearby Basilicata.¹⁹ The same Pitecusa is also responsible for the diffusion of other objects, such as the ivory, *faience* and glass-paste scarabs found in the burials of Monte Saraceno, Canosa, Cupola and Ortona.²⁰ Particular attention must be paid to the funerary assemblage of tomb 46/b from Monte Saraceno, which has yielded an ivory scaraboid, but above all three specimens of turtle shells, with clear symbolic and ritual value as an emblem of the chthonic world, well attested in some burials of Populonia and Tarquinia.²¹



Fig. 5: 1) Manfredonia, Museo Archeologico della Daunia. Egyptian vase in quartzitic stone with a hieroglyphic inscription (595–589 BC) from Cupola; 2) Bari, Museo Archeologico della Città Metropolitana. *Faience* pendants of Egyptian type (7th cent. BC) depicting the images of the sacred family of Memphis, Sekhmet, Bes and Ptah-Pateikos.

Peucetia and Taranto

The Orientalizing period is less represented in Peucetia, with sporadic testimonies related to the 7th century BC, and appears with greater delay (late 7th century BC) than Daunia. Peucetia is affected, above all, by influences from Greece and Greek colonies (Taranto and Metapontum), although there are several testimonies from Etruscan area, represented especially by the bronze basins with pearled rim. However, for this period, we must consider an interesting male burial from Altamura that has yielded a high-level funerary assemblage, consisting of few but significant objects, dated to the second quarter of the 7th century BC. Among these artifacts a Corinthian helmet stands out, belonging to the most ancient type, but the most outstanding element is represented by a bronze ribbed bowl, linked to regal figures in the eastern world (fig. 6). The object, for its decoration depicting a network of embossed clews, can be considered as a *unicum* in Italian documentation. In fact, for its morphological and decorative features, it finds immediate comparisons with a bowl from Assur and some specimens of Assyrian (Nippur, Nimrud) or Assyrian-Iranian (four specimens from Luristan) and Iranian production (the bronze ribbed bowl at the Museum of Utrecht), dated to the late 8th century BC. For these reasons, the Altamura's bowl falls fully within the Middle East production and, almost certainly, was imported through Syro-Phoenician vectors thanks to a "ceremonial" exchange of gifts composed of prestige goods. Therefore, a "gift for king", if we remember it was a precious artifact used by the Assyrian sovereigns.²²

During the 7th and especially in the first decades of the 6th century BC, the great prosperity of some centers of central Apulia, linked to the exuberant agricultural resources, causes a massive import of refined jewels in precious metal, which is flanked by local production. This phenomenon can be observed in Noicattaro and, later, in the other centers such as Ruvo and Rutigliano, where the huge demand for luxury items must have led, in the late 6th century BC, to the transfer of some workshops of specialized artisans both from Etruria and Magna Graecia to Peucetia. Very interesting are some gold jewels from Noicattaro, probably belonging to a single funerary assemblage (fig. 7). The first is a trapezoidal pendant with Greek-eastern style decoration (mid 6th century BC), adorned with braids and rosettes, depicting an embossed running leveret. Also the pair of disk type ornaments for clothes, with embossed and granulation decoration, constitute precious evidence: on them are depicted a pairs of snakes separated by two swastikas. The schematized form of the snake's snout finds comparisons with ornaments from Tekke (Crete) and Ithaca and can be considered the most ancient Greek imports in southern Italy, dated to the late 8th century BC and ascribed to the Orientalizing production. To these artifacts two gold necklaces must be added, probably of Greek-eastern production and dated to the first decades of the 6th century BC. The first is composed of a single central pendant in the shape of little globular amphora with vertical cylindrical element, suspended by a thin cord twisted wire. The second necklace includes three circles of different diameter wire hooked at the ends and held together by a ring



Fig. 6: Altamura, Museo Archeologico Nazionale. bronze ribbed bowl with decoration depicting a complex network of embossed clews of Assyrian-Iranian production, last decades of the 8th cent. BC.



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Fig. 7: Bari, Museo Archeologico della Città Metropolitana. Gold jewellery from Noicattaro.

which is hung a small hook with two biconical beads. The field of production must be sought in the Tyrrhenian side of the Peninsula, especially in Campania (Pontecagnano and Cumae) and Calabria (Torre Galli) where these objects are quite common during the Orientalizing period.²³

The 7th century BC is a crucial phase for Monte Sannace (one of the most important site of Peucetia), because it starts contacts with the Greek-colonial centers, the main area of reference for imports (especially Corinthian and Ionian pottery and vases produced in Magna Graecia). On the acropolis, more complex buildings with a rectangular plan, built with stone walls and a thatched roof, begin to appear. From a hut-house consisting of a quadrangular covered room, in front of which opened a large open courtyard, bordered by a colonnade of wooden poles, came an extraordinary group of vases of Greek tradition, which compose a ceramic set, intended for the ritual practice of wine consumption. It is, above all, brown-painted fine pottery, with sub-Geometric and linear decoration (also figured), dated to the third quarter of the 7th century BC (jugs, craters, jars and cups with fillet decoration), which find strong analogies with the vases produced in the main centers of Siritide (Incoronata, Metapontum, Siris).²⁴ In the same area, two great tombs with two external *sema* were found inside a sacred building, belonging to high-ranking people: a Mesocorinthian krater by the Memnon Painter, depicting the duel between Achilles and Memnon, and a large two-color geometric jar stand out among the objects of the assemblages (fig. 8). These were also composed of Corinthian, Ionian and colonial painted vases, local geometric pottery, a bronze basin and iron spears that place the tombs in the second quarter of the 6th century BC. The two large vases were used both with a complex functional value, during the funeral ceremony, and evocative, at the end.²⁵

The Tarentine society, far from adhering to Laconian traditions, even in the funerary sphere, seems to prefer other behavioral models that envisage ostentation of luxury and wealth, with a dizzying and quick increase of the funerary assemblages. Next to the Corinthian pottery, there are some valuable objects referable to handicraft productions of different origins, such as eastern vases and configured balsamaries, like Samian and Rhodian artifacts, attesting the strong relationships with eastern Greece. Similar strong commercial and cultural contacts are recognizable towards the eastern world, especially with requests for Egyptian or Egyptianizing products, such as *faïence*, steatite or imitations of talcoid stone scarabs and scaraboids, perhaps imported from the Greek center of Naukratis in Egypt. To these we can add *alabastra* in Egyptian alabaster, *faïence* plastic balsamaries, and perfumes containers (*faïence aryballoi*) of Egyptian style of Rhodian origin, or the Egyptian *faïence* statuettes depicting a double *aulòs* player, which finds comparisons with other specimens from Naukratis, that attest the composite character of the goods and commercial carriers, together with the complexity of the needs of the local market, and how the aristocratic class of Taranto is fully involved in the Orientalizing culture (fig. 8).²⁶



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Fig. 8: 1) Gioia del Colle, Museo Archeologico Nazionale. Mesocorinthian krater by the Memnon Painter depicting the duel between Achilles and Memnon, first decades of 6th cent. BC; 2–4) Taranto, Museo Archeologico Nazionale. Orientalia from Taranto, 7th cent. BC: faience aryballos of Rhodian production; faience plastic balsamary of Egyptian style; necklace composed of scarabs talcoid stone of Egyptian production.

Notes

¹ For the relationships between Daunia and Thyrrhenian area: De Juliis 1996, 529–560; Bottini 1999, 89–95; Nava 1999, 45–69; De Juliis 2001, 260–267; D’Ercole 2002; D’Ercole 2008, 95–102; Mazzei 2010, 108–113, 158–190, 229–230; Montanaro 2010a, 98–105; Montanaro 2011, 7–48; Bottini 2016, 9–50; Montanaro 2016, 514–520.

² Tomb 67 of Monte Saraceno (Nava 1991, 214–215; Mazzei 2010, 28–29, 70–71) has yielded an ivory scaraboid and a gold falera similar to those found at Alianello and S. Maria di Anglona (Bianco 1996a, 37–44; Bianco 1996b, 45–48; Bianco 1998, 238–239; Guzzo 1998, 83–87). For Arpi: Mazzei 1995, 41–42; Mazzei 2010, 26–27, 34–37; Montanaro 2011, 11–12; Corrente 2015, 37–38, 40–62.

³ Tomb 231 from Salapia: Lippolis – Giammatteo 2008, 94–96, 160–161; Montanaro 2009, 1–27; Mazzei 2010, 46–49; Montanaro 2011, 9–11; Corrente 2016a, 73–76; Diomede 2016a, 78–82; Montanaro 2018, 643–644.

⁴ The birth of princes in Daunia: Bottini 1982; De Juliis 1992, 56–62; Mazzei 2010, 108–113; Montanaro 2011, 7–48. For Basilicata and Melfese district: Bottini 1982; d’Agostino 1998a, 25–57; Gras 1998, 58–81; Bottini 1999, 89–95; Bottini, Setari 2003; Montanaro 2018, 635–638.

⁵ Tomb 1/75: Corrente 1992a, 70–71; Lo Porto 1992, 76–78; D’Ercole 2002, 134–136; Montanaro 2011, 14, 20–23; Montanaro 2018, 645–646.

⁶ For the funerary space of tomb 1/89: Corrente 1992a, 63–70; Corrente 1992b, 87–92; D’Ercole 2002, 92–94; Mazzei – Corrente 2005, 303–306; Montanaro 2010a, 99–101; Montanaro 2011, 23–26; Corrente 2016d, 140.

⁷ Corrente 1992a, 66–67; Corrente 1992b, 96–98; Corrente – Scialpi 2013, 52–53.

⁸ For the assemblage of tomb 1/89: Corrente 1992a, 63–71; Corrente 1992b, 87–100; Mazzei 2010, 113–120; Montanaro 2010a, 72–77, 102–107; Montanaro 2011, 23–32; Corrente, Scialpi 2013, 52–59; Bruscella 2016a, 153–180; Corrente 2016d, 139–141; Montanaro 2016, 514–516.

⁹ For similar pendants from Campania: Guzzo 1993, 223–225; Cuzzo 2003, 108–112.

¹⁰ The metal artifacts: Nava 1999, 55–59; D’Ercole 2008, 97–100; Mazzei 2010, 110–115; Montanaro 2010a, 102–107; Montanaro 2011, 14–39; Corrente 2016d, 137–138; Diomede 2016c, 143–153; Montanaro 2016, 516–521.

¹¹ Association between amber and gold: Nava 2007, 23–25; D’Ercole 2008, 96–97; Montanaro 2010a, 102–105; Montanaro 2012a, 9–10; Montanaro 2016, 517–518.

¹² Amber distaff from Braida: Bottini – Setari 2003, 40–41; Bottini 2007, 236–237; Setari 2012, 92–93.

¹³ Molten glass distaffs: Cales (Passaro – Ciaccia 2000, 20–25); Campovalano (d’Ercole 2001, 81–83; Boccalini 2003, 153–160; Chiaramonte Trerè 2003, 142–144; Chiaramonte Trerè – d’Ercole 2003, 66–71; Buoi 2010, 203–222).

¹⁴ For distaff in Italic world: Bartoloni 2007, 18–23; Locatelli – Malnati 2007, 55–70.

¹⁵ For the silver scepter/distaff: Nava 1999, 54–56; Montanaro 2010a, 74–75, 104–105; Montanaro 2011, 34–36; Diomede 2016c, 145; Montanaro 2016, 518–519.

¹⁶ For diadems: Martelli 1995, 9–26; Bartoloni 2000, 276–278; Martelli 2008, 130–132; Rallo 2008, 145–147; Mazzei 2010, 109–111; Montanaro 2010a, 75–78.

¹⁷ For the silver plate: Guzzo 1993; Nava 1999, 56–57; Naso 2006, 339–341; D’Ercole 2008, 99–100; Mazzei 2010, 109–111; Montanaro 2010a, 72–73, 104–105; Montanaro 2011, 30–32; Montanaro 2016, 519–520. For the diadem from Cales: Passaro – Ciaccia 2000, 20–25.

¹⁸ For the sacrifice of horse: Boldrini 1996, 45–48; Mazzei – Corrente 2005, 303–306; Corrente et al. 2010, 225–228; Mazzei 2010, 113–114; Montanaro 2010a, 105–107; Montanaro 2011, 17–20; Corrente 2016c, 115–120; Montanaro 2016, 520–521.

¹⁹ For the Egyptian vase: D’Ercole 2008, 99–100; Mazzei 2010, 153–154; Corrente 2016b, 103–106; Diomedede 2016b, 109–110.

²⁰ For the testimonies of scaraboids: Nava – Fuligni 1994, 72–73; Nava – Fuligni 1995, 94–95, 117; Mazzei 2010, 29, 153–154.

²¹ Tomb of turtles: Corrente 2016b, 106–107; Diomedede 2016b, 110–113.

²² The bronze bowl from Altamura: Montanaro 2010b, 491–524; Montanaro 2012b, 9–50; Sciacca 2015, 98–99; Montanaro 2016, 515–516.

²³ For the jewels from Noicattaro: De Juliis 1990, 398–399; Guzzo 1993, 102–103; Montanaro 2015, 173–174.

²⁴ Hut-house of Monte Sannace: Amatulli et al. 2016, 33–44.

²⁵ Tombs from Monte Sannace: Ciancio 2005, 8–12; Ciancio et al. 2009, 315–316; Ciancio 2010, 229–230.

²⁶ Taranto: Masiello 1996, 142–146; Lippolis 1997, 3–17; Masiello 1997, 196–197, 200–204; De Juliis 1998, 38–42; Lippolis 1998, 103–106.

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Fig. 1: after Bruscella 2016a figs. 22bv–22ci; table elaborated by the author. – Fig. 2.1: after Montanaro 2016 fig. 24. – Fig. 2.2–4: after Bruscella 2016a figs. 22bh, 22bk, 22bl, 22bm, 22bn; table elaborated by the author. – Fig. 3: after Montanaro 2010a pls. II–III, IX, X, XII. – Fig. 4: after Montanaro 2010a pls. IV, VII, XVII, XVIII, XXI, XXIV, XXVI, XXVII. – Fig. 5.1: after Mazzei 2010 fig. at page 155. – Fig. 5.2: Photographic Archive of Museo Archeologico della Città Metropolitana di Bari. – Fig. 6: after Montanaro 2015 pl. XXIX, 2–4. – Fig. 7: after Montanaro 2015 pl. XXXIII and photos from the Photographic Archive of Museo Archeologico della Città Metropolitana di Bari. – Fig. 8.1: after Ciancio 2005, 12. – Fig. 8.2–4: after De Juliis – Loiacono 1985, photo modified by the author.

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Aegyptiaca in Central Tyrrhenian Italy: Sea Routes, Traders and Ideas

Enrico Giovanelli

Egyptian and Egyptianizing objects always have been considered hallmarks of the wide range of contacts during the early Italian Iron Age.¹

The first imports from this period are a little group of scarabs from the Torre Galli necropolis (Calabria) belonging to tombs dating from the end of 10th century to the beginning of the 9th century BC² (fig. 1). Therefore, Torre Galli represents one of the cases of Levantine and Aegean materials that reached the Italian Peninsula before Greek colonization. Looking at the central Tyrrhenian coast in this phase, pre-colonial imports (even though not so rare) still cannot be considered evidence of established trade routes but they are relevant for tracing the following development in the Orientalizing period. For this reason, some findings from Latium and Campania may be highlighted. At Tarquinia, a late Mycenaean mirror was found in a 9th century Villanovan “pozzetto”³ (fig. 2a) and, only four years ago, a shard of Cypriot pottery (or at least its Phoenician imitation) was discovered in the inhabited area (Pian di Civita)⁴ (fig. 2b). At Capua, a so-called “ring cauldron” from Syria or Cyprus was discovered in 2005 in a 9th century princely tomb⁵ (fig. 3). As various contributions have frequently noted, Cypriots very likely played a crucial role with in trade leading to the western Mediterranean between the 2nd and the 1st millennium BC, inheriting the routes previously traced by the Mycenaean.⁶

Beyond Tarquinia and Capua, Veii can be added to these centers that anticipate the others in the mid-Tyrrhenian coast for the presence of Aegyptiaca. In fact, at Veii, scarabs firstly appeared in tombs dating from the end of the 9th to the first half of the 8th century BC.⁷

As previously stated, only after Greek colonization can we trace a more considerable exchange system. The peak of Egyptian and Egyptianizing objects occurred from 750 until 650 BC (the last 25 years of the Italian Iron Age and the first half of the Orientalizing period).⁸

In more detail, scarabs are the most frequent findings while other faience figurines (ushabtis and other talismans) are less recurrent.⁹

The contributions of Hölbl and De Salvia have already depicted a clear overview related to the provenance of the materials: these were not only Egyptian objects (or good imitations), but they also came from Syria, Phoenicia, Cyprus and the Aegean.¹⁰

In the mid-1990s, Gorton tried to classify the scarabs from the 1st millennium BC in the Mediterranean.¹¹ This typology, even though praiseworthy, suffers from some inadequacies: although it is true that the study correctly points out the main groups of scarabs (Egyptian and good imitations, Phoenician, Cypriot-Phoenician, Punic, Aegean and Naucratis productions), many types within them vary so greatly that the idea of



Fig. 1: Scarabs from Torre Galli.

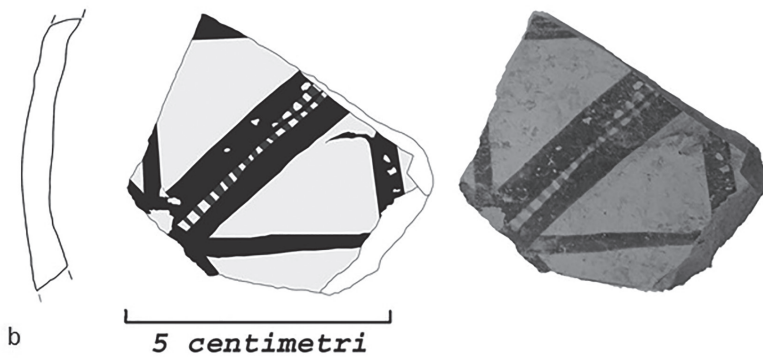
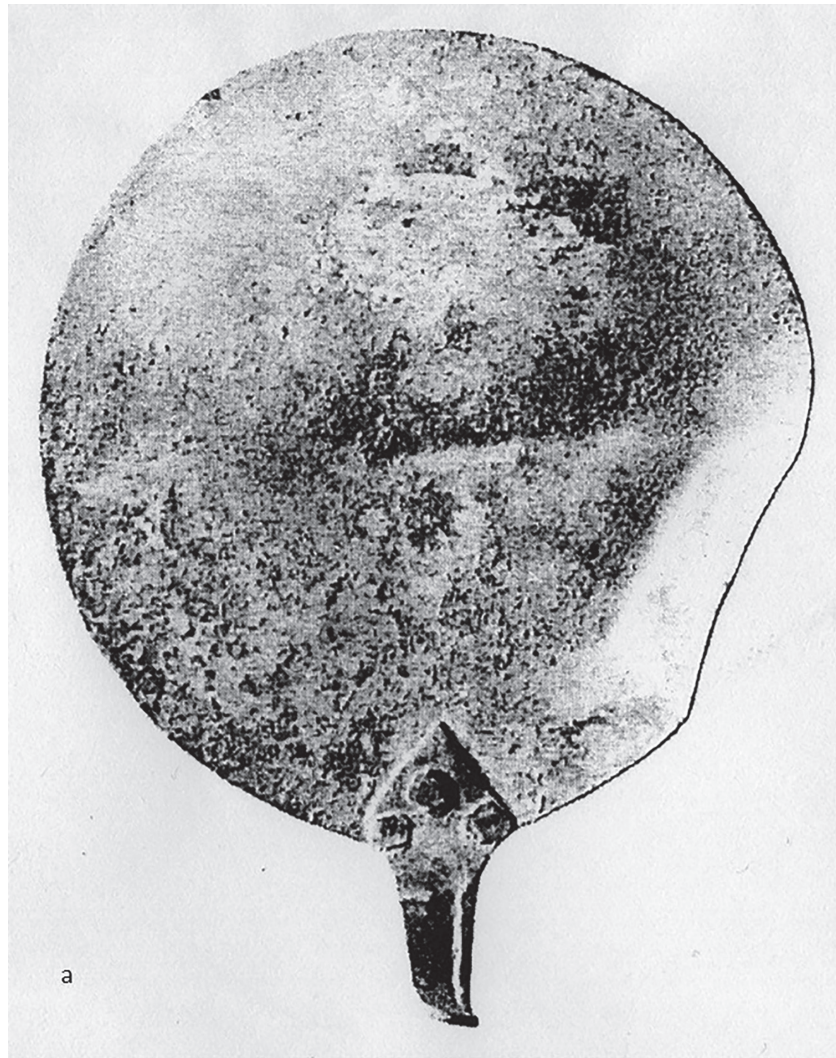


Fig. 2: a – Mycenaean mirror from Tarquinia, Poggio Selciatello; b – Cypriot shard from Tarquinia, Pian di Civita.



Fig. 3: Levantine cauldron from Capua.

‘type’ itself fades away because the co-existence and repetitiveness of standard elements are missing. Therefore, only the types belonging to the Aegean – i.e. Perachora-Lindos – and Naucratis workshops can be considered reliable.¹² Moreover, some scarabs that could apparently be classified as Naucratic were discovered in much earlier contexts (for example, a burial in *Ager Faliscus* dated approximately 700 BC) than the foundation of the *emporion* in the Nile Delta (620–600 BC).¹³

As discussed above, while it is generally possible to identify the main areas and centers of production of these objects (especially the mass produced ones), it can be more difficult to accurately trace their circulation in the Mediterranean. For this reason it seems more useful to look at particular groups, which are chronologically limited, such as a variety of blue paste scarabs that Hölbl already identified in 1979 and recently located with more precision.¹⁴

This group, which is not included in Gorton’s work, presents peculiar features: the scarabs are quite small (around one centimeter long), they are blue-turquoise in color, the details of the beetle are almost rough and there are stylized (silhouette) vegetal and animal motifs on the cartouche (fig. 4).

In Hölbl’s opinion, the workshop that made them was located in Tell Tayinat (Turkey), near the Orontes River and the Al-Mina *emporion*. Although they have been found in the Aegean area and in mainland Greece, in contexts dating from approximately 750 BC,¹⁵ the majority of them come from the southern Etruscan cities (Tarquinia,



Fig. 4: Blue paste scarabs from Tell Tayinat.

Caere, Veii and Vulci) and Campania (especially Capua), so it appears that these scarabs were more successful on the Tyrrhenian coast.¹⁶

As far as Italy is concerned, these blue paste scarabs were not the only case of well appreciated minor objects. The well-known Lyre Player seals, which originated in northern Syria or Cilicia (a workshop was probably also active in Rhodes as Martelli and Rizzo have posited¹⁷) almost seem to overlap the same route; starting from Al-Mina, firstly scarabs and seals would have reached the eastern Greek islands (mainly Rhodes), then they would have been distributed in the rest of the Mediterranean.¹⁸

Pithekoussai seem to gather the majority of the Lyre Player seals¹⁹ while the blue paste scarabs end their journey on the peninsula. This difference currently could be explained by choices of each community.²⁰

The necropolis of Pithekoussai (Lacco Ameno) is also the location with the greatest recurrence of Aegyptiaca in Italy; for this reason, it is one of the most deeply studied. The recent review by Nizzo pointed out that Aegyptiaca are a well consolidated marker for the complexity of the trade relationship on the island: the necropolis was in use for fifty years, so it was used for approximately two generations (750–700 BC). The earliest tombs provided objects from different areas of the Levant, while the second-generation burials showed a clear prevalence of Rhodian productions.²¹ This trend seems confirmed by Pontecagnano and the other indigenous centers, such as the Sarno Valley. In contrast, Capua maintained this variety for a longer period of time in a similar process that involved Etruria; only in the 7th century BC did Rhodian products become dominant.²² This difference could be attributed to the fact that at Capua and Etruria, Aegyptiaca predated Greek colonization.

Moreover, Pithekoussai showed that Aegyptiaca belonged mainly to the funerary set of women and children. As De Salvia has remarked, it is probable that their value was well known by the isle community, since in Egypt scarabs and god figurines were amulets that protected fertility and regeneration. The scholar also investigated how knowledge related to these objects was transmitted, considering whether this process was under a direct influence from Egypt to Italy or it was filtered by other communities. He noted, for example, that scarabs were frequently mounted on sickle or elliptic-shaped pendants. This kind of mount had no particular comparison in Pharaonic Egypt, but it was very popular in the Semitic areas. This sort of pendant evoked the crescent moon and had the same value as the scarab in Egypt.²³

It is very likely that the idea to join these talismans together into one object, a much more effective amulet, occurred in places where cultural hybridization was very strong, such as Al Mina, Cyprus, the eastern Greek islands and Pithekoussai itself. In these ports of trade, the Semitic presence was intense, if not permanent.

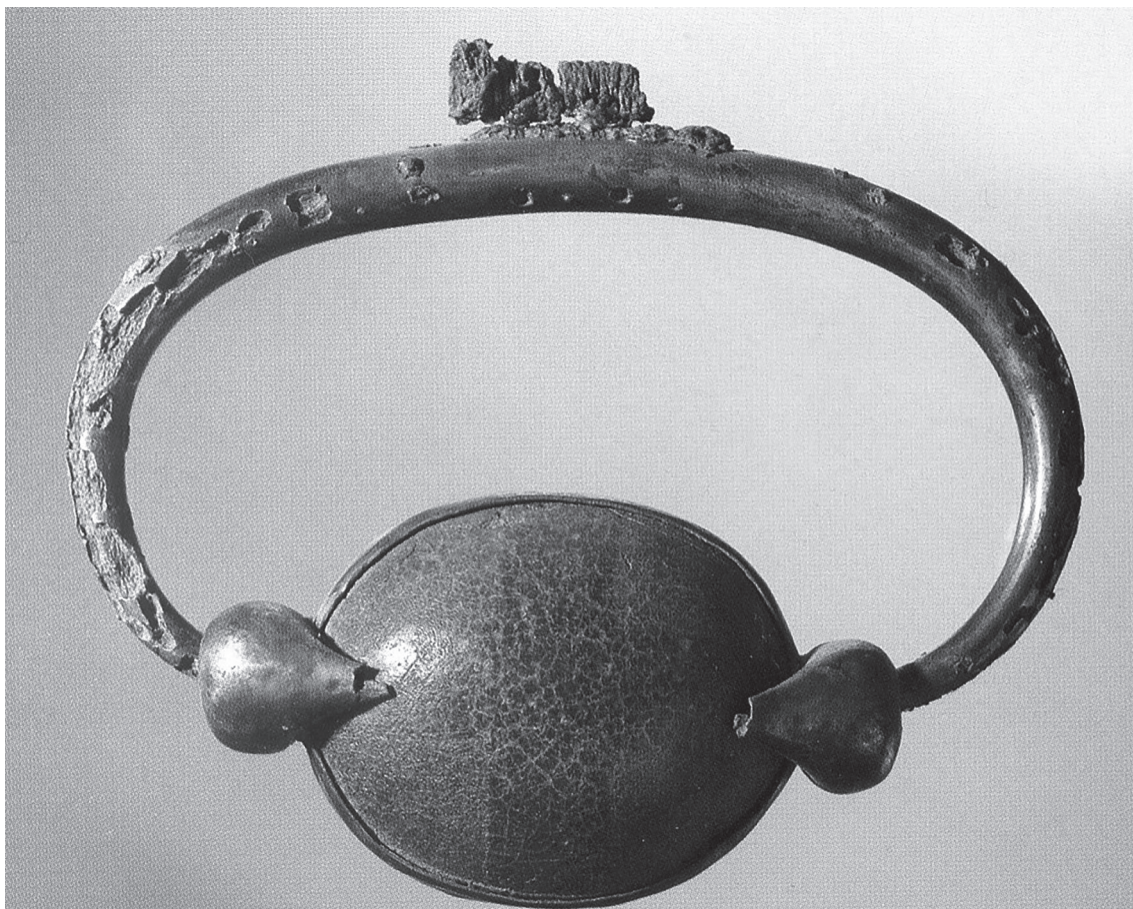


Fig. 5: Silver pendant with amber scaraboid from Calatia.

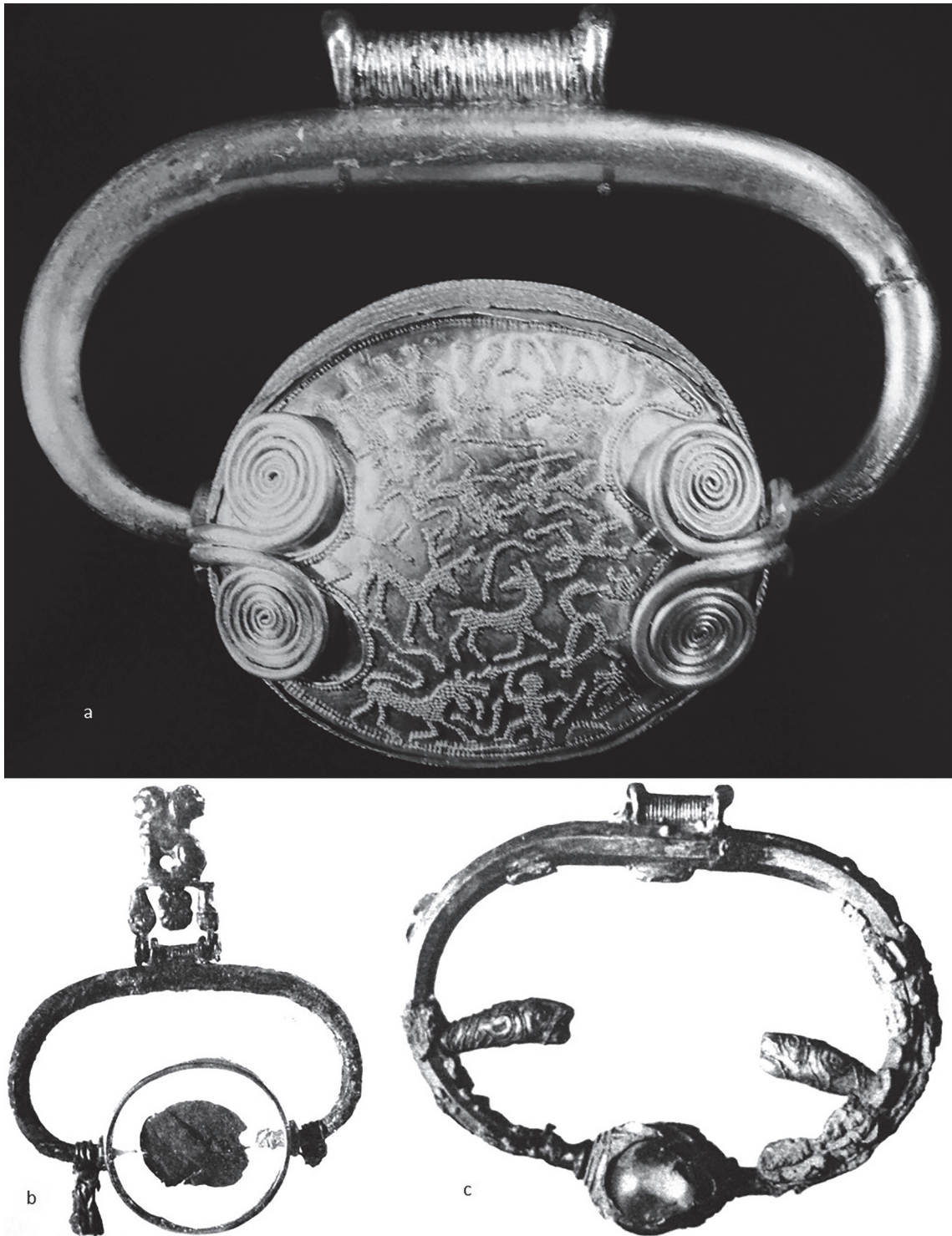


Fig. 6: a – Gold pendant and scaraboid from Vulci; b – Pendant from Colle del Forno; c – Pendant from Narce.

If we also consider that some pendants were made in Etruria, it appears that local communities immediately accepted these ideas. We can consider, for example, a scarab from Marsiliana, that was probably taken away from a foreign original gold mount, and it was inserted in a new local silver one,²⁴ or some pendants provided with an amber scaraboid instead of an imported scarab (fig. 5). In fact, there are several examples from Etruria, Latium and Campania. The full integration of this kind of object in the local jewelry is also demonstrated by three other cases: an elliptic gold pendant with a gold scaraboid from Vulci (700–650 BC), a very elaborated silver pendant with traces of a wood scaraboid from Colle del Forno and another one with a rock crystal bead from Narce (both 650–600 BC) (fig. 6a, b, c). Finally, in addition to scarabs, monkey figurines (and in one case a Ptah from Vetulonia) were produced in amber by local workshops (such as the particularly well-known ones at Veii and Vetulonia).²⁵

Looking back at the recipients of Aegyptiaca, in Etruria and Latium the situation was probably slightly different compared to Pithekoussai. Aegyptiaca, especially scarabs, are frequently found in child burials only in Campania. However, Capua again shows a different trend because the presence of scarabs in child tombs is still not recorded. In Etruria and Latium, the burials with scarabs seem to belong almost exclusively to women. However this situation must be evaluated considering that previously published data are heterogenous for every site and the presence of children in the necropolis could be highly underrated due to lack of conservation of bones.²⁶

Another main difference in terms of the reception of these minor objects is that in Egypt, at the beginning of the 1st millennium BC, they were used by the low class,²⁷ while in Italy and in the rest of the Mediterranean belonged to the elites. In Greece, even though they appeared less frequently in the burials than in Italy, they were part of the rich votive offers of the emporic sanctuaries both on the mainland and the islands, beginning from the late 8th century BC, when the new-born polis catalyzed the economic surplus of each community (this phenomenon was somewhat similar in Italy about a century later as the archaic votive depots of Veii-Portonaccio and Satricum seem to demonstrate).

Last but not least, other assets of more value must be counted amongst the Aegyptiaca. For example, we can recall the faience vases, such as the Bocchoris situla. These kinds of products are very rare and it would be difficult to include them in the same trade circuit as amulets and figurines. It is very likely that they were part of a gift-exchange amongst the elites of the Mediterranean communities.²⁸

Notes

- ¹ Hölbl 1979; Schweizer 2016; Giovanelli 2017.
- ² De Salvia 1999.
- ³ Delpino 1998/1999; Delpino 2000.
- ⁴ The fragment could be dated from around 900 BC if Cypriot otherwise approximately 100 years later if Phoenician (Bagnasco Gianni et al. 2016).
- ⁵ Melandri – Sirano 2016.
- ⁶ Botto 2016.
- ⁷ Giovanelli 2015, 400–422; Giovanelli 2017.
- ⁸ Giovanelli 2017.
- ⁹ As it has been already shown by Hölbl’s catalog (Hölbl 1979, v. 2).
- ¹⁰ Hölbl 1979; De Salvia 1993a; De Salvia 1993b.
- ¹¹ Gorton 1996.
- ¹² Giovanelli 2015, 423.
- ¹³ Giovanelli 2015, 347–348, nos. CCXXI.1–2.
- ¹⁴ Hölbl 2016.
- ¹⁵ Beyond the findings listed in Hölbl’s work, there is at least one scarab from this group in the votive depot of the Jalysos Athenaion as far as I recognized it in the local museum (Giovanelli 2017).
- ¹⁶ Giovanelli 2015; Hölbl 2016.
- ¹⁷ Martelli 1988; Rizzo 2007.
- ¹⁸ Giovanelli 2017.
- ¹⁹ The isle yielded about one hundred seals, Etruria and Ager Faliscus only 9 (Rizzo 2008/2009).
- ²⁰ Giovanelli 2017.
- ²¹ Nizzo 2007, 38–40.
- ²² Melandri 2010; Giovanelli 2015, 442–443.
- ²³ De Salvia 1978; De Salvia 1993b.
- ²⁴ Giovanelli 2016.
- ²⁵ Giovanelli 2016.
- ²⁶ Nizzo 2011, 54–56; Giovanelli 2015, 420–422.
- ²⁷ De Salvia 1978.
- ²⁸ Giovanelli 2017.

Image Credits

Fig. 1: De Salvia 1989, tav. 189A. – Fig. 2a, b: Giovanelli 2017, figs. 2–3. – Fig. 3: Melandri – Sirano 2016, fig. 2. – Fig. 4: Re-elaboration, Hölbl 2016, figs. 11, 13, 17, 18. – Fig. 5: Giovanelli 2015, 309, nr. CLXXXIII.22. – Fig. 6a: Giovanelli 2015, 149, nr. LXXIV.17. – Fig. 6b, c: Giovanelli 2016, figs. 3A–B.

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Trading in the Multicultural *Emporia* of the Po Valley. Weighing Systems and Proto-Currencies

Lorenzo Zamboni

Introduction

This article offers an overview of the trade systems between the Alps and the Adriatic Sea during the 1st millennium BC, focusing on proto-currencies and weighing systems. In this region during the Iron Age (9th to 3rd century BC according to the local chronology), despite intensive periods of international trade towards the Mediterranean world and temperate Europe, coinage was never adopted before the Roman conquest (end 3rd–2nd century BC). I will try to explain the seeming contradiction of a ‘protohistoric-type’ commodification system maintained long after the introduction of money,¹ looking at alternative economic models related to possible “longue durée” phenomena and super-regional connections.

The article thus briefly resumes some recent advancements in the studies of the beginning of European weighing systems, during the Bronze and early Iron Age, followed by an insight on some case-studies of *emporia* and trading-hubs of the Po valley and the Delta region, including the site of Spina, which have yielded remarkable quantity and variety of archaeological evidence, including inscribed weighing stones, metal weights, as well as a variety of *aes*.

Moreover, the aim of this paper is to set Iron Age northern Italy into the wider ongoing debate on the ancient European metrology,² as a starting point for future research.

Terminology and Methods

From a terminological and methodological point of view, it should be stated that, despite the introduction of writing during the 7th and 6th centuries BC, for the purposes of a metrological research this region remained a pre-literate society until the Roman period, that is to say that we do not have contemporary, “emic”, written or epigraphical sources related to weighing and commodification.³

As northern Italy during the 1st millennium BC has to be considered a protohistoric region, in terms of economic culture, it should be useful to recall the theoretical framework already outlined for Bronze Age Europe. According to Christopher Pare,⁴ it is possible to make a distinction between ‘commodity-money’, ‘utensil-money’, and ‘token-money’:

1. Commodity money refers to non-countable goods of any kind (raw materials, including metal, wool, and foodstuff like salt, grain, meat) measured with precision weigh-

ing scales and balances.⁵ The commodification could take place in bulk transactions, where a large approximation of measuring could be supposed, or otherwise in small quantities, adopting relatively more precise weight scales.

2. Under the umbrella term of ‘utensil-money’, or *aes formatum*, lays a variety of artefact and utensils, mainly in bronze, iron, or in precious materials, including the bronze rings and ring-ingots of Bronze Age Europe,⁶ the *oboloi* of ancient Greece,⁷ as well as ornaments, and silver or gold vessels⁸ used for exchange. Although a debated issue, imported fine ware (e.g. Attic figured and black glazed) could be considered as a form of utensil-money as well.
3. For the period and the region addressed, the conventional term ‘token-money’, according to Pare, could indicate rough lumps, fragmented scrap and raw metal employed as proto-currency.⁹ A particular type of fragmented and signed metal ingot is that of *aes signatum*, which is known in northern Italy from the 5th century BC (see below). However, it remains unclear whether during protohistoric periods the *aes rude* worked only as weighted means (*per aes et libram*) thanks to precise and likely compatible weighing standards, or perhaps with some assigned value, like historical money.

The three systems are, of course, not exclusive neither consequential – in terms of dependency and evolution, rather being more often contemporary and complementary.

Moreover, regarding the metrological research in pre-literate cultures, it should be highlighted the importance of a critical approach that takes into account the concepts of ‘indeterminacy’ and ‘approximation’. Any given ‘unit’ is, in fact, an artificial construct closely related to fixed (and often written down by some authority) rules, but approximation and deviation from the norm are everyday practices that lead to statistical dispersion.¹⁰ As recently suggested by Nicola Ialongo and colleagues,¹¹ in previous metrological studies there was an “excessive focus on exactitude” and a misleading “reliance on supposedly exact units”.¹² It has to be considered that a normal statistical dispersion falls within a range of ± 5 and 10%, with possible overlaps between two or more different unit measuring standards. More recent statistical approach, which involves mainly Frequency Distribution Analysis and Kendall’s Cosine Quantogram Analysis, points instead to concepts such as ‘quantum’ (the minimal amount of any physical entity employed in an interaction) and clusters, or peaks of range in logarithmic scales.¹³

Unfortunately, it must be acknowledged that, regarding Iron Age Italy, a serious lack of published and analytical data affects the possibility to apply an adequate statistics-based metrological analysis. Precise weight measurements are to date available only for a small number of weights and *aes rude*, described below, compared to a larger part of unpublished data, or without measured weights reported.

Also considering this, the present paper is merely an introductory chapter of the state-of-the-art, based on already published data. The final goal is, therefore, to urge and promote further research for a reliable description and comprehension of the 1st millennium BC exchange and trading systems.

Background – The Beginning and Spread of Weighing in Western Europe

Recent excavations and studies have provided an updated archaeological framework for an early beginning of weighing and commodification systems in the western Mediterranean and central Europe, at least during the first half of the 2nd millennium BC (fig. 1). The theoretical framework is the rising of a Bronze Age ‘global’ network connecting Near East, the Mediterranean and temperate Europe, engaging long-term trade and movements of people and goods, based on a rational and shared system of exchange.¹⁴ The main evidence for this international trade is represented by a large amount of weights, of different shapes and materials, supported by the finding of several bone, antler and bronze balance beams.

The earliest presence of a rational weighing system in the western Mediterranean is so far attested in the Aeolian Islands, where twenty rectangular and lenticular stone weights, some with holes (fig. 2. 1–2), were recovered from the Capo Graziano settlement during '50 to '80 excavations by L. Bernabò Brea. The weights, according to



Fig. 1: Weighing equipment in Bronze Age Europe. Selected areas: 1. Aeolian Islands. 2. Terramare culture. 3. Late Bronze Age Western Europe with antler and bone balance beams.

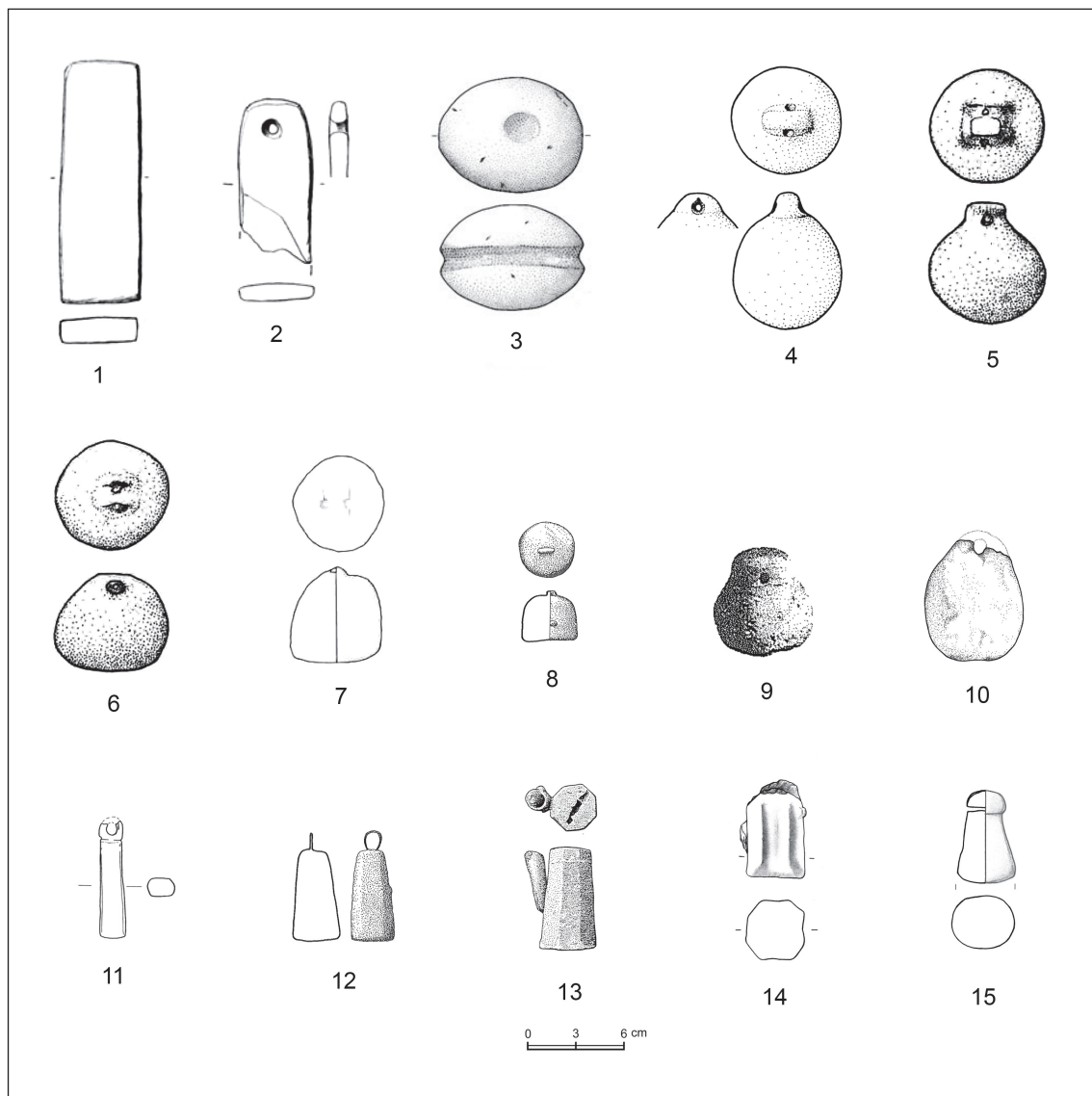


Fig. 2: 1–7 Stone weights of Bronze and Late Bronze Age Europe: 1–2 Aeolian Islands; 3 Hauterive-Champréveyres; 4 Gaggio; 5 San Giuliano; 6 Bismantova; 7 Sorgenti della Nova; 8–15 Stone and metal weights of Iron Age Italy: 8 Satricum; 9 Roma *Comitium*; 10 Spina; 11 Monteriggioni-Campassini; 12 Satricum; 13 Giglio shipwreck; 14–15 Spina.

Nicola Ialongo,¹⁵ are dated mainly to the Capo Graziano phase (c. 2300–1500 BC), being less frequently attested until the Ausonio phase II (c. 1200–950 BC), and show a logical sequence of multiples of a common system, with the highest quantum at 19,54 g compatible with the Aegean unit of 58–65 g.

In the Italian Peninsula, the Po valley has yielded early archaeological evidence of weighing system thanks to the identification, about twenty years ago by Andrea Cardarelli and colleagues,¹⁶ of several stone weights from the settlements of the so-called “Terramare” culture in the middle Po Valley, between 15th to 13rd century BC. These weights are mainly of spheroid shape with a suspending hole (appiccagnolo, fig. 2. 3), and also of lenticular shape (fig. 2. 4), with a suggested unit standard around 6.1 grams (again comparable with the Aegean unit).

In Central Europe, Christopher Pare¹⁷ has suggested the compresence of different weighing systems during the 2nd millennium BC, from the ‘utensil-money’, like the copper and bronze rings and ring-ingots, to metal and stone weights of various shape, to the *aes rude*. Among the balance weights, the rectangular ones, similar to those seen from the Aeolian Islands, are well attested during the Late Bronze Age. In the same period, stone or lead spheroid weights seem to show some dependency from the previous “Terramare” models, with statistical clusters attested around 48,8 and 104 g.

A suggestive evidence for an early measuring system is also in the numerous equal-arm balance beams discovered in central Europe, mainly as grave goods of the Late Bronze Age connected with metallurgy, like the spectacular tomb 298 of Migennes (Yonne, northeastern France), where an entire set for weighing equipment was buried inside a wooden box, including two antler balance beams (fig. 3. 2), rectangular stone weights and unfinished bronze and gold objects.¹⁸

During the final Bronze Age period (12th–mid-9th century BC), despite a general lack of data from the regions south of the Alps, the previous systems based on precise stone weights, both with the spheroid shape with suspending hole and the lenticular one, seems to continue, as suggested by findings from the settlements of Frattesina, Bismantova, San Giuliano (Imola), and Sorgenti della Nova¹⁹ (fig. 2. 7), in parallel with the framework outlined for central Europe.²⁰ Moreover, the possible peak of 370 g suggested for the lenticular weights from Frattesina²¹ is noticeably interesting, because is near to the ‘italic libbra’ of 380 g identified for the later etruscan period (see below).

Balancing the Iron Age

For the following period of the early Iron Age (mid-9th–8th century BC) a serious lack of data is probably affected by the scarce number of sites exhaustively published. Only between the late 8th and the 7th century BC onwards, an increasing evidence of different weighing units comes from the Italian Peninsula. For example, an early 7th century BC finding from the island of Pithekoussai, a lead and bronze disc of 8,79 g interpreted as a

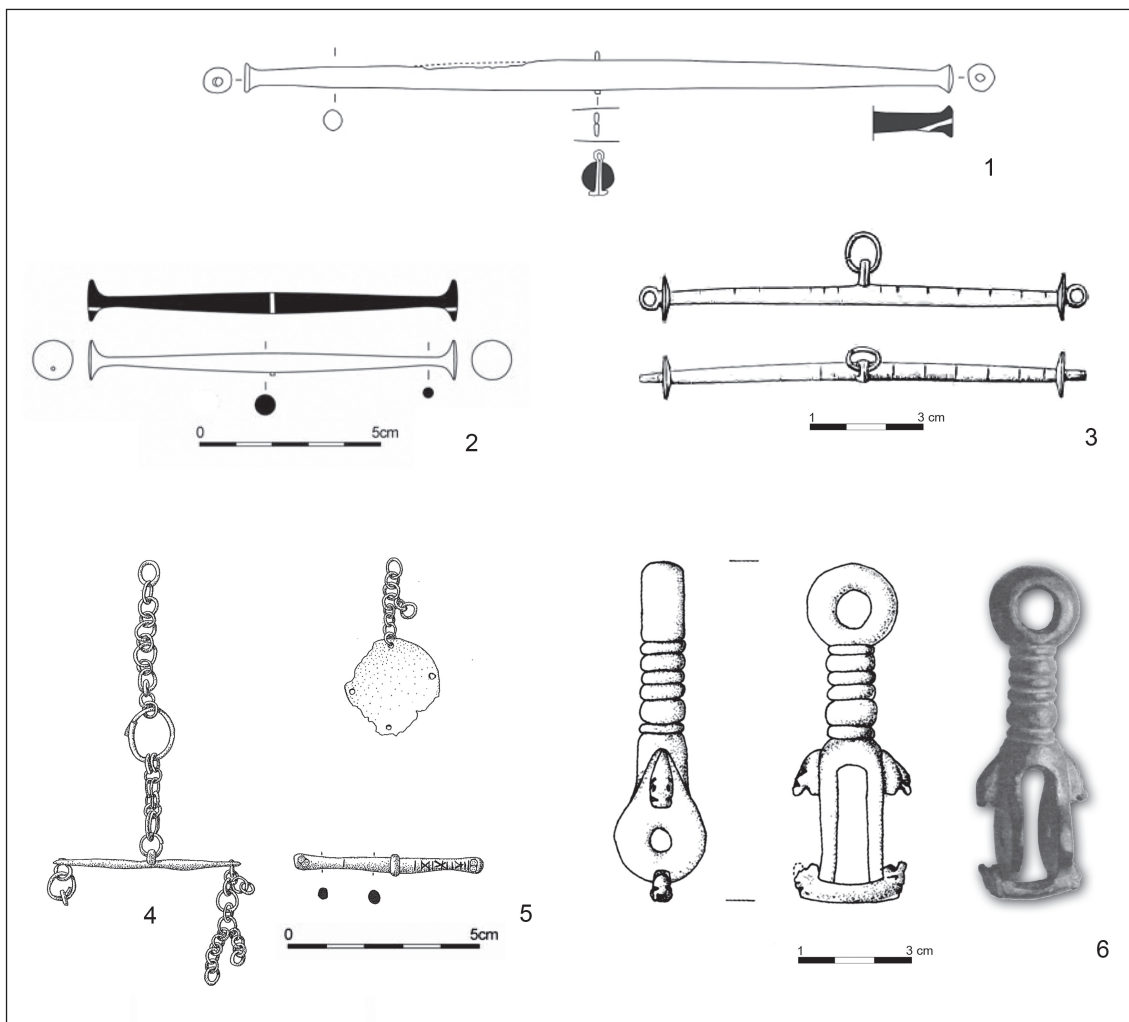


Fig. 3: 1–2 Late Bronze Age antler/bone balance beams: 1 Marolles-sur-Seine, La Croix del la Mission, grave 13; 2 Migennes, Le Petit Moulin, grave 298; 3–6 Iron Age bronze balance elements: 3 Eberdingen-Hochdorf; 4–5 Satricum; 6 Forcello.

small weight, has already been emphasized for its possible connection with the Euboic-Attic stater.²²

In Latium, from the settlement and votive deposits of Satricum the presence of two lead weights of 267 and 340 g (fig. 2. 8, 2. 12), along with two balance beams and a large amount of *aes rude*, has been highlighted by A. Nijboer.²³ In northern Etruria, the late-8th and 7th century settlement of Monteriggioni-Campassini²⁴ yielded a lead weight of 109,65 g, of an elongated rectangular shape with a suspending hole (fig. 2. 11).

Metal hoards are also to be noticed, such as Ardea or the huge deposit of Bologna S. Francesco (late 8th–early 7th century BC), for which Renato Peroni has pointed out the presence of at least two comparable units of 106,4 and of 114,7 g.²⁵ For the 6th and

5th century BC, a metal weight of 352 g is known from the Giglio shipwreck (fig. 2. 13), while in Rome, from the old excavation in the *Comitium*, it is to be mentioned the presence of some stone and lead weights with suspending hole (fig. 2. 9), with reported measures of 321 and 327 g.²⁶

Bronze balance beams of the same period are also attested, including the mentioned examples from Satricum, and also from Chiusi and Forcello (Mantua)²⁷ (fig. 3. 6). North of the Alps, amongst other examples, a cast balance beam with precision scale was discovered in the settlement of Hochdorf²⁸ (fig. 3. 3), a site that shows wider relationships with northern and central Italy.²⁹

Regarding the Etruscan world, between the 6th century and the Hellenistic period, recent studies by Adriano Maggiani³⁰ provided a significant corpus of evidence, including metal and bronze weights. Maggiani has proposed a complex system of eleven weighing standards, all possible fractions of the unit 5,73 (close to the so-called Micro-Asiatic unit of 5,76 g). The two most relevant etruscan standards are the so-called 'light libra' of 287 g, and the 'heavy libra' of 358 g. It is possible to recognize the presence of some of these standards also north of the Apennines, for example in the sites of Marzabotto and Spina.

Spina and the *Emporia* of the Po Valley (6th–4th century BC)

During the second half of the 6th century BC the economic expansion of the Greeks in the western Mediterranean drastically changed the cultural, societal and economic picture. New urban and trading centers were established at the crossroads of multi-directional trade routes, either on the northern Adriatic coast (Adria, Spina), along the course of the Po river (Mirandola, Forcello di Bagnolo S. Vito), and also along the main Apennine valleys (S. Polo d'Enza, Marzabotto) (fig. 4).

The case study of Spina, in particular, shows a complex picture of a multicultural society, with a strong interaction between Greeks and Etruscans, which is archaeologically highly visible based on the impressive amount of Greek imports and local production. Between its foundation, during the second half of the 6th, and at least the mid-4th century BC, Spina was an international trading hub, one of the main commercial partners of Athens in the western Mediterranean, and a gateway to temperate Europe.³¹

Recent excavations and new studies on the settlement area³² have provided a large amount of data regarding, for example, the urban regular planning, the system of water management – based on a grid of larger and minor canals, the development of building architecture, everyday life and economic activities. Regarding the latter, it is confirmed that coinage was never adopted in Spina: After more than eight decades of excavations, both in the settlement area and the cemetery, with more than 4,000 graves, just one coin was discovered from a surface layer, a drachma of the 3rd century BC.³³

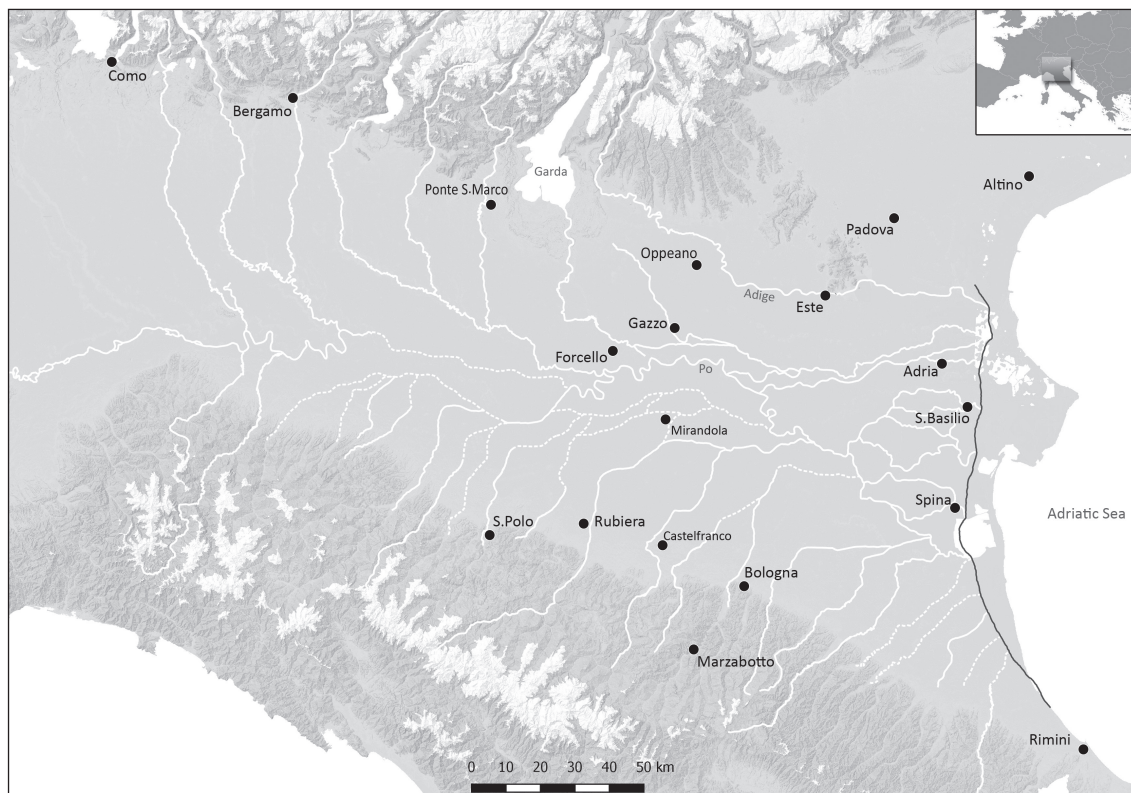


Fig. 4: Northern Italy between the 6th and 5th century BC, main sites and *emporia*.

The study of the findings from the '70s excavation in the Spina settlement has instead highlighted the presence of several metal and stone weights, along with two different types of *aes rude*.

Two lead weights were discovered from settlement layers of the late 6th and 5th century BC,³⁴ one of octagonal shape, of 328 g, the other truncated-pyramidal (fig. 2. 14–15), with a weight of 505 g. In addition, a stone weight of spheroid shape with a suspending hole, of 255 g.³⁵

More numerous, at least eight, in Spina are pebble stones with numeral inscriptions on one face, interpreted as standard weights (fig. 5. 1–5). The different numeral signs could indicate at least three overlapping weighing units, of 353, 366 and 380 g.³⁶

This type of stone weight is very common in the Po valley (fig. 5), and especially inside the main trading sites of the region between the mid-6th to the 4th century BC. According to Maurizio Cattani,³⁷ the specimens from Marzabotto show a peak around 360 and 380 g (the so-called 'italic libbra'), which matches with the unit VIII according to Maggiani.³⁸

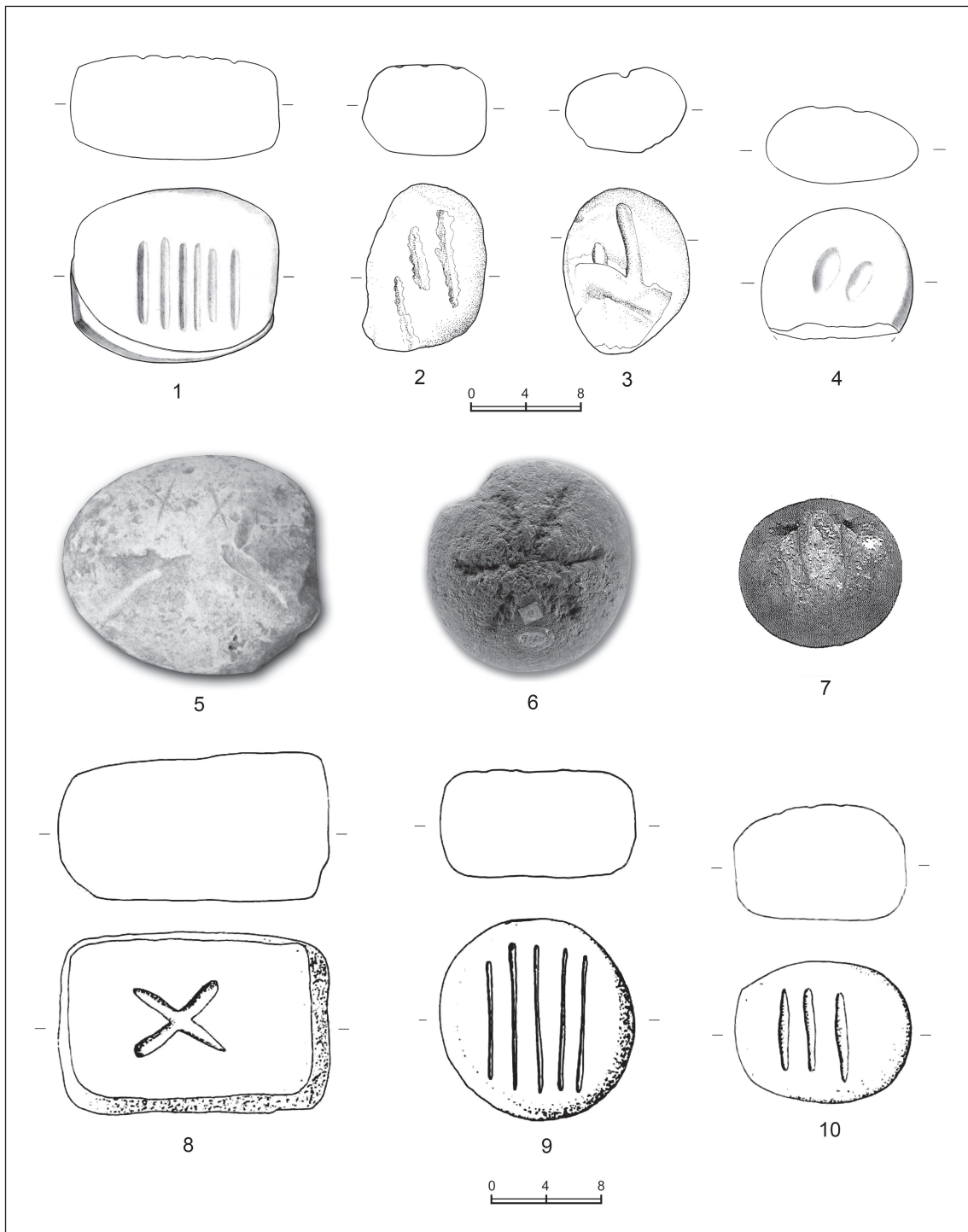


Fig. 5: Stone weights with inscriptions: 1-5 Spina; 6 Montecchio, Reggio Emilia; 7-10 Marzabotto (5-7 out of scale).

Aes rude and *signatum*

As seen before, the presence of fragmented scrap and raw metal is attested in Europe and in Italy since the 2nd millennium. Fragments of small ingots, more or less regular, or bronze lumps of various shapes and dimensions, are increasingly present during the Iron Age in northern Italy. From the 7th century BC onwards, high amounts of *aes rude* are found in large 'proto-urban' and urban sites, both in settlement areas and within grave goods, where they are interpreted as 'Charon's *oboloi*'.³⁹ Before the 3rd century BC, *aes rude* is the only form of proto-currency known in northern Italy.

The '70 excavations in Spina brought to light 34 *aes rude* from households and canals of the 5th and 4th century BC⁴⁰ (fig. 6, 1–9). At least 109 *aes rude* come also from burials, only considering the cemetery sector of Valle Trebba.⁴¹

From Spina a different type of *aes rude* is also attested, albeit not recognized in previous studies. The form is that of thin bronze sheets, in rectangular or irregular shapes

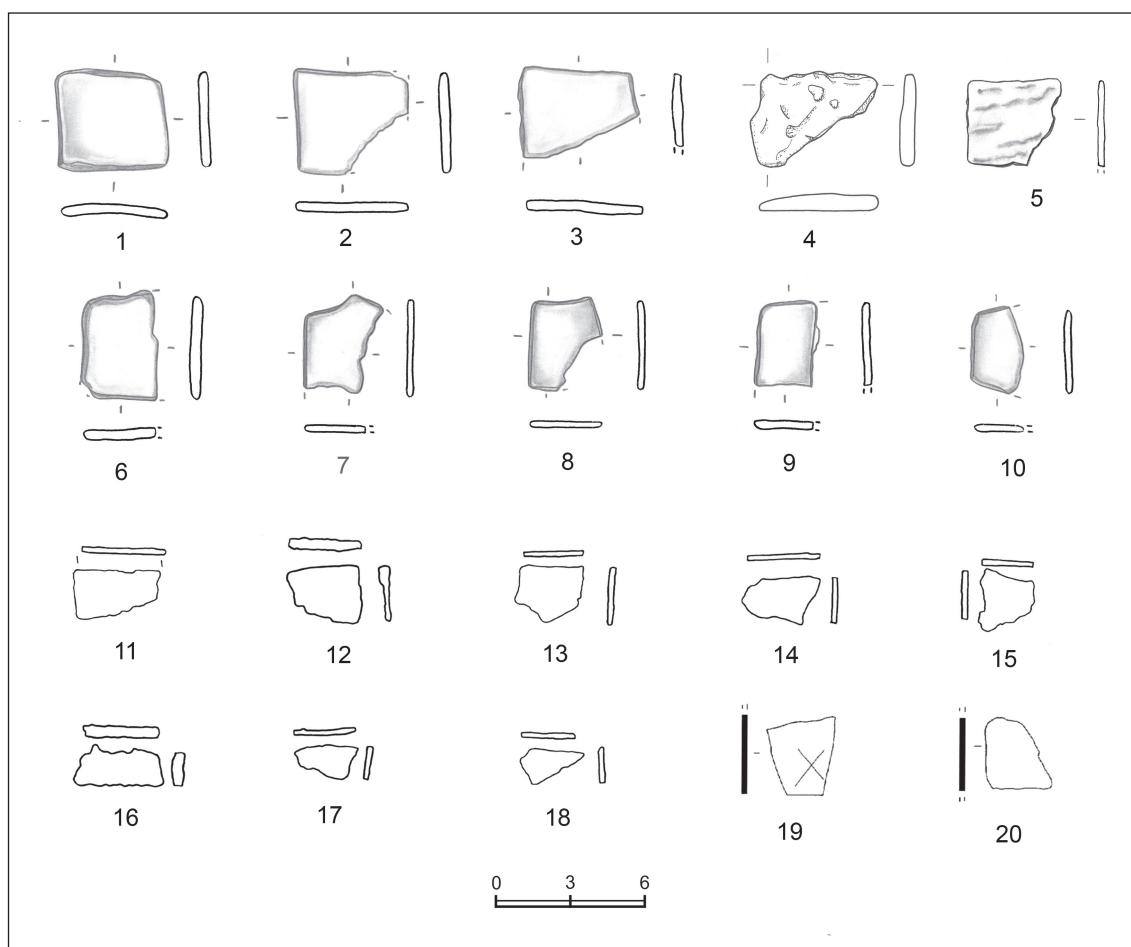


Fig. 6: *Aes rude*: 1–9 Spina; 10–18 Forcello; 19–20 Ponte S. Marco.

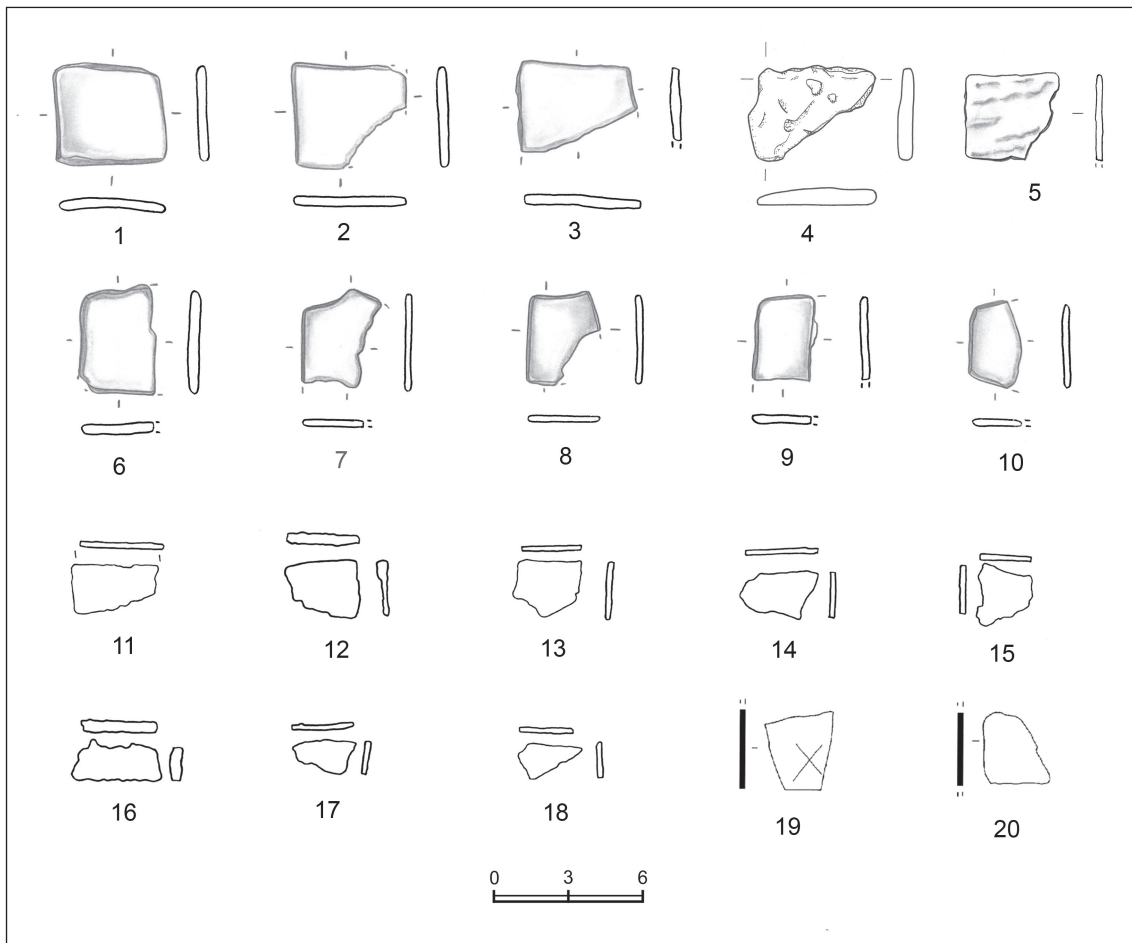


Fig. 7: Thin *aes rude*: 1–10 Spina; 11–18 Forcello; 19–20 Ponte S. Marco.

(fig. 7), probably fragmented from larger thin ingots. This special kind of thin *aes rude* is attested, besides Spina, in other trade centres of the Po Valley, including Forcello,⁴² Oppeano, Adria, S. Polo d'Enza,⁴³ Marzabotto,⁴⁴ and Ponte S. Marco.⁴⁵

Regarding the *aes rude* metrology, several attempts have been made in previous studies to identify one or more regular weight units. In Forcello, for example, Maurizio Cattani pointed out clusters around 16 and 31 g,⁴⁶ while in Marzabotto a unit of 5,2 g (eventually related to the Phoenician system) has been proposed.⁴⁷ In Spina I suggested a possible cluster around 4 g, near to a fraction of the Euboic-Attic stater of 8,79 g. However, without a reliable statistical analysis, all the tentative identifications of weighing units so far mentioned are to be considered approximate.

Another relevant and distinctive aspect of the Po Valley is the abundance of the so-called *ramo secco* ingots, or *aes signatum* (fig. 8), namely cast lumps of bronze of measured quality and weight, with the sign of “dry branches” usually on both sides (a symbol still of unclear significance).⁴⁸ These ingots are usually made in copper-iron

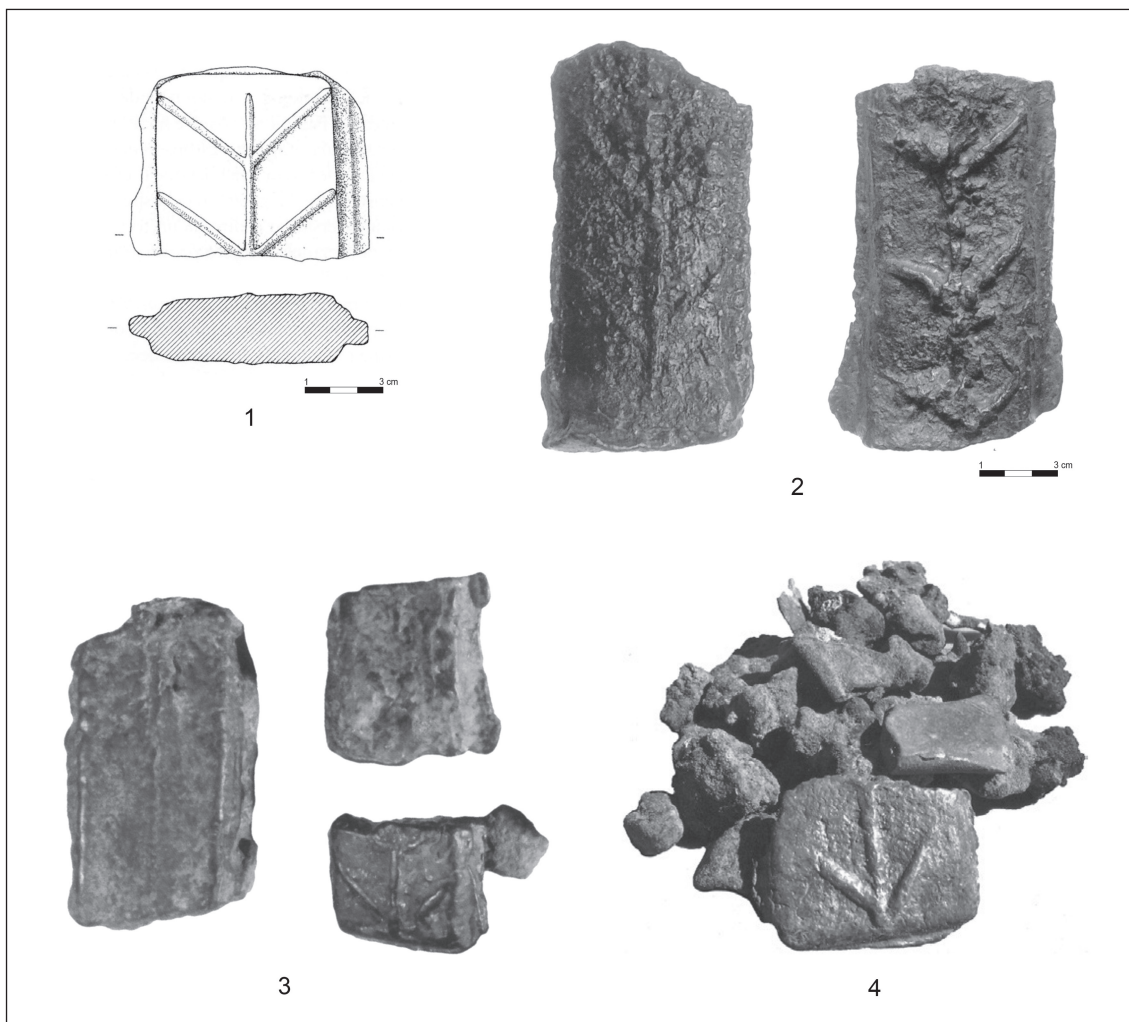


Fig. 8: *Aes signatum*: 1 Forcello; 2 Castelfranco Emilia; 3 Quingento; 4 Bitalemi (3–4 out of scale).

alloy, often with a high percentage of iron. In most cases they are found broken into subdivisions, in quarter, half or three-quarter bars. Weights clusters are approximately around 800/900 and 1,200/1,400 g.

Ramo secco ingots have been discovered across the Po Valley during the 5th century BC,⁴⁹ both in metal hoards and in larger settlements (Marzabotto, Forcello), including the northeastern Veneto region. Notably, no specimen was identified in Spina so far. Other examples come from Etruria and central Italy,⁵⁰ while the southernmost presence is in Bitalemi (Gela, fig. 8. 4).⁵¹

Discussion. The Absence of Coinage in the Po Valley

It is possible to explain the absence of coinage in Iron Age northern Italy by addressing different perspectives. On the one hand, we have seen that in the western world, and especially in the Po Valley, a long-term tradition of regularized barter, based on relatively accurate weighing systems, is attested at least from the mid-2nd millennium BC. Despite the scarcity of archaeological evidence for certain periods (early Iron Age), as a working hypothesis it seems possible to infer a continuity between the late Bronze Age weights (spheroid and lenticular stones) and elements (balance beams), and the Iron Age weighing tools.⁵² According to this framework, the Po valley could be characterized by a well-rooted tradition of exchange, also involving wide-ranging and established commercial relationship between the regions north and south of the Alps, with particular regard to metal circulation.

Even after the opening of new commercial routes during the 6th century BC, the Greeks opted for the local way of commutation, probably most flexible and suitable for local encounters. The quantity of metal and stone weights, and the variety of their weighing standards, as well as the presence of proto-currencies (*aes rude*) inside the main trade centers of the Po Valley between the 6th and the 4th century BC, are testifying a large-scale exchange, favoured by the possibility of conversion between different exchange systems.

Coinage began to circulate in northern Italy only after the La Tène ‘conquest’ in the 4th century BC,⁵³ but in few contexts, such as hoards⁵⁴ and scattered finding in settlements (as seen from Spina). Between the second half of the 4th and the 3rd centuries BC, however, the economic model still remained the same as before, and money appears to be mainly related to warfare and mercenary service.⁵⁵

On the other hand, previous scholars who have already outlined the absence or the late appearance of mints and coinage in certain Greek cities and colonies, including Sparta, Locri Epizefiri, Tanais, Naronia or Naucratis, have put forward different cultural and political explanations for the ‘refuse of coinage’, including the idealized, utopian and traditionalist ideas of isonomy, equality and the social stigma imposed to the ostentation of wealth.⁵⁶ Furthermore, another possible reason for Iron Age northern Italy is the absence of centralized institutional authorities, able to promote and coin money. However fascinating, these scenarios are not verifiable for the Iron Age pre-literate societies in central Europe and in northern Italy.

Conclusion

To summarize, a preliminary analysis of the archaeological evidence related to weighing and trading suggests that the exchange in Spina and in other *emporia* of the Po Valley worked with a specialized form of barter. This form of commerce seems to be rooted

in long-term traditions within the Po Valley and central Europe, at least since the late Bronze Age period, involving at the same time:

1. Different kinds of ‘commodity-money’, such as salt, grain, meat, and other fundamental non-countable goods and raw materials, which remain poorly visible in archaeological terms. Their commodification was possible only through the adoption of a rational system, based on stone or metal weights and equal-arm balances, referring to different weight units and, more important, to compatible multiples and fractions;
2. As suggested,⁵⁷ it is also very likely the presence of ‘utensil-money’, for example gold, silver and other prestige goods, and, in second place, of imported (Attic) pottery;
3. Finally, the use of proto-currency is testified by the wide presence of *aes rude*, including the special thin type, and of *aes signatum*. However, it remains unclear whether these ‘tokens’ were employed only as weighted means (*per aes et libram*), or perhaps with an assigned value.

Besides the absence of coinage, that is probably a misleading problem, since money remains not completely appealing and widespread in the Mediterranean world during the period addressed, as linked to specific aspects of social life (sanctuaries, mobility, warfare, prestige, centralized authority), what is more intriguing is the possibility to trace and describe ‘self-regulated’ international trade networks “based on customary commercial relationships”,⁵⁸ on mutual interaction, and on the possibility of normalization and conversion between different commodification systems.

Only further research, based on wider and analytical data collection, along with a new approach based on appropriate and reliable statistical processing, could confirm and improve the proposed framework.

Acknowledgments

I record here my gratitude to the panel organizers for their patience and work. I’m grateful to Nicola Ialongo for the very instructive comments and suggestions, and also to Maurizio Cattani, Nino Crisà, and Chiara Tarditi for the bibliographical help.

Notes

¹ Gorini 2017.

² Ialongo 2018; Ialongo et al. 2021; Rahmstorf et al. 2021.

³ As in the ancient Near East: Powell 1996; Chambon 2011; Ialongo et al. 2018a.

⁴ Pare 2013.

⁵ Pare 2013, 508. 523.

- ⁶ Pare 2013, 512–514. 523; Primas 1997.
- ⁷ Pare 2013, 523; Teržan 2004; Barello 2008, 157–158.
- ⁸ See Vickers 1992; Gill – Vickers 1994.
- ⁹ Pare 2013, 524.
- ¹⁰ Ialongo 2018, 4.
- ¹¹ Ialongo et al. 2018a; Ialongo et al. 2018b.
- ¹² Ialongo 2018, 4–5.
- ¹³ See Ialongo 2018; Ialongo et al. 2018a–b for further discussion and detailed bibliography.
- ¹⁴ Peroni 2001; Alberti et al. 2006; Renfrew 2008; Rahmstorf 2010; Pare 2013; Vankilde 2016; Kristiansen et al. 2018; Ialongo 2018.
- ¹⁵ Ialongo 2018.
- ¹⁶ Cardarelli et al. 1997; Cardarelli et al. 2001; Cardarelli et al. 2004; Peroni 2004.
- ¹⁷ Pare 1999; Id. 2013.
- ¹⁸ Roscio et al. 2011.
- ¹⁹ Cardarelli et al. 2001; Nijboer 2006; Pare 2013.
- ²⁰ Rahmstorf – Pare 2010, 273–275, Abb. 5.
- ²¹ Bellintani, in: Cardarelli et al. 2001, 45, fig. 17.
- ²² Nijboer 1998, 67 (with previous references).
- ²³ Nijboer 1994; Id. 1998.
- ²⁴ Ciacci 2004, 67–68. 80–82.
- ²⁵ Peroni 2001. The two supposed units could have the same value, considering an average error of $\pm 5\%$ (N. Ialongo, pers. communication). Note also the presence in the S. Francesco hoard of an *aes rude*, with the inscription *aie*, of 161,15 g (Colonna 1986).
- ²⁶ Nijboer 2006, 110–115; Rahmstorf – Pare 2010.
- ²⁷ De Marinis – Rapi 2007.
- ²⁸ Rahmstorf – Pare 2010.
- ²⁹ Verger 2006.
- ³⁰ Maggiani 2001; Id. 2002; Id. 2009; Id. 2012. Further evidence from Etruria settlements are in Cappuccini 2014, 142–143; Pulcinelli 2017. See also Cavagna 2020, with further references.
- ³¹ Berti – Harari 2004. For a broader picture of the addressed period see also Zamboni 2021.
- ³² Zamboni 2016; Id. 2017; Reusser 2017; Mistireki – Zamboni 2020.
- ³³ A drachma of ‘celtic-padan’ production, near the ‘Arslan VII’ type (Arslan 2006). Another possible, albeit indirect, and vague, evidence for the presence of coinage in Spina could be provided by two different stamps made, before firing, on the bottom of two bowls in the local fine ware (so-called ‘Etrusco-Padana’ ware): both the stamps are likely to be made with two coins, one with an hippocampus, the other with a chimera (see Zamboni 2016, 212, tav. 100, no. 1252–1253)
- ³⁴ Zamboni 2016, 226–231.
- ³⁵ Another spheroid stone with appiccagnolo comes from Forcello (De Marinis – Rapi 2007, 249, fig. 49).
- ³⁶ Zamboni 2016, 228–229; for the stone with two inscribed crosses (fig. 5. 5) from the 2009 excavation, the weight measurement is not available.
- ³⁷ Cattani 1995; Id. 2001.

- ³⁸ Maggiani 2007.
- ³⁹ Gorini 2017. Normally only one piece per grave is attested.
- ⁴⁰ Zamboni 2016, 224–226.
- ⁴¹ Gorini 2017.
- ⁴² Casini et al. 1999.
- ⁴³ On Oppeano see Saracino et al. 2013. The findings from S. Polo and Adria are unpublished.
- ⁴⁴ Burgio 2010.
- ⁴⁵ Poggiani Keller 1994.
- ⁴⁶ Cattani 1988.
- ⁴⁷ Marzabotto 1997.
- ⁴⁸ Neri 1998; Pellegrini – Macellari 2002; Potts 2020.
- ⁴⁹ See also Zamboni 2018, 229–230.
- ⁵⁰ Murgan 2014.
- ⁵¹ Tarditi 2016.
- ⁵² Peroni 2001, 23–24.
- ⁵³ Arslan 2006. A silver drachma from Como, dating to the 5th cent. BC, remains so far isolated. See also Gorini 2016.
- ⁵⁴ For example, the hoard of Castelfranco Emilia (Neri 1998).
- ⁵⁵ Gorini 2017. See Rahmstorf 2016 for further general considerations.
- ⁵⁶ Barello 1993; Gorini 2017, 556.
- ⁵⁷ Vickers 2017.
- ⁵⁸ Ialongo 2018, 4–5.

Image Credits

Fig. 1: Pare 2013, modified after data in Ialongo 2018. – Fig. 2. 1–3: Ialongo 2018. – Fig. 2. 4: Balista et al. 2009. – Fig. 2. 5–7: Rahmstorf – Pare 2010. – Fig. 2. 8: Nijboer 1998. – Fig. 2. 9: Nijboer 2006. – Fig. 2. 10: Zamboni 2016. – Fig. 2. 11: Ciacci 2004. – Fig. 2. 12–13: Nijboer 1998. – Fig. 2. 14–15: Zamboni 2016. – Fig. 3. 1: Pare 2013. – Fig. 3. 2: Roscio et al. 2011. – Fig. 3. 3: Rahmstorf – Pare 2010. – Fig. 3. 4–5: Nijboer 1994. – Fig. 3. 6: De Marinis et al. 2007. – Fig. 4: by author. – Fig. 5. 1–5: Zamboni 2016; Cornelio et al. 2013. – Fig. 5. 6: Museum of Reggio Emilia. – Fig. 5. 7: Cattani 1995. – Fig. 6. 1–9: Zamboni 2016. – Fig. 6. 10–17: Cattani 1988. – Fig. 6. 18–19: Poggiani 1994. – Fig. 7. 1–10: Zamboni 2016. – Fig. 7. 11–18: Casini et al. 1999. – Fig. 7. 19–20: Poggiani 1994. – Fig. 8. 1: De Marinis et al. 2007. – Fig. 8. 2: Neri 1998. – Fig. 8. 3: Locatelli et al. 2013. – Fig. 8. 4: Tarditi 2016.

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Pottery as an Indicator of Trade Dynamics and Cultural Contacts in the Eastern Adriatic

Martina Čelhar – Igor Borzić – Gregory Zaro

Introduction

The Mediterranean Sea has long served as a conduit for the exchange of people, ideas, and products for millennia. In the eastern Adriatic, where complex societies evolved in concert with extensive seafaring trade networks throughout the Mediterranean world, the archaeological record reflects a geographically dispersed catchment from which material items originated. This is certainly the case in the Ravni Kotari region of northern Dalmatia, where a number of centuries-old Liburnian Iron Age hillforts ultimately evolved into Roman *municipia*, leaving behind a rich assemblage of artifacts reflecting continuous human occupation for more than a millennium. Indeed, because of its durability, transportability, and utility in carrying other products, pottery is not only one of the most abundant artifact classes represented among these sites, but also one of the most effective proxies to measure cultural contacts and trade dynamics through time. In this study, we draw upon the ceramic assemblage of Nadin-Gradina, a pronounced hillfort site centrally located in Ravni Kotari, to evaluate changing patterns of connectivity between northern Dalmatia and other parts of the Mediterranean world from about the eighth century BC to the late sixth century AD. The results suggest that Ravni Kotari engaged dynamically with places throughout the Adriatic basin, but experienced shifts in its connectivity with the Italian peninsula, Southwest Asia and North Africa through time. These shifts have also been documented more broadly across the central and eastern Mediterranean basins during the Iron Age and Antiquity, suggesting Ravni Kotari was woven tightly into the changing fabric of production and seafaring exchange networks across these periods.

The Nadin-Gradina Archaeological Site

Nadin-Gradina has long been recognized as one of the largest and most distinctive Liburnian and Roman settlements in Dalmatia (fig. 1). Located in the central part of Ravni Kotari, the site occupies a vast area of 32,6 ha, about a quarter of which is enclosed by a stone rampart (fig. 2). The Liburnian settlement was established by at least the eighth century BC, and by the first century AD, it had been transformed into the Roman municipium of “Nedinum”. The town remained occupied into Late Antiquity but appears to have been abandoned by the late sixth or early seventh century AD. In the Late Medieval era, the site regained prominence once again but soon came under the con-

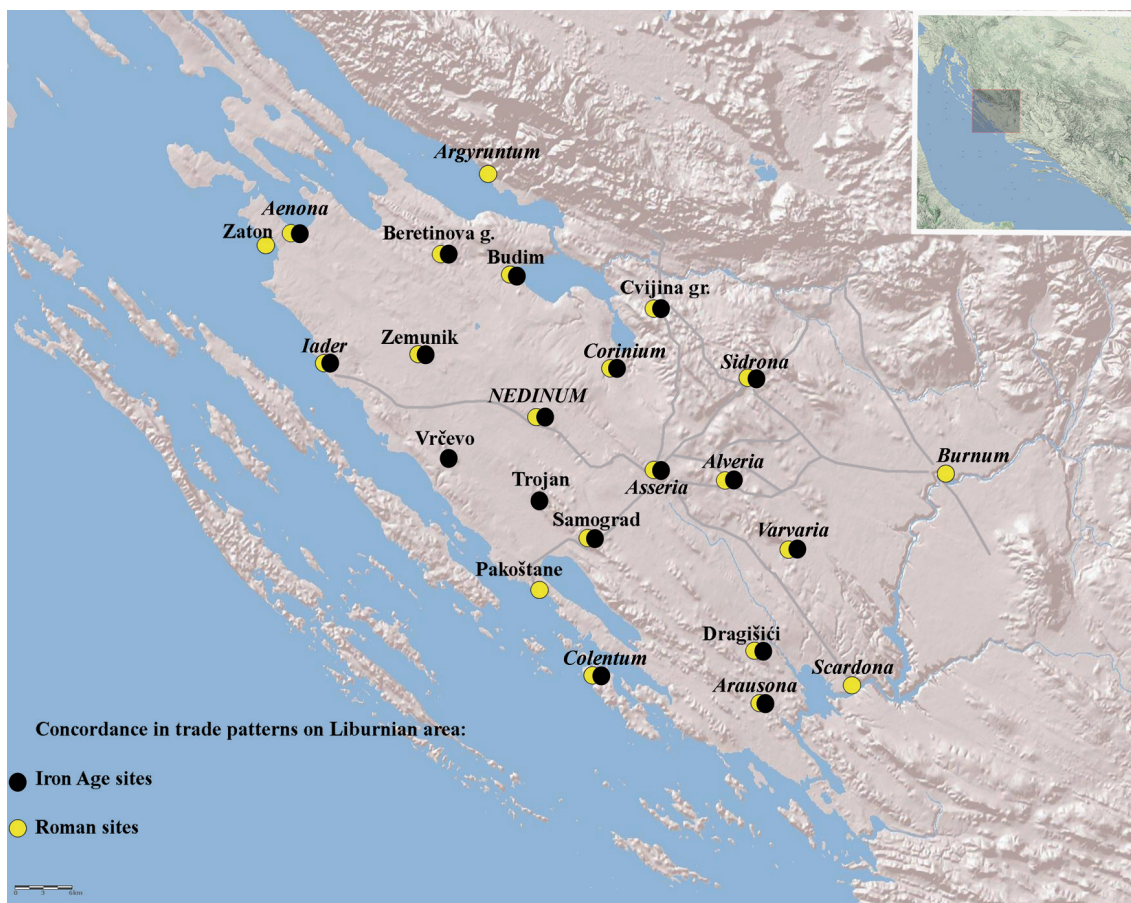


Fig. 1: Nedinum and other South Liburnian Iron Age/Roman sites.

tested administrative influences of the Venetians and Ottomans, which constitutes the final archaeological manifestation of the hillfort.¹

Nadin-Gradina lies within one of the most productive agricultural and livestock raising territories in Liburnia, and it quickly became the economic, cultural, and administrative center of one of the largest Liburnian territories during the Iron Age. Its importance was also enhanced by its location on the main road connecting the coast to the interior, which facilitated the regular movement of goods and services into Ravni Kotari from coastal ports.

Small scale excavations began at the site in 1968,² but research intensified in the 1980s when the Neothermal Dalmatia Project (NDP) conducted a small number of test excavations as part of a wider focus on landscape and ecology in Ravni Kotari. The NDP also put forth the initial occupational chronology of Nadin.³

More recent systematic archaeological research on the necropolis⁴ and residential segments⁵ of the Liburnian and Roman complexes has been conducted over the past decade or so. Between 2005 and 2018, the University of Zadar completed five seasons



Fig. 2: Aerial photo of Nadin.

of excavations at the necropolis on the northwestern flanks of the hillfort. In 2015, the Nadin-Gradina Archaeological Project (NGAP) also began as a collaborative effort between the University of Zadar (Croatia) and University of Maine (USA), with a research design focused on millennial-scale urbanization and landscape change.⁶ To date, the NGAP continues this joint effort with multi-year support from the Croatian Science Foundation (project: Ravni Kotari: Urbanization and Landscape Change in Northern Dalmatia, IP-2016-06-5832).

Data Collection

Excavations have been conducted at several locations within and outside of the walled settlement, with its north and northwestern segments proving to be the most promising with respect to a complete stratigraphic sequence. Within the walled enclosure, five test units measuring approximately 25 m² were widely dispersed across the hillfort summit

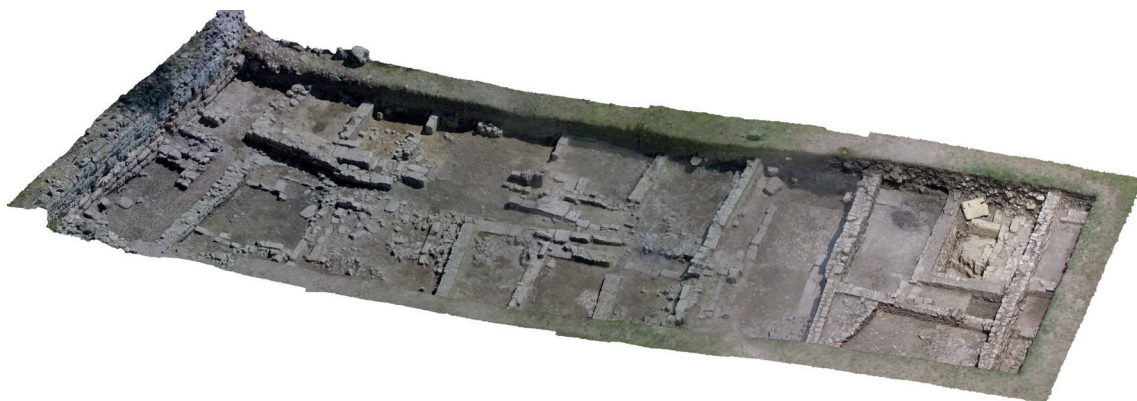


Fig. 3: Nadin, settlement – Area B, 2018.

in 2015 and stratigraphically excavated to bedrock. Pottery was by far the most abundant artifact class from all units and from most strata, permitting stratigraphic analysis of deposits from a range of contexts, including the Iron Age through Late Antiquity periods of occupation.⁷ Based on the results of this initial 2015 strategy, subsequent seasons focused on expanding a unit in the northern portion of the walled settlement, which now measures approximately 350 m² (fig. 3).

Beyond the walled enclosure, archaeological efforts have focused primarily on the burial mounds⁸ and flat necropolis in the northwest portion of the site. At the flat necropolis, excavations began modestly but now represent a broad exposure of more than 600 m² and have recovered abundant amounts of pottery fragments.⁹ Combined, the settlement and necropolis ceramic assemblages have provided an ample sample size for study.

Results

At the Nadin necropolis, two primary cultural and chronological phases have been defined – the Liburnian Iron Age superimposed by the Roman era. The greatest contribution of this research is the discovery of Liburnian land-parceling and architectural delineation of grave areas that preceded Roman organization of space (fig. 4). This phenomenon is previously unknown in Liburnia, and it indicates early planned organization of space and a kind of monumentalization.¹⁰ In the settlement area, excavations have thus far revealed deposits up to about 3 m in depth, with complex architectural stratigraphy characterizing most units. In the case of the northern unit (with broadest exposure), the NGAP has documented walls and other architectural features stratigraphically from the Iron Age through Late Antiquity.

Excavations recovered abundant amounts of pottery from both the necropolis and settlement areas within the site. Current findings suggest a distinct tendency among



Fig. 4: Nadin, Liburnian/Roman necropolis.

Liburnian communities to have imported fine pottery during the Iron Age, and particularly during the Late Iron Age, with most artifacts originating from the wider Adriatic region. This also correlates with an increase in pottery used for transport and storage, confirming Liburnian Nadin's active participation in broader economic and social events of the period. With the onset of Roman influence and governance, the situation changed with the introduction of goods from the wider Mediterranean region in accordance with more "global" trends (fig. 7). Below, we present a chronological view of this changing picture from Nadin-Gradina, as evidenced from the ceramic assemblage recovered from our excavations (refer to fig. 5 for production regions mentioned in the following discussion).

Early Iron Age

Given the research strategy at Nadin-Gradina, which comprehensively documents the Late Medieval and Post Medieval layers first, followed by Roman material culture and finally Iron Age layers, ceramic finds from the Early Iron Age are still underrepresented in the assemblage. Once a larger sample is recovered, we will have a better understanding of trade dynamics during this early occupation. In addition, pottery was only

rarely deposited in the Liburnian graves during the Early Iron Age, so unfortunately, this relatively well-known horizon of the Nadin necropolis is not very helpful in this regard either. Nevertheless, we can offer some observations regarding specific cultural contacts of this period based on the few pottery sherds recovered from Nadin-Gradina, though unfortunately without any information on original context. We also draw upon other artifactual data from Nadin, as well as analogous information from nearby centers dating to the same period.

Excavations recovered a limited number of matt painted pottery fragments decorated with geometric motifs from Daunia. This type of ceramic constitutes one of the earliest categories of pottery to illustrate intensive and continuous relations throughout and across the Adriatic basin and its immediate hinterland during the Iron Age. At the same time, it is an abundant category of pottery in comparison with other imported ceramic types that were circulated in Liburnia during the Early Iron Age. It has been documented at a number of Liburnian sites, beginning with the Middle Geometric phase of Daunian pottery.¹¹ Cross-Adriatic connections are further evidenced by the recovery of a number of metal artifacts from the Nadin necropolis that is characteristic of the Adriatic cultural *koiné*.

Given its prevalence among other related sites, we would expect to find examples of Corinthian and Attic black figured and Attic and South Italian red figured pottery in layers associated with the latter part of the Early Iron Age.¹² Our continued excavations should clarify this picture.

Late Iron Age

Pottery recovered mostly from the Nadin necropolis reflects significant changes that affected nearly the entire Adriatic region during the Late Iron Age. Indeed, the general dynamics of trade, including pottery exchange along the eastern Adriatic, intensified from the fourth century BC onward, particularly in the latter half.¹³ Reasons for this are likely tied to the general historical circumstances in which the Adriatic finally became a part of the Hellenistic *koiné*,¹⁴ directed for the most part toward a market economy. On the other hand, the archaeological record undoubtedly indicates a growth in indigenous communities, including that of Nadin, into active participants in this emerging world, depending on their predispositions. This is evident in the appearance of the Hellenistic custom of depositing a number of vessels from the symposiastic repertoire into the previous locally defined funerary ritual.¹⁵

In terms of ceramic finds, the Late Iron Age at Nadin is characterized by typological diversity and large amounts of imported material, testifying to continuous engagement with general pan-Adriatic trends in pottery (figs. 5 and 7). In this regard, it is important to mention that the early phase of this period, the fourth and third centuries BC, is characterized mostly by imported wares from southern Italy. Examples include late South



Fig. 5: Examples of the Hellenistic pottery from the Nadin necropolis.

Italian red-figure pottery, black-glazed pottery, and the particularly abundant Gnathia ware that mostly originated from the Canosan and Messapian workshops that were most certainly indigenous Italic.¹⁶ Rare examples of the Alto Adriatico pottery type is also dated to the same period,¹⁷ but very likely products of still unidentified eastern Adriatic workshops.

Considering the information on pottery production from local Hellenistic centers in Issa and Pharos,¹⁸ it is interesting to note that their products, which circulated in significant amounts in the central Adriatic region, had not reached Nadin or seemingly the rest of Liburnia by the second century BC. This is the period when Issaeian grey-glazed pottery started to be imported, and in particular, relief pottery that is well represented in graves at Nadin until the late first century BC. Also present are some products of relief pottery from Dyrrachium and Asia Minor workshops, in addition to the Italic grey ware that signals the transition to Roman-era Nadin.¹⁹

Roman “Nedinum”

The general scheme or progression of imported pottery in Antiquity generally begins in Italy, followed by production areas in Asia, and subsequently North Africa (fig. 6). The

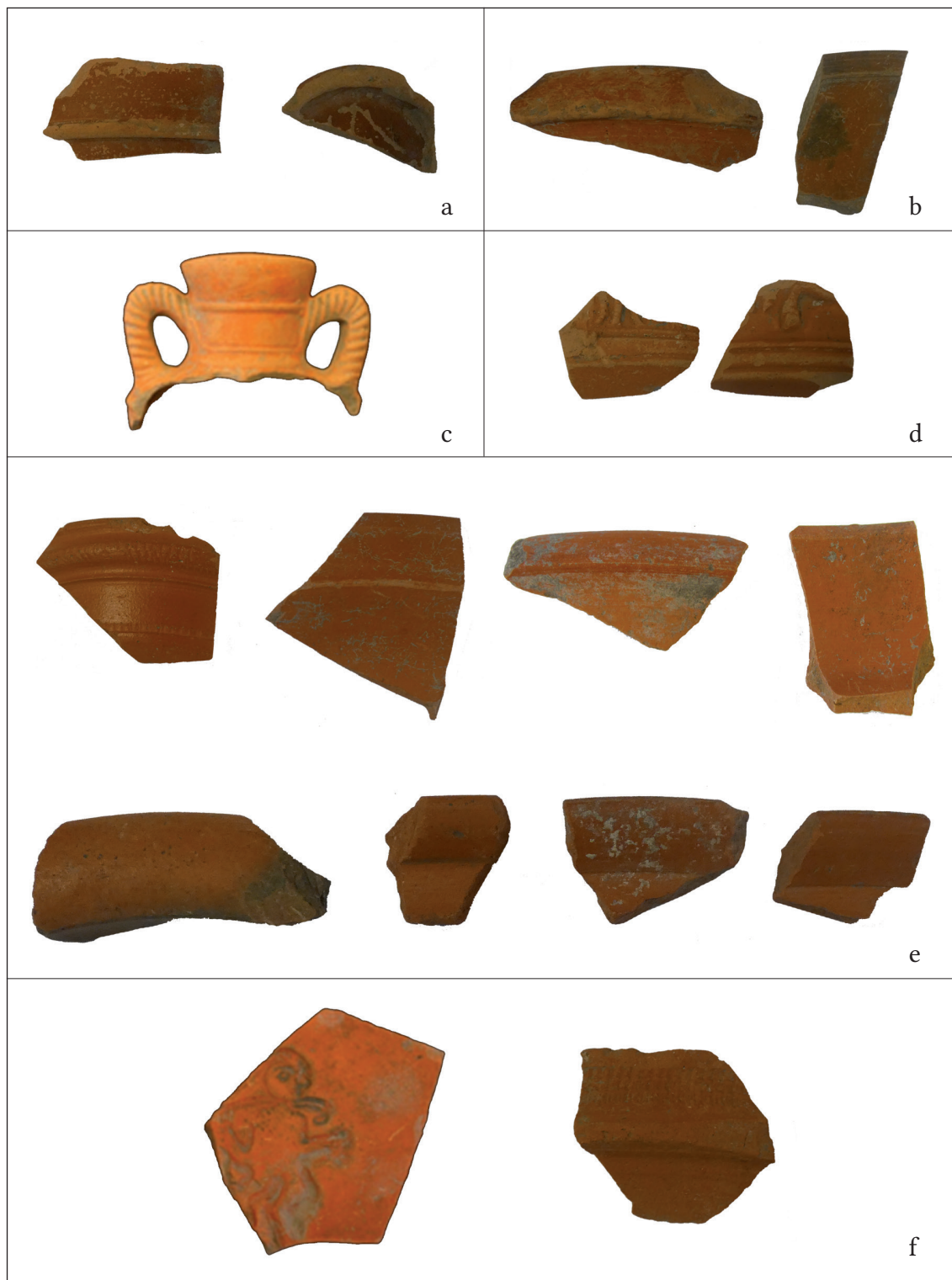


Fig. 6: Examples of the Roman pottery from the Nadin settlement.

Italic production area comes as no surprise as it was an exceptionally prosperous region in the period of establishing and stabilizing Roman authority in Illyricum. Strong colonial and legionary markets in Illyricum catalyzed this trade,²⁰ with Nadin being one of the municipal or peregrine centers involved. Nadin gradually accepted a wide selection of northern and more generally Italic pottery, a material indicator of the penetration of Roman identity into indigenous Liburnian settings (fig. 6a).²¹

By the middle to late first century, Nadin-Gradina had evolved into Roman “Nedinum”. During this period, the productive strength of northern Italy apparently began to decline, while concurrently there was a growing presence of products from strong pottery production centers elsewhere. The ceramic record from both the Nadin necropolis and settlement testify to a sudden appearance of products from western Asia Minor, a category of Eastern Sigillata B2 (fig. 6b) and so-called Aegean kitchenware that are recorded in significant amounts by the second century AD.²² Furthermore, the study of pottery from Roman-era Dalmatia more broadly has intensified recently, bringing to light certain novelties during this period that indicate very dynamic trade patterns encompassing a much wider area. In addition to the previously mentioned examples, northern Italic kitchenware, Pannonian tableware, Corinthian (fig. 6d) and Knidian relief pottery (fig. 6c), and an increasing number of north African table and kitchen forms are also represented at Nadin (fig. 7).²³ Their emergence in this period foreshadows the

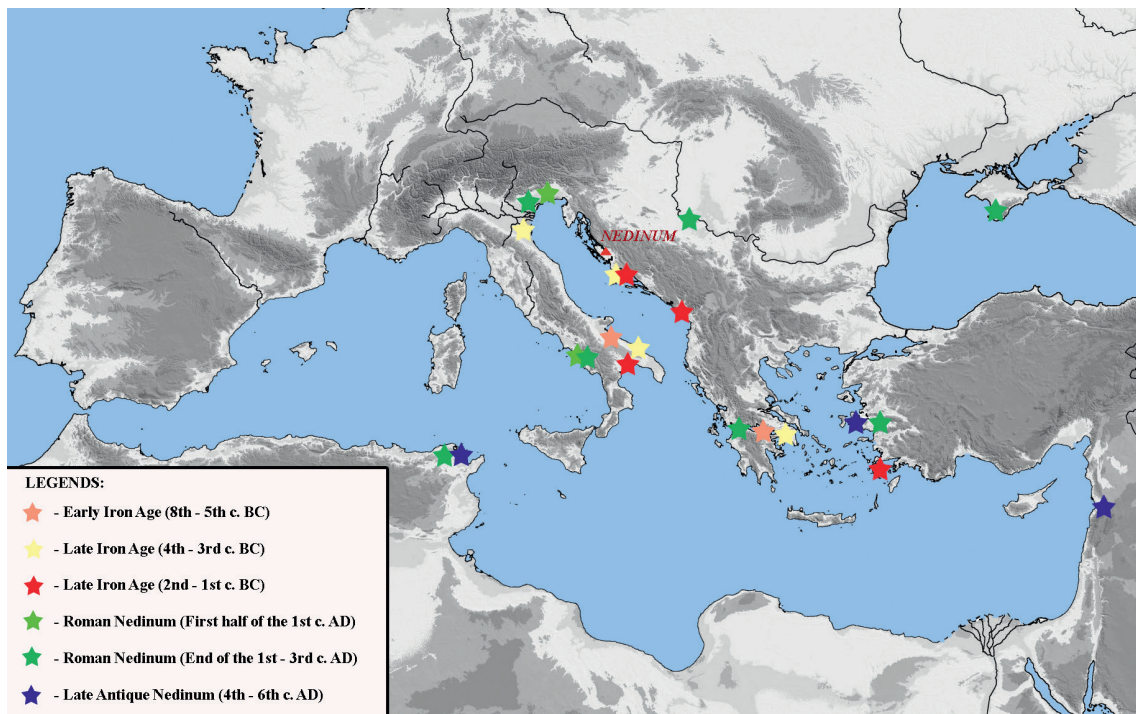


Fig. 7: Fine pottery provenance through Iron Age and Roman period (preliminary condition).

famous North African expansion and can be observed as an indirect association of the African productive zone within the Adriatic market zone. The mediator of this distribution can be found in the southern Italic region, where this pottery is far more abundant owing to its tighter relations with North Africa.

Late Antique “Nedinum”

Exchange patterns began to change after the third century, with the apparent development of very intense and evidently direct contact between the Adriatic and Africa until the end of Antiquity. This is supported by a large number of Adriatic shipwrecks whose cargo consisted of North African material, primarily amphorae,²⁴ but whose underwater finds are also substantiated by abundant recovery of tableware and kitchenware among many different mainland sites, including from Late Antique deposits at Nadin. Although thus far only documented in a limited area, their presence testifies to Nadin’s participation in trade patterns that included a significant share of African pottery. This is particularly evident during the fifth and early sixth centuries, when many forms of ARSW D tableware are represented (fig. 6e). Although scarce, a small number of Phocaeen products have also been recovered (fig. 6f), but they are accompanied by a rather large number of amphorae originating from the eastern Mediterranean, again reflecting the general ceramographic picture of the Adriatic.²⁵

Discussion and Conclusion

This brief overview of the dynamics of diverse ceramic imports during Iron Age and Roman-era Nadin confirms that the site holds great promise for investigating trade and wider social and economic processes across Liburnia. Interestingly, the ceramic assemblage from Nadin-Gradina reflects the historical circumstances surrounding the gradual integration of the Adriatic into the broader Mediterranean world, which is also part of a much larger interrelated territory during the Roman period. In defining these circumstances, it is important to note the geographic openness of the eastern Adriatic to maritime trade routes, which simply invite a permanent inflow of products from sources found generally along a linear course between the northern Adriatic and eastern Mediterranean. To date, the ceramic collection from Nadin has been subject to preliminary analysis only, but our conclusions regarding the dynamics of pottery importation over time seem realistic. Our interpretation is further supported by the ceramographic records of other Liburnian sites, which thus far correspond well to that of Nadin (fig. 1).²⁶ Considering that systematic archaeological research is only just underway, it is clear that Nadin-Gradina and its associated ceramic assemblage holds great potential to become a regional reference collection.

To conclude, the results of this research have significantly improved our understanding of the sepulchral aspect of the Nadin community, including burial traditions and the complex structure and planimetry of the Liburnian flat cemeteries. Complementary excavations on the hillfort settlement have also confirmed more than one thousand years of relatively continuous occupation, making Nadin-Gradina an ideal site from which to reconstruct shifting patterns of exchange and general connectivity between the eastern Adriatic and the broader Mediterranean world over the course of the Iron Age and period of Antiquity. The results of our work demonstrate the utility of ceramic assemblages to delineate trade dynamics and cultural contacts through time, with this interpretation becoming only more refined as our work at Nadin continues in the coming years.

Notes

- ¹ Chapman et. al. 1996, 116–123; Čelhar – Zaro 2018 (forthcoming).
- ² Batović – Batović 2013.
- ³ Batović – Chapman 1987a; Batović – Chapman 1987b; Chapman et. al. 1996, 231–251.
- ⁴ Kukoč 2009; Kukoč – Čelhar 2018 (forthcoming).
- ⁵ Čelhar et al. 2018; Zaro – Čelhar 2018.
- ⁶ Zaro – Čelhar 2018.
- ⁷ Čelhar – Zaro 2018 (forthcoming).
- ⁸ Batović – Čondić 2005.
- ⁹ Kukoč – Čelhar 2018 (forthcoming); Matković 2015.
- ¹⁰ Kukoč – Čelhar 2018 (forthcoming).
- ¹¹ Čelhar – Borzić 2016, 72–76 with literature; Čondić – Vuković 2017, 53–55. 74–83.
- ¹² In general: Šešelj 2009, 411–425; Čelhar – Borzić 2016, 76–79 with literature; Čondić – Vuković 2017, 84–94.
- ¹³ Šešelj 2009, 411–527; Miše 2015.
- ¹⁴ Čače 1994, 33–54; Kirigin 1999, 147–164; Kirigin 2006, 17–26.
- ¹⁵ Batović – Batović 2013; Kukoč 2009, 11–80.
- ¹⁶ Matković 2015; On distribution of mentioned types of pottery on east Adriatic coast see: Miše 2015.
- ¹⁷ On Alto Adriatico ware on east Adriatic see: Kirigin 2000, 131–138.
- ¹⁸ Kirigin 1990, 58–65; Miše 2015, 30–41; Čargo – Miše 2010, 7–40; Katić 2000, 49–58; Kirigin et al. 2002, 241–260.
- ¹⁹ Batović – Batović 2013; Matković 2015; Distribution of mentioned types of pottery on eastern Adriatic see: Brusić 1999; Šešelj 2009, 109; Miše 2015, 58; Kamenjarin 2014, 129–160.
- ²⁰ Von Gonzenbach 1975, 181–205 (Salona); Topić 2003, 183–344 (Narona); Brusić 1989, 93–158 1990, 79–106 (Liburnia); Kandler – Zabehlicky-Scheffenegger 1979 (Burnum); Borzić 2010 (Burnum); Šimić-Kanaet 2010 (Tilurium); Konestra 2016 (Kvarner area) etc.

²¹ Some of the most numerous finds belongs to sigillata types *Consp.* 4, 18, 22, 6, 36, R13, Campanian cooking ware, Italian amphorae Dressel 2–4, 6A, 6B etc.

²² ESB2 is mostly represented with types Hayes 59, 60, 71, 74, 75, 76 and 80. For general distribution on Adriatic area see: Maggi 2006, 179–194. For Aegean kitchen ware see: Istenič – Schneider 2000, 341–348; Jurišić 2000, 34–38; Parica 2008, 81–96; Taras 2014, 191–217.

²³ On these from other eastern Adriatic sites see: Ožanić Roguljić – Konestra 2017, 453–460 (Pannonian ware); Brusić 1999 (Corinthian and Knidian relief ware); Brusić 2006, 33–45 (ARSW A); Čremošnik 1962, 115–140 (ARSW A); Topić 2003, 183–344 (ARSW A); Borzić – Eterović Borzić 2015, 11–88 (ARSW A).

²⁴ Vrsalović 1979 (2011); Jurišić 2000, 56–58.

²⁵ Pešić – Borzić 2017 (forthcoming).

²⁶ Except already mentioned see also: Batović 1968, 53–74; Batović 1990, 55–94; Suić et al. 1968; Šešelj et al. 2013; Miše 2017, 83–104; Borzić et al. 2013; Perović 2013, 209–238; Čondić – Jurjević 2014.

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Trade and Consumption of Mediterranean Perfumes in the Iron Age Iberian Peninsula: An Overview

Francisco B. Gomes

Abstract

The study of the different types of Mediterranean perfume containers documented in Iron Age contexts of the Iberian Peninsula – Phoenician “oil bottles”, Archaic Corinthian, eastern Greek, Naucratic and Attic vessels, as well as Mediterranean Group 1 core-formed glass vessels – indicates there was a continued demand for Mediterranean scented substances in this area throughout that period. Despite the ebbs and flows suggested by available evidence, which can be correlated to the different historical contexts covered by the time span considered here, this continuous demand suggests that Mediterranean perfumes became an integral part of local social and representational practices, which sustained demand even in the face of probable supply breaks.

1. The Introduction of Mediterranean Perfumes in the Iberian Peninsula: A Brief Introduction

The introduction of the use of perfume and/or scented substances in the Iberian Peninsula seems to have taken place at the beginning of the Iron Age, and can therefore be correlated with the advent of Phoenician colonization. Although we cannot exclude that some natural products were used at earlier times for aromatic and/or medicinal purposes, no direct evidence of systematic production, consumption and trade of perfumes and unguents has in fact been documented for the preceding late Bronze Age.

The situation began to change with the foundation of the first Phoenician colonial settlements and the establishment of systematic social and political relationships with the local communities. In the framework of such relationships those communities adopted a number of oriental prestige goods and their associated practices, adapting and repurposing them in the context of their own social discourses.

Among these was the use in several different contexts of perfumes and unguents, which would become part and parcel of local social and representational practices.¹ Despite the continued absence of interdisciplinary approaches to such a use, the demand for Mediterranean perfumes and unguents can still be traced in the archaeological record by a succession of containers, which can be related to the trade and consumption of scented substances.

2. Perfume Containers in the Early Iron Age of the Iberian Peninsula: An Overview

The earliest in this series of container types are the so-called Phoenician “oil bottles”. These vessels are present in colonial settings since the early 8th century BC, becoming relatively common both in Phoenician and, to a less extent, in indigenous contexts from the late 8th/early 7th centuries BC on (figs. 1, 2); they remained the most common perfume containers up until the mid-6th century BC when they gradually disappear from all Mediterranean contexts.²

The available data regarding the production centers of these containers remains limited and a large part of the currently known containers have not been definitely assigned to a specific workshop. Nonetheless, the image currently available suggests that the earliest “oil bottles” were imported from the Phoenician motherland, as was to be expected, but also that local Iberian production started early on.³

The local Iberian production of “oil bottles” is further attested in the workshop of La Pancha (Málaga), dated in the late seventh and early sixth centuries BC.⁴

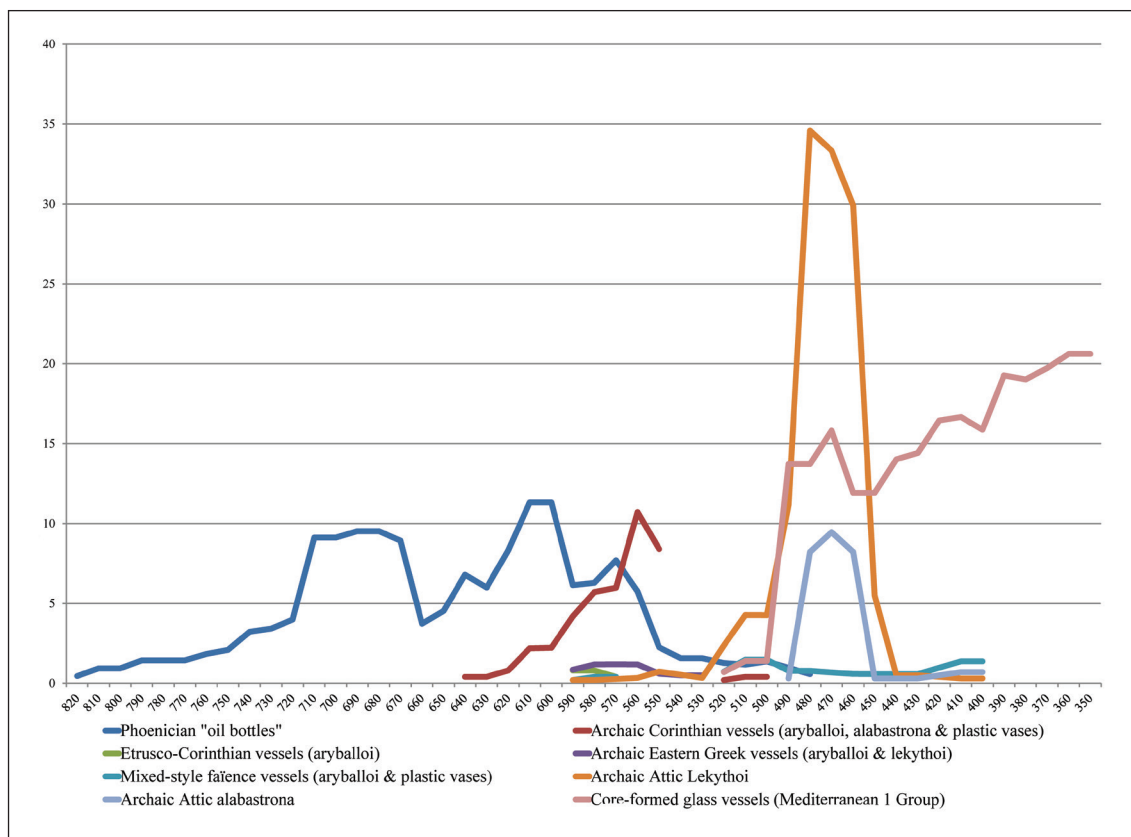


Fig. 1: Diachronic evolution of the trade of Mediterranean perfumes in the Iron Age Iberian Peninsula (average volume per decade).

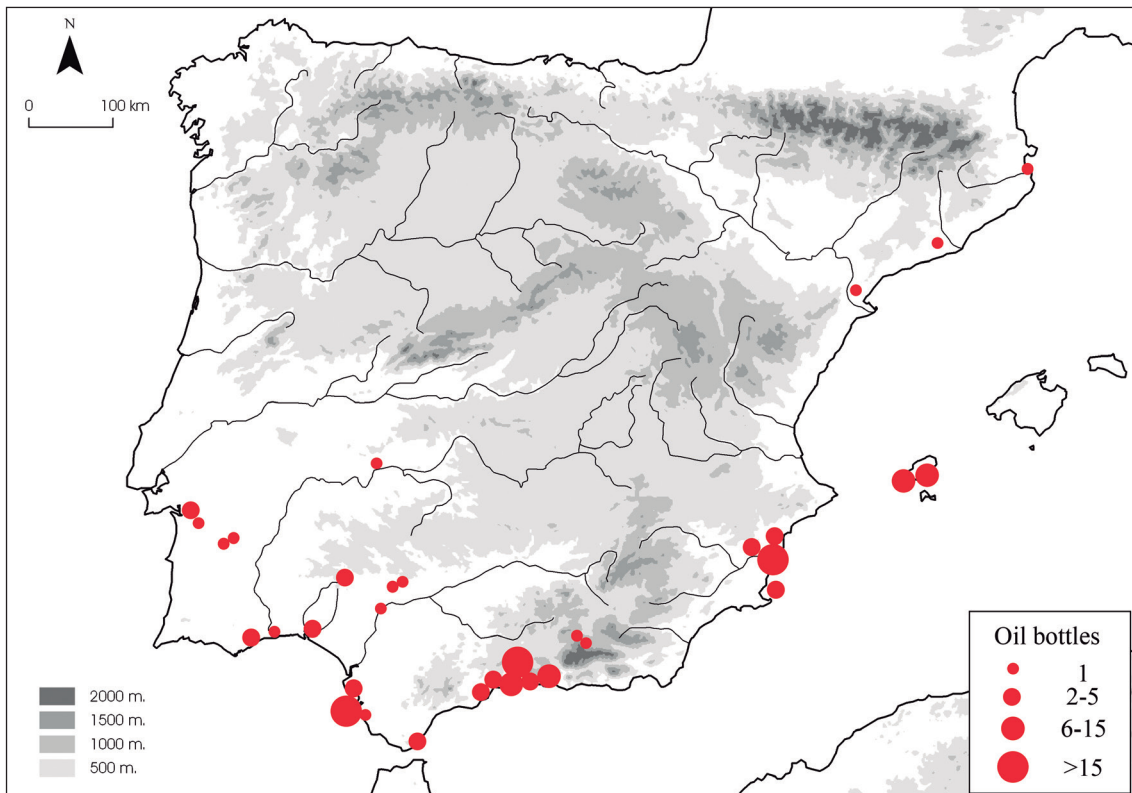


Fig. 2: Distribution of Phoenician “oil bottles” in the Iberian Peninsula.

Products hailing from other production centers, namely in the central Mediterranean, are also documented in the Iberian Peninsula, with some examples of “oil bottles” having been attributed to Carthaginian and Sardinian workshops.⁵

In any case, there is a pronounced retraction in the production and circulation of “oil bottles” starting in the second quarter of the sixth century BC (fig. 1). Meanwhile, as the trade of these vessels was waning, other types of perfume containers were gradually introduced.

The most common were the Corinthian *aryballoi* and *alabastra*.⁶ Although never as abundant as “oil bottles”, middle Corinthian and in particular late Corinthian vessels are well documented in Iberian contexts, actually surpassing the number of “oil bottles” by the second quarter of the 6th century BC (figs. 1, 3).

Although quantitatively residual, other Greek and Greek-type perfume containers are also documented around this period. These include a certain number of faïence *aryballoi* and plastic vases, usually attributed to the workshops of Naucratis, in Egypt⁷ and some *aryballoi* attributed to eastern Greek workshops⁸ (fig. 3).

This relative diversity of perfume containers in the early 6th century can be seen as a reflection of the continued demand for scented products. No longer being fully met by “oil bottles” and their contents, this demand seems in part to have been fulfilled by

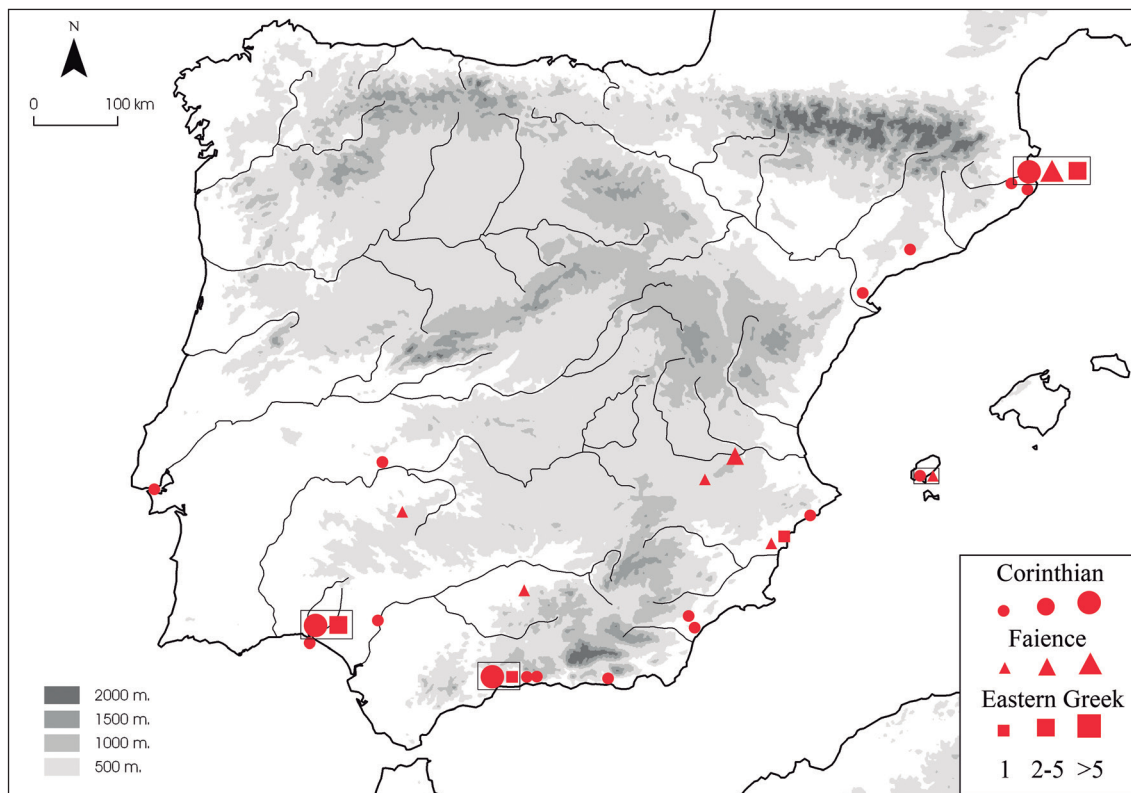


Fig. 3: Distribution of Archaic Corinthian, Eastern Greek and Naucratic perfumes containers in the Iberian Peninsula.

Greek products, either distributed through the Phoenician trade network or directly through Greek, and particularly Phocaeen merchants.⁹

In the third quarter of the 6th century BC, however – very likely as a result of Mediterranean geo-political circumstances – there seems to have been a break in the supply of perfumes to the Iberian Peninsula. This shortage only seems to have been surmounted towards the late 6th and particularly the 5th century BC with the introduction of two new groups of containers.

On the one hand, in the eastern part of the Iberian Peninsula, where Greek trade networks – with the Greek colony of *Emporion* in northeastern Spain as an important hub – were gaining ground, we find a certain number of Archaic Attic *Lekythoi* and, to a lesser extent, *Alabastra*.¹⁰ These were indeed very abundant in *Emporion* and its immediate hinterland,¹¹ but remained very rare outside this properly Greek context (figs. 1, 4), as did later Classical Attic perfume containers.¹²

Beyond the limited scope of distribution of these Archaic Attic vessels and their contents, the demand for Mediterranean perfumes and scented substances seems to have been met primarily by the products transported in the core-formed glass vessels of

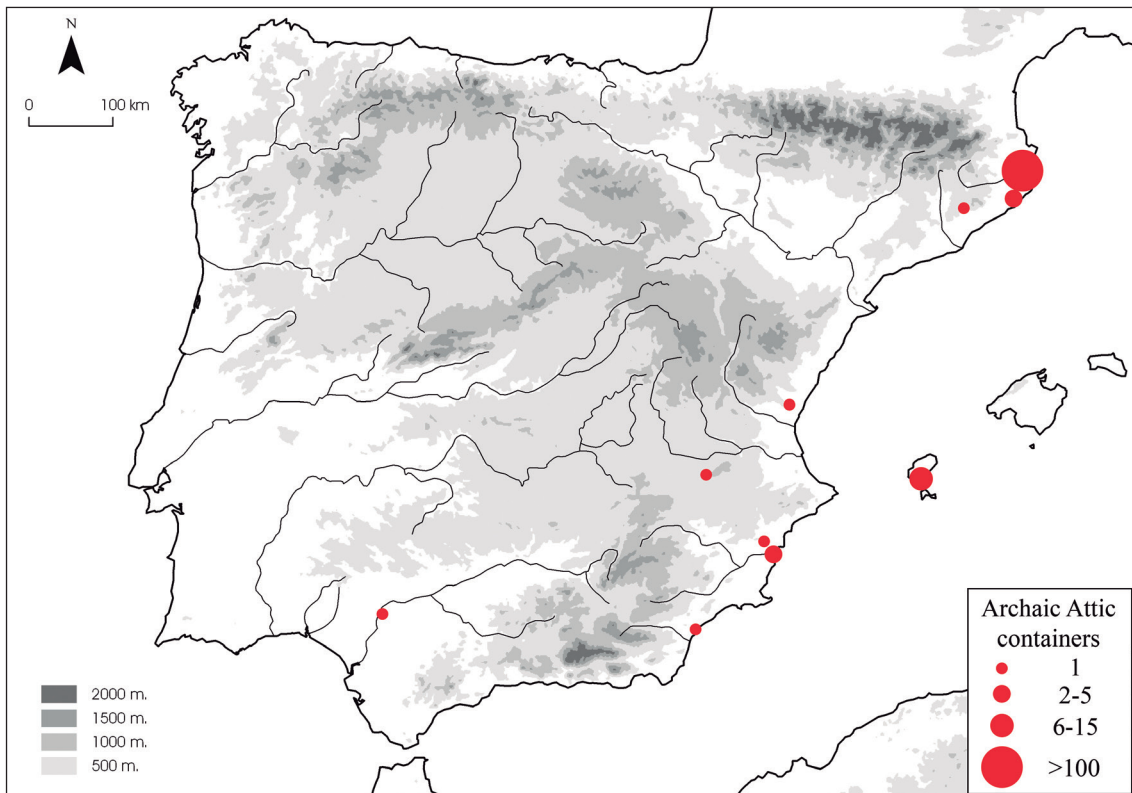


Fig. 4: Distribution of Archaic Attic perfume containers in the Iberian Peninsula.

Donald Harden's Mediterranean Group 1,¹³ which, from the late 6th and especially the early 5th century on, seem to have flooded the Iberian markets¹⁴ (figs. 1, 5).

The exact provenance of these vessels is still a matter of some debate, despite the general consensus that they originate in the Greek world, possibly in the workshops of the island of Rhodes.¹⁵ Other production centers may, however, have existed: some vessels with a white ground and purple decorations,¹⁶ for instances, have been tentatively attributed to a western workshop, possibly *Emporion* itself,¹⁷ although no direct evidence for this attribution has so far been produced.

Given the very widespread distribution of these vessels, which seem to have been incorporated in sites with very different cultural backgrounds, it is difficult to specify the agents behind the distribution networks through which they circulated in the far west.

However – and besides a possible Punic distribution network, which may explain some of the examples documented in the southern and western coasts of the peninsula – the circulation of these vessels seems to have been intimately connected with Greek trade. This connection may have been a direct one – as in the case of *Emporion* and its hinterland, or indirect, operated through local sub-networks which redistributed

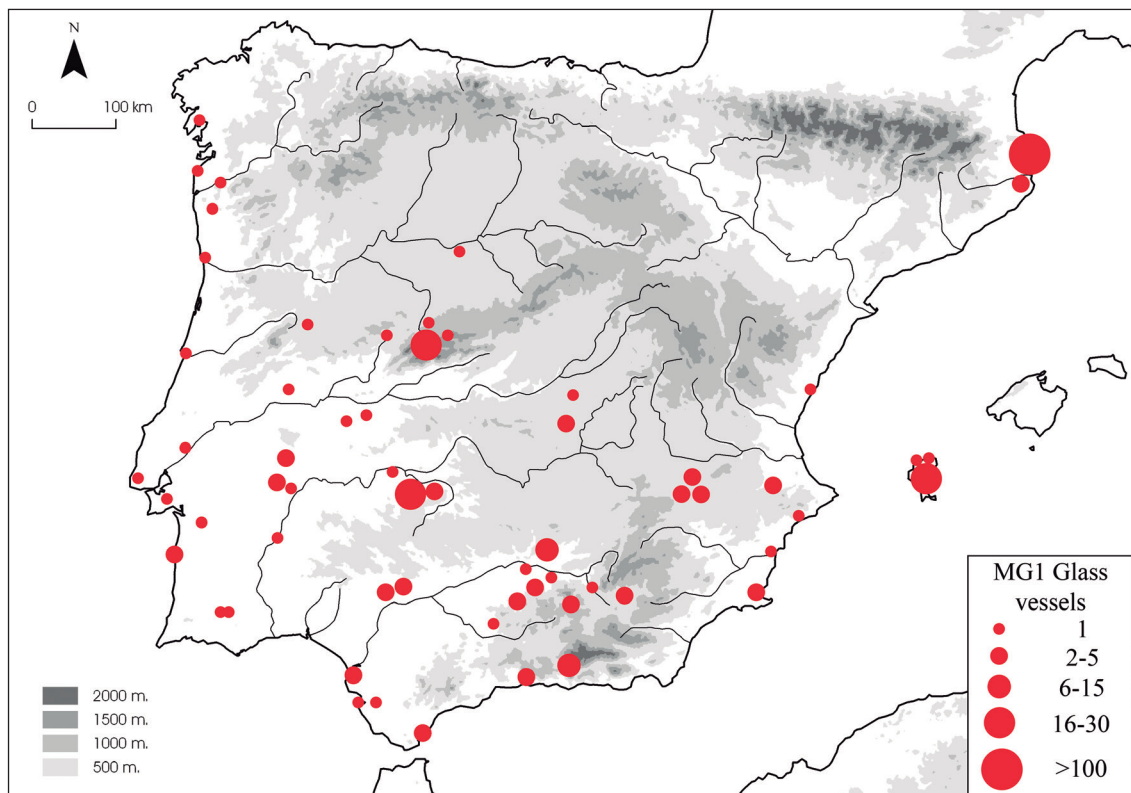


Fig. 5: Distribution of Mediterranean Group 1 core-formed glass vessels in the Iberian Peninsula.

Greek products to the interior of the peninsula and whose protagonists may have been the Iberian groups of the Levant and the southeast of the peninsula.

This lends further support to the idea that these glass vessels were produced, during this period, in essentially Greek workshops. The volume of the consumption of these vessels and its evolution could, on the other hand, point in the same direction, as these glass vessels seem to disappear from the archaeological record rather abruptly in the mid-4th century BC (fig. 1).

This seems to echo the situation of classical Attic pottery, which also disappears rather abruptly from the generality of the western markets around 350 BC at the height of its popularity.¹⁸

As with later Greek/Hellenistic pottery productions, D. Harden's Mediterranean Group 2 vessels are very rare in the Iberian Peninsula, and show a very restricted geographical distribution, essentially confined to the Mediterranean coasts.¹⁹

3. The Trade and Consumption of Mediterranean Perfumes in the Iron Age Iberian Peninsula: Preliminary Conclusions and Research Outlooks

The image we get from the combined analysis of the evolution in the trade and consumption of these different classes of vessels is one of continued demand – and, obviously, supply – of Mediterranean perfumes throughout the earlier centuries of the first millennium BC. There are obvious ebbs and flows throughout the considered time span, which, as briefly indicated throughout this contribution, can more or less be correlated to specific historical processes and conjunctures, but the image of continuity is quite striking.

It seems therefore safe to state that these Mediterranean perfumes became an integral part of the consumption habits of the communities of the Iberian Peninsula due to their incorporation in local regimes of value and social, ritual and representational practices.²⁰ Only by accepting this premise can we understand the nearly continuous demand for these products, which to a large degree transcended specific historical contexts and conjunctures.

With this data in hand, the future task facing research is to break down the trade aggregates presented here in order to better understand how the existence of different distribution networks but also of different local/regional consumption choices shaped the overall patterns we can glimpse from the archaeological record, thus generating a more context-specific analysis, which will allow for a finer characterization of the uses and social meanings of these substances.

As this brief overview attempted to demonstrate, the data from the Iberian Peninsula holds a great deal of potential for the study of the trade and consumption of Mediterranean perfumes throughout this period, and can be a privileged laboratory for the analysis of the changing fashions of different Mediterranean workshops and products, thus contributing for an ever growing understanding of the interconnectedness of the ancient Mediterranean world.

Notes

¹ López Rosendo 2005.

² Orsingher 2010, with bibliography.

³ See, e.g. González Prats 2014.

⁴ Martín Córdoba et al. 2006, 271.

⁵ See, for instance, Ramon Torres 1982; Belizón Aragón et al. 2014; González Prats 2014.

⁶ Trías 1967; Rouillard 1991; Domínguez – Sánchez 2000, with previous bibliography.

⁷ Jiménez Ávila – Ortega Blanco 2004, 90–93.

⁸ Domínguez – Sánchez 2000, with previous bibliography.

⁹ See Cabrera Bonet 1988/1989.

¹⁰ Trías 1967; Rouillard 1991; Domínguez – Sánchez 2000, with previous bibliography.

¹¹ See Trías 1967.

¹² See Algrain 2012.

¹³ Harden 1981; Grose 1989.

¹⁴ Feugère 1989; Jiménez Ávila 1999/2003; Almagro Gorbea – Alonso Cereza 2009.

¹⁵ Harden 1981; Grose 1989.

¹⁶ Grose's Class I:A – See Grose 1989, 111–112.

¹⁷ Carreras i Rossell – García i Rodríguez 1985.

¹⁸ See Trías 1967; Rouillard 1991; Domínguez – Sánchez 2000.

¹⁹ Feugère 1989.

²⁰ López Rosendo 2005.

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Use and Function of Greek Bronze Vessels in Indigenous Societies

Chiara Tarditi

Abstract

In Greek craftsmanship, bronze vessels take a special position, for the value of the metal, which makes them immediately meaningful and precious: their use restricted to more rich people makes these pieces a clear expression of richness and power. In the Greek world, bronze vessels were early used during aristocratic convivial banquets and *symposium*, establishing a close relation between the objects and their function, and were frequently dedicated as votive offerings in sanctuaries. The spread of these social practices among the indigenous societies, with which Greeks came in contact, is well attested since the Archaic period by imports of Greek bronze vessels: generally coming from funerary contexts of different indigenous areas, from Southern Italy to the Black Sea, they continue to represent wealth, power and identification with the Greek aristocratic culture and society.

In Greek craftsmanship, bronze vessels take a special position, for the value of the metal itself, which makes them immediately meaningful and precious: their use restricted to more rich people always made these pieces a clear expression of richness and power. Early used during aristocratic convivial banquets and *symposia*, they established a close relation between the objects and their function, and for their value they were frequently dedicated as votive offerings in sanctuaries. Early Greek bronze vessels exported out of Greece to ethnic groups living in a pre-urban system, without their own written sources (that is, what we call “indigenous societies”), attest, together with the more widespread figured pottery, the diffusion of these social practices: found generally in funerary contexts from southern Italy to the Black Sea, they represented wealth, power and identification with the Greek aristocratic culture and society. The study of the specimens exported during the Archaic and early Classical periods allowed to expand the picture of the Greek trade in the Mediterranean, integrating what already observed from the more numerous studies on the distribution of Greek pottery. It is now possible to highlight the role of the bronze vessels, exported in various regions in different ways, certainly reflecting the diversity of the carriers, who took care of the distribution of the goods, of the periods, in which these trades occurred and of the different taste and interests of the buyers. In this paper, I would like to concentrate on the question of the meaning and function that during the Archaic and early Classical periods these Greek bronze vessels had for the indigenous societies in central Europe, inner Balkans, northern regions of the Black Sea and mainly in southern Italy: in all these regions most of the finds come from funerary contexts, allowing to reach interesting conclusions about the number

and shapes of imported Greek bronze vessels, their association with other materials and objects, and the possible meaning, that all this stuff had for the local people.

Compared to a previous synthesis of ten years ago about the Greek bronze vessel distribution,¹ new discoveries and new studies did not substantially change the general picture, giving more evidence to the already highlighted topics. In central and northern Italy, that means further north of Castelbellino on the Adriatic coast and of Cuma on the Tyrrhenian one, we can confirm the lack of Greek bronze vessels, in front of complete Etruscan bronze banquet sets and conspicuous imports of Greek pottery, mostly Attic. Etruscan cities of the Tyrrhenian and of the Po Valley area acted as a filter, blocking the imports of Greek bronze vessels to promote their own products. In southern Italy, the picture is supplemented by some funerary sets in the meantime published² and by some pieces recently found³ or recognized as coming from a definite center.⁴

To these updates, we can add new observations about the possibility to attribute some pieces to defined productions. If recent chemical analyses suggest Aegina as production center for one of the kraters from Trebenischtche,⁵ observations about style and distribution of the Athenian bronze vessels allow now to review the percentages of pieces attributable to this production,⁶ re-evaluating their presence in Italy, Balkans and in the northern Black Sea region from the middle of the sixth up to the end of the fifth century⁷ (fig. 1). Among all these funerary contexts, there are obviously important regional differences, but common to all is the presence of Greek metal (mainly bronze) and pottery vessels, that in Greece are generally connected to the *symposium* and/or to sacred ceremonies. Generally, it is enough easy to define the function, these vessels had in Greece, thanks to the many representations on figured pottery; more difficult is to recognize the meaning, that these objects had for indigenous peoples. Does the association of various shapes reflect their daily use? Or were these associations specifically created for their funerary destination? Were these objects normally used before becoming part of a funeral outfit? And was this use the same as in Greece? The difficulty in answering these questions is due to the fact, that we don't have written sources or figured representation helping us in understanding the original meaning of these objects in indigenous societies, so we can start from the use of these vessels in Greece.

The more common shapes of bronze vessels found in indigenous funerary contexts are basins, *lebetes*, *oinochoai*, *hydriai*, strainers, *phialai* and exceptionally *kraters*.

Only *phialai* are specifically connected only with religious practices, as on Greek figured pottery they are always represented in scenes of sacrifice or libation. Bronze examples have been found in several burials in southern Italy⁸ and inner Balkans,⁹ all pieces that should be used during funeral libation and sacrifices.¹⁰

Strictly related with the *symposium* were kraters, attested by extraordinary, complete examples or just by handles¹¹ (fig. 2), *deinoi* or *lebetes*¹² and strainers,¹³ whose presence in burials is a clear reference to the Greek habit of drinking wine.

Other shapes were used in both contexts, sacred and symposiastic, as they seem to indicate the many depictions recurring on figured pottery, especially Attic, and the

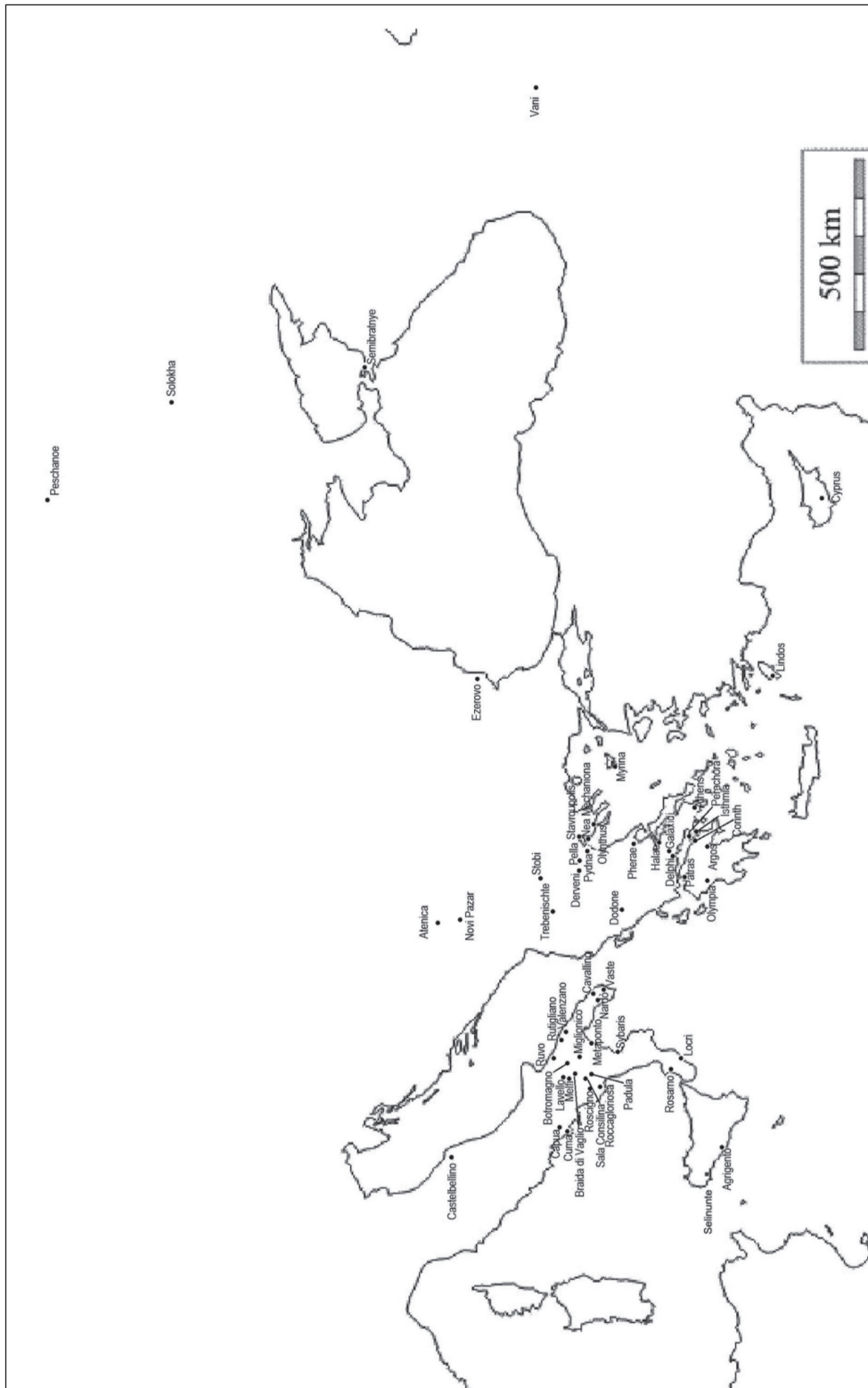


Fig. 1: Distribution map of Athenian bronze vessels.

presence of bronze examples among the votive materials offered in Greek sanctuaries. This is the case of the *oinochoai*, used for sacred libations, when associated with the *phiale*, and to pure wine during *symposia*. In indigenous burials, *oinochoai* are one of the most widespread shapes of bronze vessels, often associated with a bronze basin or with a complete banquet set¹⁴ (fig. 3).

More uncertain is the use of *hydriai*: normally a container for water, they were used in Greek the world for many and different purposes, as banquets, games prizes, votive objects in sanctuaries (related to the use of water during sacrifices), cinerary urns in burials.¹⁵ Bronze *hydriai* are well attested among all indigenous contexts, from southern Italy to inner Balkans and northern Black Sea area¹⁶ (fig. 4), with just one piece found in central Europe, the famous *hydria* from Grächwill.¹⁷ Usually richly decorated, the *hydriai* have been found normally together with other pieces of the *symposium* set, clearly attesting the deceased's richness.

Basins, because of the generality of the form, lend themselves to many different uses: for those with fixed handles, generally associated to a tripod base, called "*podanipteres*", representations on figured pottery indicates a function generally related with the personal cleaning in different contexts, one of which is the *symposium* (fig. 5). This shape, generally with molded handles, is very well attested in indigenous burials, in southern Italy, Balkans, Black Sea area, always associated with shapes related with wine consuming¹⁸ (fig. 6).



Fig. 2: Kraters.

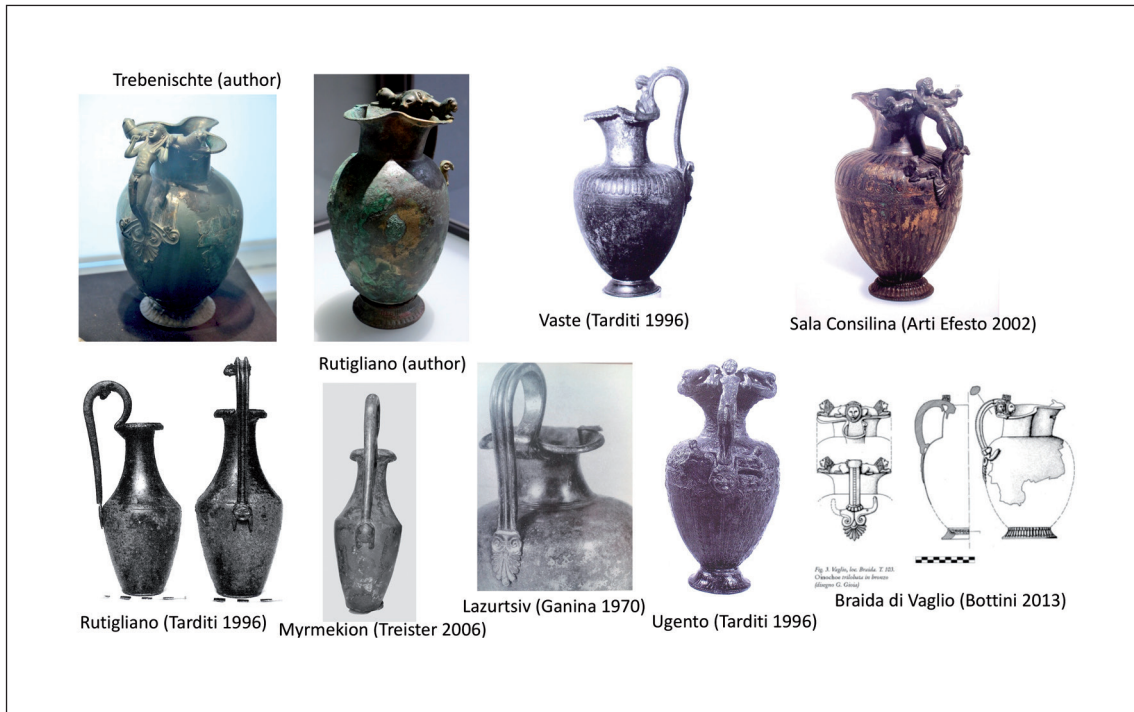


Fig. 3: Bronze *oinochoai*.



Fig. 4: Bronze *hydriai*.

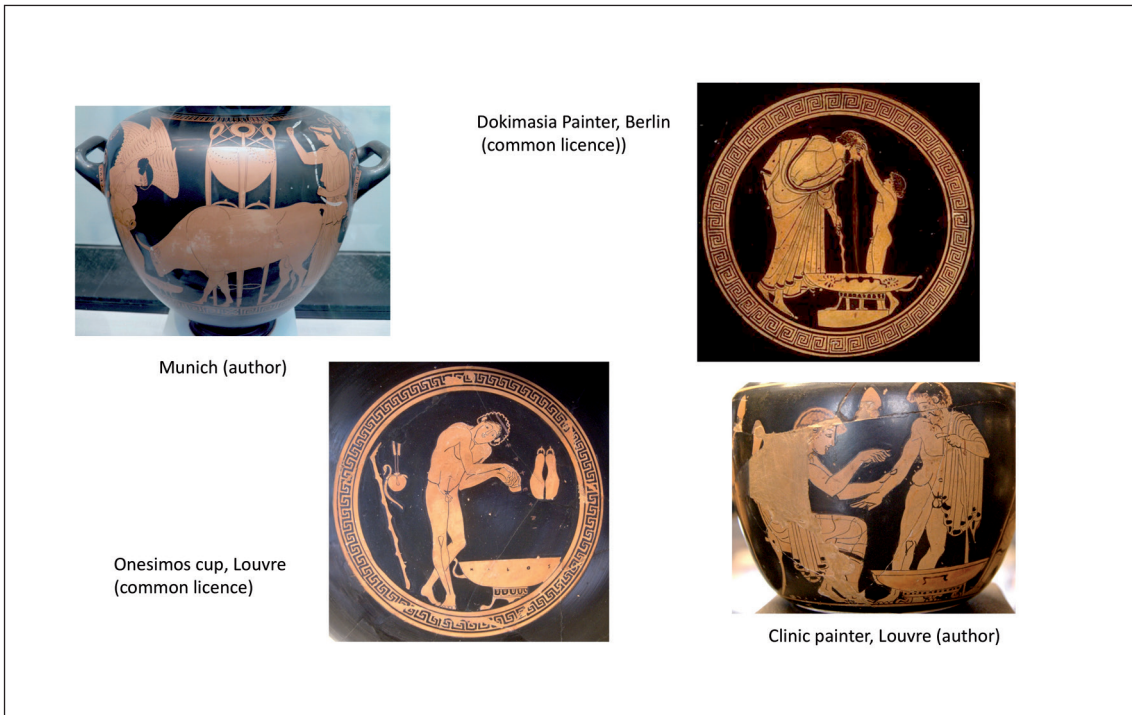


Fig. 5: *podanipter* use on Athenian figured pottery.

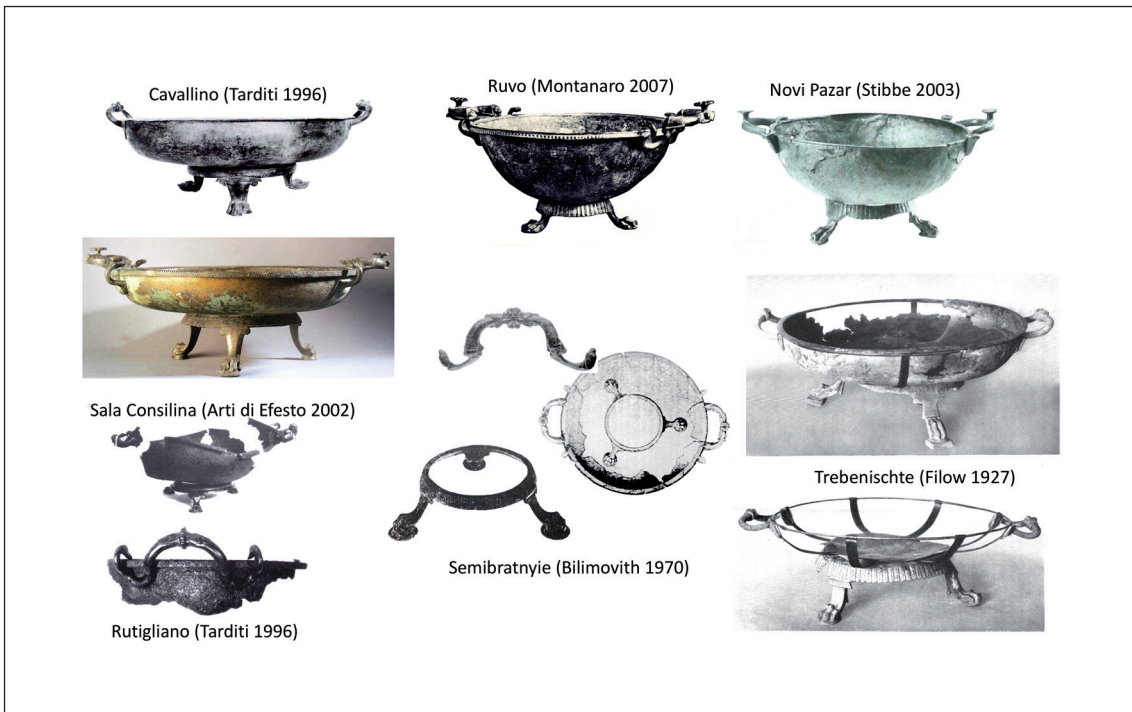


Fig. 6: Bronze *podanipteres*.

A specific kind of basins with fixed handles of triangular shape is clearly recognizable on some Attic red figured vases used, at least in fifth century Athens, as “*chernips*” for the ritual hands washing before the sacrifice (fig. 7). The huge number of handles of this type found among the materials of the Athenian Acropolis (several hundred) seems to confirm this relation and their Athenian production.¹⁹ Well-known examples of basins with this kind of handles have been found also in some indigenous burial contexts in southern Italy,²⁰ Balkans²¹ and Black Sea area.²² It is possible that their original use was not received in these contexts, as they have been found associated with elements connected to the *symposium* set: in indigenous area, they were probably sold (and purchased) as “normal” bronze basins, usable as *podanipter*, container for food or other stuff during a normal banquet.

Another shape often found in indigenous burials, mainly in Italy, is the low basin with long handle known as “*Griffphiale*” in archaeological literature²³ (fig. 8). The main characteristic is the handle, plain or molded, often in anthropomorphous or lion’s shape.



Boston (photo MFA)



Athens (Tarditi 2016)

Fig. 7: *chernips* representation and bronze handle from the Athenian Acropolis.

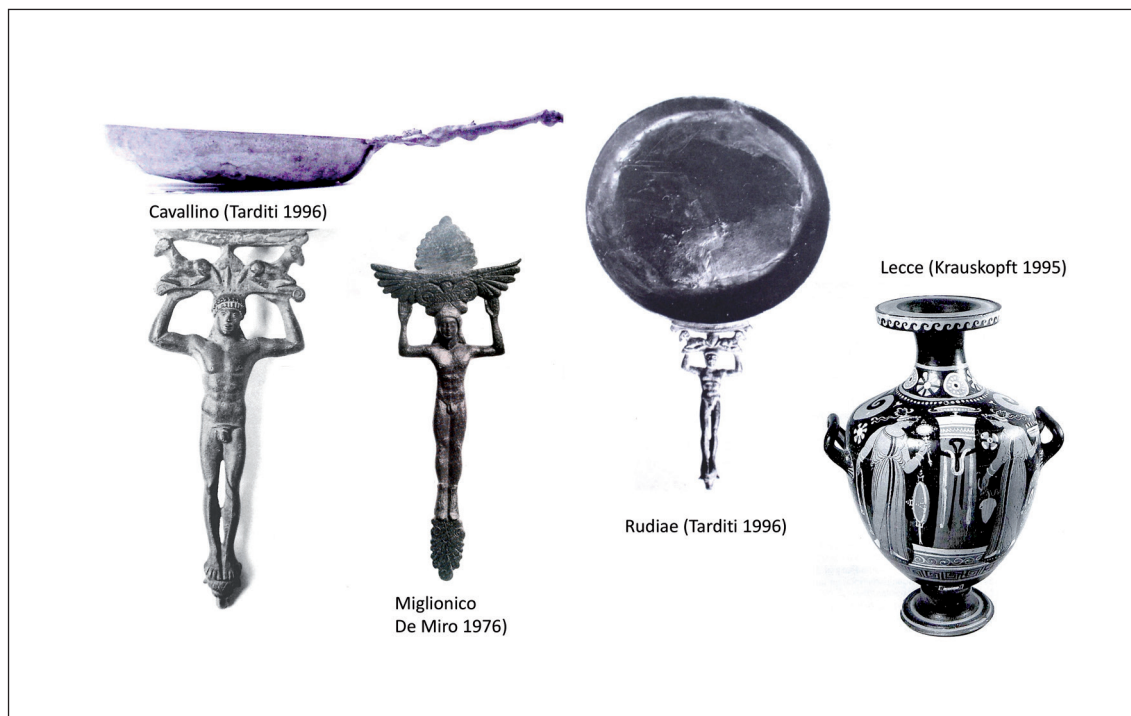


Fig. 8: *paterae* with anthropomorphic handle.

This kind of vessel recurs on some figured southern Italian pottery of late Classical period, where it is generally vertically kept by the handle: that it is a vessel and not a mirror is made clear by the concave rendering of the bowl.²⁴ Normally, it is represented in scenes connected to sacred or funeral contexts, as the *naiskos* suggests, sometimes together with grapes or *hydriai*, but there is no explicit indication of its use or of its ancient name. The long handle and the shape, so close to modern pans, would suggest a use related to cooking or heating some food or drink: and one immediately thinks of the Greek habit of drinking hot wine. The recurrence of these “*paterae*” in funerary sets together with other objects related to the wine consumption (*oinochoai*, cups) could be an element in favor of this interpretation. When offered as votive objects in Greek sanctuaries,²⁵ probably they could be used during sacred *symposia*. The recurrence on late Classical southern Italian painted pottery could be explained as a reference to the wine consumption during funerary libation or rites, perhaps even related with late classical Dionysian cults.²⁶ The success of this shape in southern Italy is well attested by some local production, stylistically well characterized, as that attributed to the Peucetia.²⁷

All these bronze vessels, in Greece connected with wine consuming, when found in indigenous burial contexts of the Archaic and early Classical period, often with pottery vessels or *instrumenta* used for cooking meat (*kreagra*, *lebetes*, *obeloi*, etc.), clearly reflect the deceased’s adoption of the Greek style in consuming wine and food. The use and the exhibition of these objects can be seen as expression of wealth and of the wish of feeling

themselves as part of an elite, comparable to the Greek aristocracy, of whom *symposium* was originally expression. The deceased thus qualifies himself as a prominent figure, rich and used to the prestigious social rituals peculiar of the culture then considered as a point of reference. In addition to this interpretation, often suggested by several scholars, it was proposed also that the reference to the banquet, represented mainly by the set of *oenochoe* and basin, could be allusive, at least for southern Italian indigenous people, to the unearthly life, as in the Etruscan world, where in tomb paintings scenes of banqueting have been read not so much as a reference to the wealth and status of the deceased, but as an allusion to the blessed perennial banquet.²⁸ One wonders, however, how plausible are, at least for the Archaic and early Classical period, these modern hypotheses about afterlife conception in southern Italian indigenous societies and how much are believable so sophisticated reconstructions of the meaning, that some associations of materials found in tombs should have. We ask if it isn't more believable from the historical point of view to consider these pieces and the reference to the *symposium* just as expression of the richness of the deceased, of his will to fell part of the Greek culture, for indigenous people represented mainly by precious imported objects, even better if related to the social practice that more than any other characterized the Greek aristocratic society, the banquet followed by the *symposium*. As weapons alluded to the deceased's role as a warrior, the strigils to his acceptance of the athletic model, expression of the Greek *paideia*, and as women's jewels represent their wealth and social status, so, the banquet bronze tableware, Greek but also Etruscan, should reflect richness and high social level, indicated by the adoption (or exhibition) of a truly Greek social ritual, the banquet and the following *symposium*.²⁹ This social and behavioral model, initially linked to the aristocratic world, progressively was extended to all levels of the society, also to the less eminent people of the community, as the Testo development of local, more ordinary productions attests.

In Archaic and Early Classical time, among the indigenous societies of southern Italy, mainly in Apulia and Lucania, and inner Balkans, enough frequent are complete and "ordinary" *symposia* sets of Greek bronze vessels, while in central Europe there are just single, exceptional pieces, as the *krater* from Vix,³⁰ the Graechwill *hydria* and the Hochdorf *lebes*, in all cases the only Greek bronze vessel in each tomb. So, for these areas, it doesn't seem appropriate to think to the adoption of the *symposium* practice, with all its cultural meanings: found in some cases together with Etruscan vessels, these Greek bronze vessels were certainly used as prestigious symbols, in context of local convivial practices, maybe adapted to the local habit of drinking and eating, which could also have in the collective consumption of alcoholic beverages (not necessarily wine) the main moment of social aggregation and celebration of the rituals of power. These precious and exceptional vases, together with rich objects of different kind but always related with the Greek *symposium*, as the more common painted pottery cups or the rare and precious *klinai* with amber and ivory decoration,³¹ can be interpreted as loot from raids or, preferably, as prestigious gifts made by Greek traders to indigenous

chiefs, to favor the regular trades of Greek figured pottery or fine foods, as wine or olive oil, in exchange of metal supplies (rude or metal scraps), slaves, etc.³²

The situation changes significantly starting from the late Classical period: in southern Italy, burial finds show a huge increase in the quantity of the offered objects, in the most rich tombs with hundreds of pieces and a multiplication of examples of the same shape, gorgeous manifestation of wealth, now often combined with the reference to the athletic model (attested by strigils), this too expression of deep acceptance of the Greek *paideia* and culture (fig. 8). If in central Europe we do not have more Greek bronze vessels, in the northern Black Sea area the strict relations with Macedonia, the presence of Greek colonies and the better organization of indigenous settlements increase usage, importation and perhaps local production of bronze and silver vessels in Greek style.³³ In this region, the frequent deposition in burial contexts of basin and *oinochoe* seems to indicate a use conscious of their original meaning in the Greek world.³⁴ The exceptional finds at Peschanoe of a ship cargo with old pieces of different times³⁵ attests that local buyers appreciated Greek products even if they were not updated to the most recent style.

Notes

¹ Tarditi 2007.

² E.g. Matera, tomb 2 of Piazzetta Canosa (Colucci 2009); Braida di Vaglio (Bottini – Setari 2003).

³ E.g. Baragiano, tomb 35 (Russo 2008).

⁴ Reconstruction of funerary assemblage of tomb 103 at Ruvo di Puglia (Montanaro 2007).

⁵ Bottini 2011.

⁶ Tarditi 2016.

⁷ Tarditi 2017.

⁸ E.g. from Conversano, Altamura, Oria (Lo Porto 1996), Bitonto, Rocavecchia, Rudiae (Tarditi 1996, 170), etc.

⁹ Trebenische, t. VI (Filow 1927, 75–76) and at least other six pieces from sites north from there (Stibbe 2003, fig. 73).

¹⁰ Same function had also silver *phialai*, found they too in several contexts: just one from central Europe at Vix (Krausse 2003), rare examples in Italy, at Sirolo (Landolfi 2001, 357) and Filottrano (Rocco 1995), and many examples from some extremely rich Bulgarian treasures, as those of Rogozen, Duvanlii, Basova, etc. (see web site “Bulgaria’s Thracian Heritage”: <www.omda.bg> 26.06.2020) and from burials in modern Ukraine and Southern Russia, as from Soboleva Mogila or Chmyreva Mogila (Treister 2007; Treister 2010), where the Achaemenid influence was stronger.

¹¹ Exceptional pieces from Vix (Rolley 2003), Capua, Ruvo di Puglia (Montanaro 2007), Trebenische (Filow 1927), Martonocha (Tarditi 2019).

¹² *deinos* from Amandola (Tarditi 2007, 27–28) or *lebes* from Hochdorf (Biel 1985).

¹³ E.g. from southern Italian burials (Rutigliano, Cavallino, Valenzano, etc.: Tarditi 1996, 140–142).

¹⁴ See pieces from Sala Consilina Princely Burial or tombs from Rutigliano, Ugento, Cavallino in Southern Italy (Tarditi 1996, 146–149), Trebenischte in inner Balkans (Filow 1927), Lazurtsiv and Myrmekion in Black Sea area (Butyagin – Treister 2006).

¹⁵ Sowder 2009, 327–412.

¹⁶ We can mention the *hydriai* from Sirolo, Castelbellino, Sala Consilina, Randazzo in Italy (bibliography in Tarditi 2007), Trebenischte and Novi Pazar in inner Balkans (Stibbe 2003), Peschanoe from modern Ukraine (Tarditi 2016).

¹⁷ Complete bibliography in Sowder 2009, 512.

¹⁸ Tarditi 2019.

¹⁹ Tarditi 2016.

²⁰ Lavello and Valenzano (Lo Porto 1996, 21).

²¹ Trebenischte, Tomb I (Filow 1927, 74).

²² Ezerovo (Filow 1927, 74, 78, fig. 92).

²³ Tarditi 1996, 172–179; Tarditi 2016, 286–287.

²⁴ Cassimatis 1988, 307.

²⁵ For the many pieces from the Athenian Acropolis, see Tarditi 2016.

²⁶ Krauskopf 1995, 523–526; Schneider Hermann 1962, 43.

²⁷ Tarditi 1996, 175–178, 204.

²⁸ Montanaro 2007, 174.

²⁹ Russo 2013, 247–248; Lippolis 2007, 7 “Con gli oggetti si veicolano anche i comportamenti e a questo proposito associazioni e tipologie possono mostrare le diverse forme di adesione o di adeguamento ai modelli originari”.

³⁰ We can add also the handle’s fragment from the Point Lequin shipwreck near Massalia (Rolley 2003, 84).

³¹ *Kline* in Grafenbühl and fragments of at least other two from two tumulus burials in the same region (Naso 2007).

³² Tarditi 2007; Sheffton 2001.

³³ Treister 2007; Treister 2010.

³⁴ Boltrik et al. 2011, 273–274, figs. 7–8.

³⁵ Ganina 1970; Treister 2010.

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Fig. 1: Tarditi 2016. – Fig. 2: Rolley 2003; Vokotopoulou 1997; Montanaro 2014; exposition “I Balkani”; Skytische Kunst 1986. – Fig. 3: by author; Tarditi 1996; Arti Efesto 2002; Treister 2006; Ganina 1970; Bottini 2013. – Fig. 4: by author; Balkani 2007; Tarditi 1996; Tarditi 2007; Vokotopoulou 1997. – Fig. 5: by author; common licence. – Fig. 6: Tarditi 1996; Montanaro 2007; Stibbe 2003; Arti di Efesto 2002; Filow 1927; Bilimovith 1970. – Fig. 7: MFA, 95.24; Tarditi 2016. – Fig. 8: Tarditi 1996; De Miro 1976; Krauskopf 1995.

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Transport Amphorae

Panel 5.23

Transport Amphorae and the Historical Space: Similarities and Differences in the Distribution of Transport Amphorae in Sicily and South Italy

Rebecca Klug

Transport amphorae are the pottery group most directly connected to ancient trade and the entire ancient economy, for the Greek as well as the Roman world. Though they are not the proper merchandise, they serve as containers of these. By researching the distribution of different amphorae types, it is possible to understand trade relations, trading routes, as well as the increase and decrease of these or of local productions.

One result of Greek colonisation was an increase in trade between Greece and the western Mediterranean region. Sicily and southern Italy serve as examples as Greek colonisation directly influenced both areas. The Greek settlements enforced exchange and contacts between diverse cultures, which is visible in changes in their respective material cultures.

Therefore, I focussed on Greek amphorae found in Greek and non-Greek contexts and the information they give on the type of exchange within the Greek world, as well as the exchange between Greeks and non-Greeks. In addition to trading aspects, inter-cultural aspects and questions also have to be considered.

These matters pose two basic questions. Firstly, which amphorae types arrived in the Greek settlements? Secondly, was there a strong connection with the mother city? Then, a comparison between the cities and the chora – the hinterland used for agricultural purposes – and the non-Greek areas must be undertaken.

The aim of this paper is to summarise the distribution of amphorae types in Greek and non-Greek settlements in Sicily and southern Italy. Furthermore, very few case studies are highlighted.

Distribution of Amphorae Types

Greek Settlements

To answer these questions, amphorae finds from 250 sites were analysed. The distribution of different types, the mixtures at the different sites and different times, and the changes in the 6th century BC show that the relation between mother city and apoikia is less important for the exchange system.¹ Instead, the Corinthian A amphorae is most widely distributed in the Sicilian as well as in the southern Italian cities. Corinthian A amphorae can be found on more than 90% of the researched Greek sites (without farmsteads). This is only comparable with the distribution of the Western Greek amphora type (fig.1).

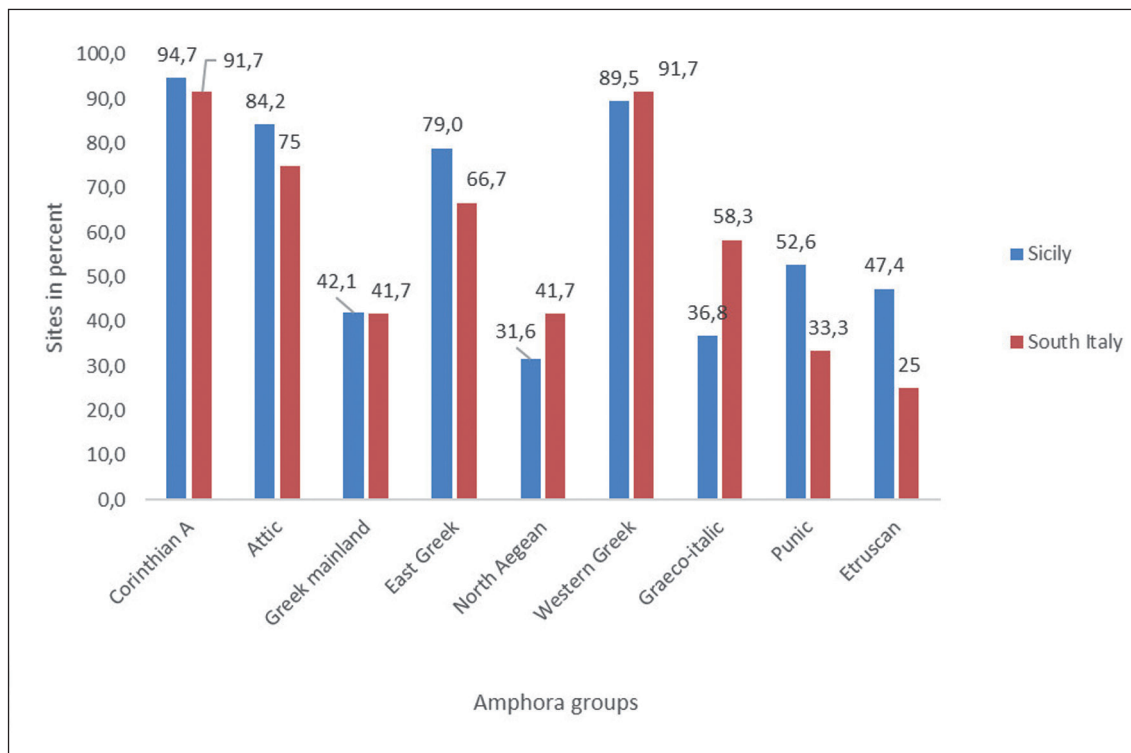


Fig. 1: Distribution of amphorae in Greek sites.

However, other Greek types also are common. Attic amphorae were found on about 84% of the sites in Sicily and 75% in southern Italy, whereas other types from mainland Greece are rather scarce. Comparable with the distribution of the Attic amphorae is the distribution of Eastern Greek types (fig.1).² In combination with the heterogeneous cargo in the ships, the similar composition of the finds on most of the sites shows that the most significant aspect of ancient trade are the so-called tramp-shipping routes. Therefore, the goods and the traders do not necessarily have the same origin. However, this analysis covers only the Greek cities. This general picture changes if we consider the situation inside the chora of the cities. With the much higher number of sites, differences between Sicily and southern Italy are visible. In Sicily, the Corinthian A amphorae and the Western Greek amphorae also are quite comparable. In south Italy, the Western Greek amphorae are distributed across a much wider area.³

Non-Greek Settlements

The analysis of the amphorae assemblages in non-Greek sites gives us another picture (fig. 2). In general, the composition of the finds is more heterogeneous. The Western Greek amphora type seems to be the most important. 75% of the researched sites in southern Italy do have amphorae of this type, but it is present at only 52% of the sites in Sicily. Comparable with the distribution of the Western Greek amphorae in Sicily is

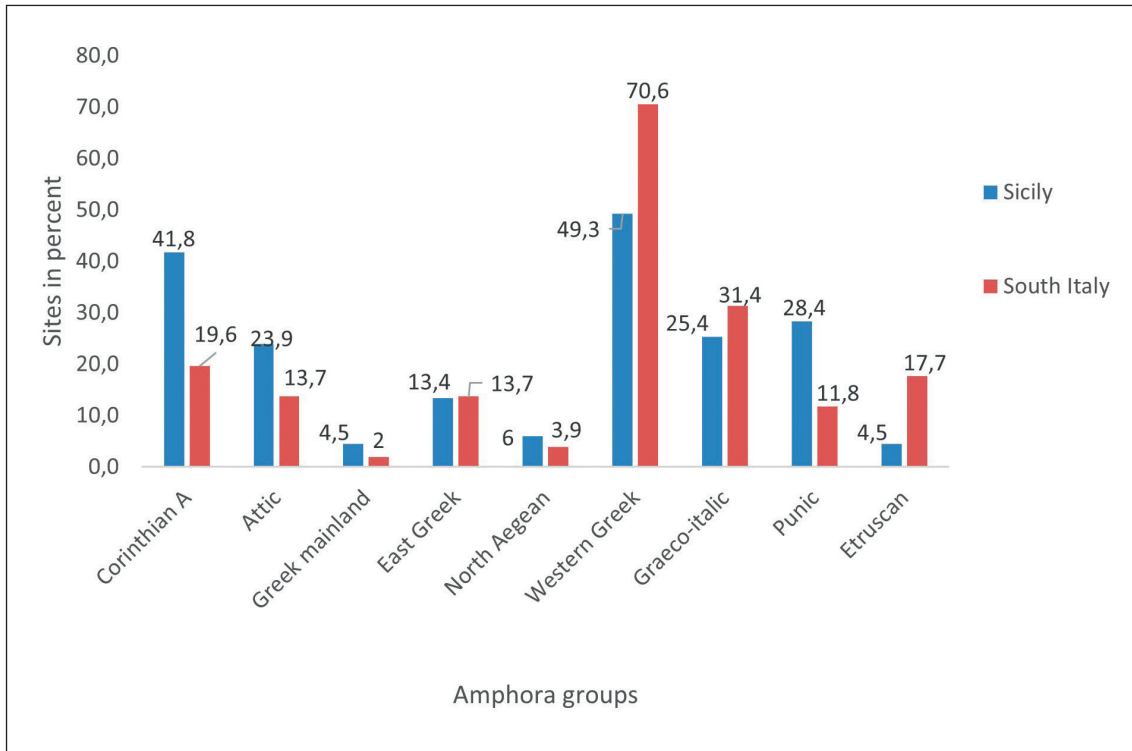


Fig. 2: Distribution of amphorae in non-Greek sites.

the distribution of the Corinthian A amphorae in Sicily, making up almost 50%. However, in southern Italy this type was detected on only 30% of the sites. All other types are less common. Instead, the third important group are the Punic amphorae. Almost one third of the non-Greek sites in Sicily had Punic amphorae. In southern Italy they are less common.

In conclusion, it seems that the Western Greek amphorae are the most common type in the non-Greek areas in Sicily as well as in southern Italy.⁴ The Western Greek amphorae serve as evidence of mainly regional trade. The amphorae types belonging to the Greek mainland and Eastern Greek areas are scarce; the evidence of long-distance trade is therefore scarce as well. The non-Greek settlements seem to have their focus on regional trade and participate less than the Greek cities in long-distance trade. Nevertheless, the non-Greek settlements are closely comparable with the Greek farmsteads; at these sites in Sicily the proportion between Corinthian A and Western Greek amphorae is well balanced, but in southern Italy the Western Greek amphorae are distributed more widely in rural settlements.

Amphorae Assemblages in Different Times: Naxos, Selinus and Cumae

The mixture in the assemblages of amphorae changes over time because of the ending of some types and the development of new types, like the Western Greek amphorae. The beginning of their production dates back to the first half of the 6th century BC.⁵ Already in the second half of the same century these amphorae are present in nearly all Greek and non-Greek settlements.

The ancient necropolis of Naxos is a very good example to show changes in the mixture of amphorae assemblages given its chronological spread. The northern necropolis dates from the 8th century BC to the 6th century BC. Only very few tombs, eleven, are datable to the 8th century BC, but 60 belong to the 7th century BC and another 83 to the 6th century BC.⁶ Not all of these tombs were enchytrimos burials, but more than 50 amphorae were usable for this research. Analysing the necropolis as a whole context, about 30% of the amphorae are imports from the Greek mainland, and 16% are from the Eastern Greek area, mainly the islands. Most amphorae, nearly 50%, belong to the Western Greek production (fig. 3). Nevertheless, it is possible to divide them into 7th and the 6th century BC periods and to compare them.⁷ In the 7th century BC, almost 60% of the amphorae have their origin in the Greek mainland; 14% are of Eastern Greek production and almost 30% are Etruscan.⁸ In contrast, in the 6th century BC more than 60% of the amphorae are of Western Greek production.⁹ The percentage of Eastern Greek

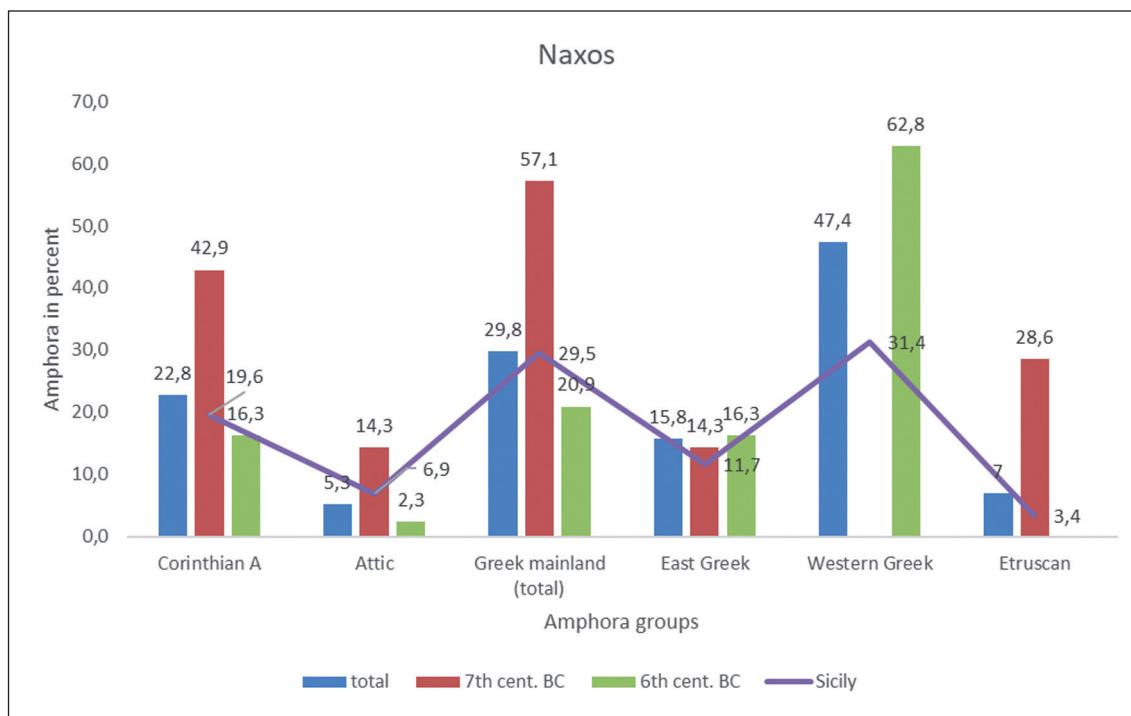


Fig. 3: Amphora assemblage in Naxos.

amphorae is almost the same, but the Greek mainland types, specially the Corinthian A amphorae, comprise only 21%. However, the amount of Greek mainland amphorae is consistent.

To verify that this result is transferable to southern Italy, too, one has to analyse the finds from Cumae. Two contexts datable to the Archaic period were analysed and compared (fig. 4). The first context is datable to the second half of the 7th century until the first half of the 6th century BC, but there are only 21 amphorae detected. The second context consists of 160 amphorae and belongs mainly to the second half of the 6th century BC.¹⁰

In the first context, almost 50% of the amphorae are of Greek mainland origin, mainly Corinthian A. Other types are rather scarce. However, in the second context, Greek mainland amphorae and Western Greek amphorae can be found equally.¹¹

The Naxos and the Cumae case studies show that the Western Greek amphorae are widely distributed already from the beginning of their production. This is evidence for an increase in agricultural production in Magna Grecia and Sicily and therefore for surplus production. However, not only the amount of agricultural production increased during this time, but obviously the quality increased as well. Otherwise, there would be no interest in the goods of the neighbour-cities.

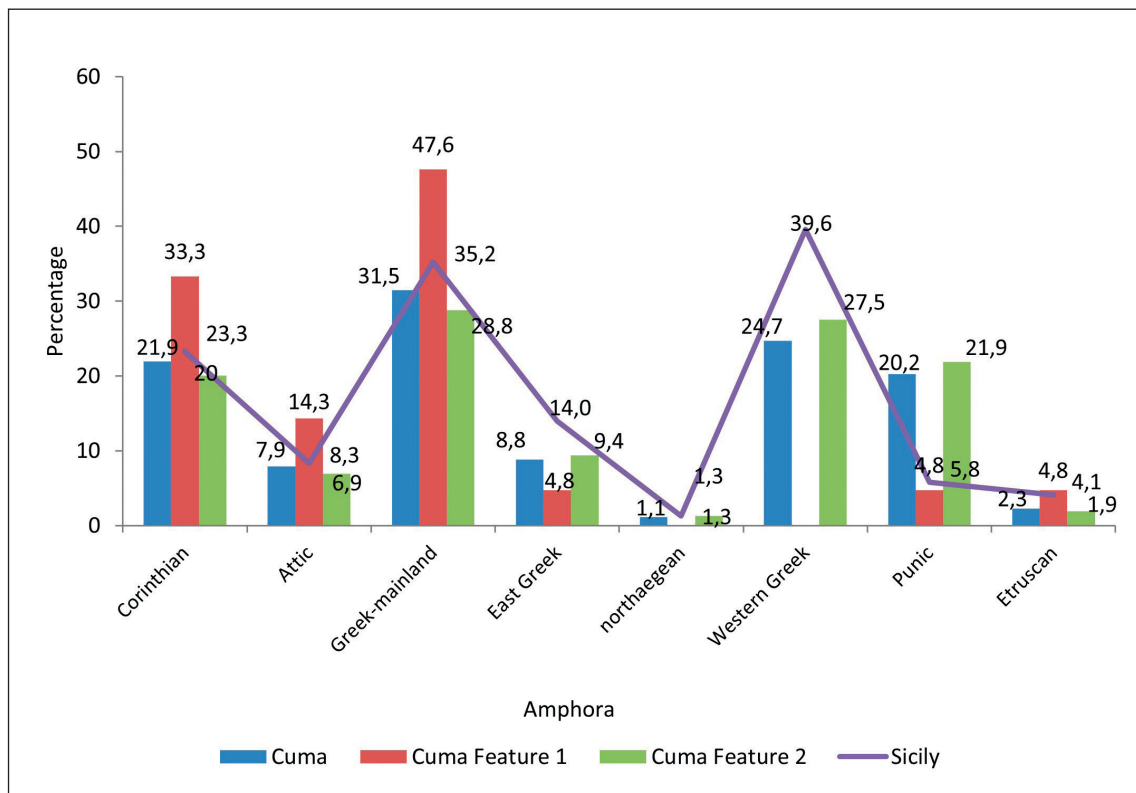


Fig. 4: Amphora assemblage in Cumae.

The amphorae finds from two contexts in Selinus also are comparable (fig. 5). The first is the so-called “Ladenzeile”, which produced 37 amphorae from the first half of the 6th century BC to the middle of the 6th century BC. The main part of the amphorae came from the Greek mainland. Almost 40% belong to the type Corinthian A, and only 3% are Attic. Nearly one quarter of the finds are East Greek in origin and 30% belong to the Western Greek production.¹² The second context dates to the 5th century BC. 91 amphorae were found there, consisting of Greek mainland types, Eastern Greek types, Western Greek production as well as Punic types. The last two groups both have a share of about 34%. Amphorae connected to the Greek mainland in this context have only a share of about 14%, and East Greek production only 11%.¹³ A comparison between these two contexts shows that the import had changed completely in the course of one hundred years. The formerly most important group, the Greek mainland types, played only a minor role in the 5th century. However, this fact cannot be related to a reduced importing of Greek mainland products. Indeed, the number of amphorae with this provenience, as well as of the Eastern Greek areas, does not change. Therefore, the changes in the percentages are not a sign of a declining contact with the Greek mainland, but a sign of an increase regarding local production and other trading contacts. The new trading contexts may be enforced by the Punic settlements in western Sicily or more directly by Carthage itself.

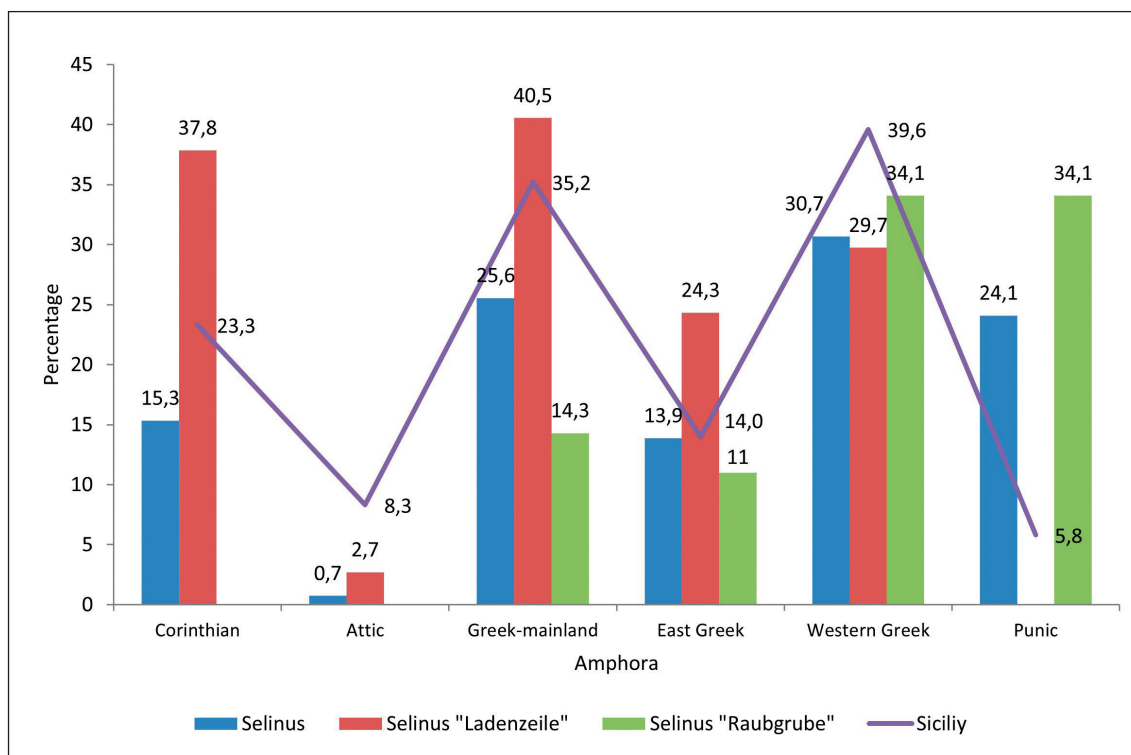


Fig. 5: Amphora assemblage in Selinus.

Himera: City – Necropolis – Territory

To focus more on the title of this paper, Himera is a good case study. It is possible to compare the material from the city with its necropolis and the hinterland – even if the statistical data of the necropolis is not complete. Therefore, the statistical research focuses on the city itself and the hinterland. Almost 190 amphorae of the urban area are published.¹⁴ One third are of Greek-mainland production, mostly from Athens. One quarter is of Western Greek production and another 20% is of Eastern Greek origin. In contrast to the other Greek cities in Sicily, there are only very few Corinthian A amphorae from within the urban centre (fig. 6).¹⁵ However, there are hundreds of these in the two necropoleis. Obviously, the amphorae used for enchytrismos tombs are reused containers from the urban centre. In total, the largest Greek mainland group is therefore, like in nearly all the other cases, the Corinthian A amphorae. Besides these, there are also other types, common types like Western Greek amphorae, but also Punic and some Etruscan amphorae.¹⁶

In the hinterland of ancient Himera, several small sites also have produced amphorae finds. The date and the interpretation of these rural sites is not always clear, but some

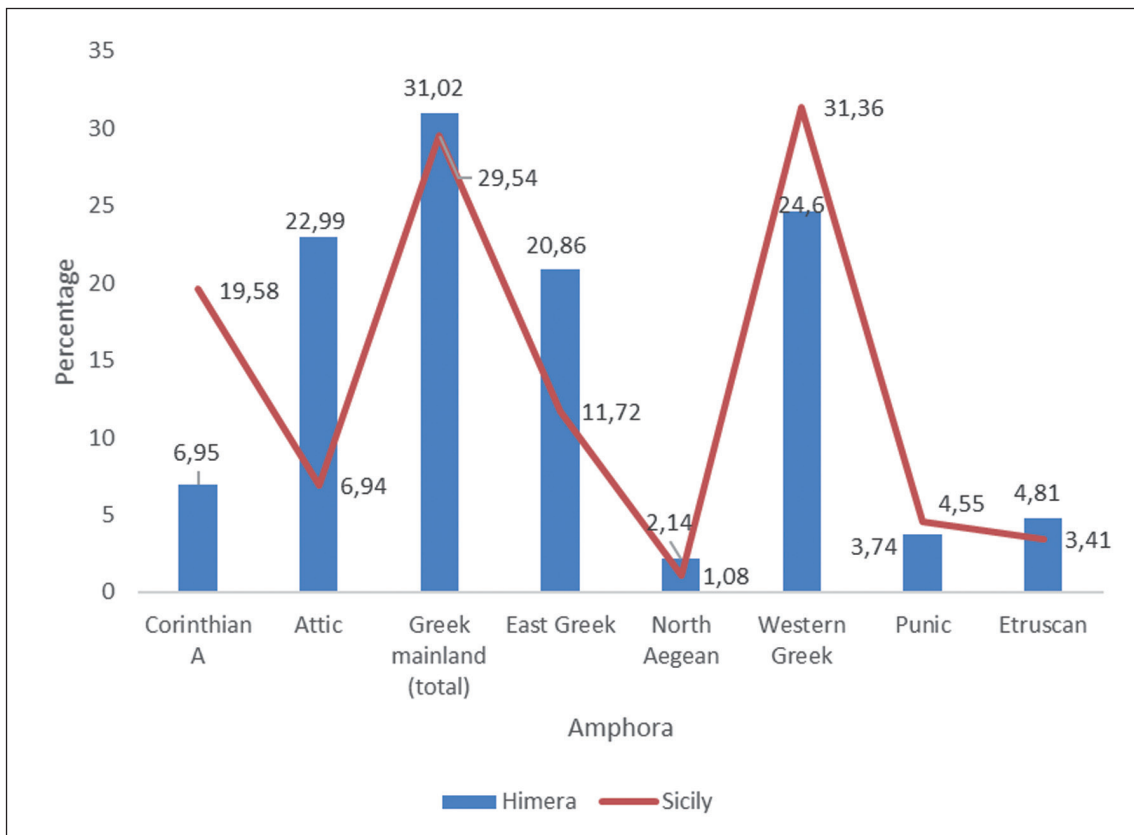


Fig. 6: Amphora assemblage in Himera.

of them can be interpreted as farmsteads. In general, the number of amphorae finds on these sites is rather small and often there is only one type, or sometimes two. 29 sites in the hinterland of Himera were included in this research.¹⁷ The Western Greek amphora type is most common – it was found on 23 sites – followed by Punic amphorae at eight sites. Other types are rather scarce. Indeed, in the hinterland of the Greek cities, the amphorae finds are less heterogeneous. More often there are only one or two types. Only a small part of the imported goods reached the hinterland, unless they were not repacked.

Nevertheless, the unusually small amount of Corinthian A amphorae in the chora of Himera is not explainable, yet. The first idea was to pull together the missing Corinthian A amphorae in the chora with the high amount of this type in the necropolis. But this cannot be the explanation as we will see in Kamarina, where the Corinthian A is dominant in the necropolis as well as in the chora. Maybe it is more probable to think of chronological reasons: the chora of Himera increased over the time,¹⁸ and the number of sites rose. For the Archaic period there are 30 sites known, and amphorae were found at two of them. In contrast, there are 85 sites datable to the Classical period, eleven datable to the Archaic-Classical, 28 to the Classical-Hellenistic, and 48 to the Hellenistic period.¹⁹ In Himera, it is clearly visible that the settled chora is a phenomenon beginning in the Classical period. As we have seen before in Naxos, Cumae and Selinus, the dominance of the Corinthian A amphorae begins to vanish during the sixth century, with the beginning of the Western Greek amphorae production. In the 5th century, the Western Greek amphorae dominate the market. Therefore, the scarce distribution of Corinthian A amphorae in the chora of Himera should not be surprising.

To get a general picture of the amphorae distribution and therefore about the exchange, it seems reasonable to focus on other survey results, to see which amphorae types are more or less common in rural settlements.

Surveys in Comparison: Gela – Agrigento-Hinterland and Kamarina

It is always difficult to compare different survey projects because of different methodologies. Nevertheless, it is possible to compare the results. Therefore, the Gela survey, the Agrigento hinterland survey and the Kamarina survey are closely comparable. This is due to an equal sampling strategy, even if other methods were devised during the last years.

The Gela survey focused on the chora of ancient Gela.²⁰ Greek transport amphorae were found on 74 sites. 490 fragments could be used for a statistical analysis. Most of the fragments belong to Greek mainland types, namely 172 Corinthian A, 130 Attic. But there are almost 170 fragments of Western Greek amphorae found in the chora of Gela. Other types are rather scarce. The Corinthian A amphorae were detectable on 53 sites, whereas the Attic amphorae were on 44 sites, followed by the Western Greek amphorae

on 34 sites. The Corinthian A is therefore more common at the rural sites in the chora of Gela (fig. 7).

The Kamarina survey likewise focused on the chora of an ancient Greek city. This project is still ongoing, and only preliminary results can be presented here. In contrast to Gela, in Kamarina it is possible to compare the results of the survey with the amphorae assemblages in the necropolis. In the urban context there are almost only Hellenistic amphorae found. As a result, the urban context is excluded from our analysis. In the chora of Kamarina, we found Greek transport amphorae on 35 sites. The following types are proven so far: Corinthian A, Attic, East Greek, and Western Greek. 81 of the 117 fragments belong to the Corinthian A production. 16 fragments are Attic, 19 Western Greek, and only one is of Eastern Greek production. As well as in Gela, most of the fragments belong to Corinthian A amphorae. In contrast, there are only a few Western Greek amphorae found so far (fig. 7). As concerns the distribution, when examining the proportion between sites with Corinthian A on the one hand, and Western Greek on the other, Gela and Kamarina are closely comparable. In the chora of Gela, the Corinthian A amphorae were found on 53 sites, and the Western Greek on 34 sites; in the chora of Kamarina, Corinthian A was detectable on 30 sites and the Western Greek on 12 sites. The main differences are visible in the distribution of Attic and East Greek am-

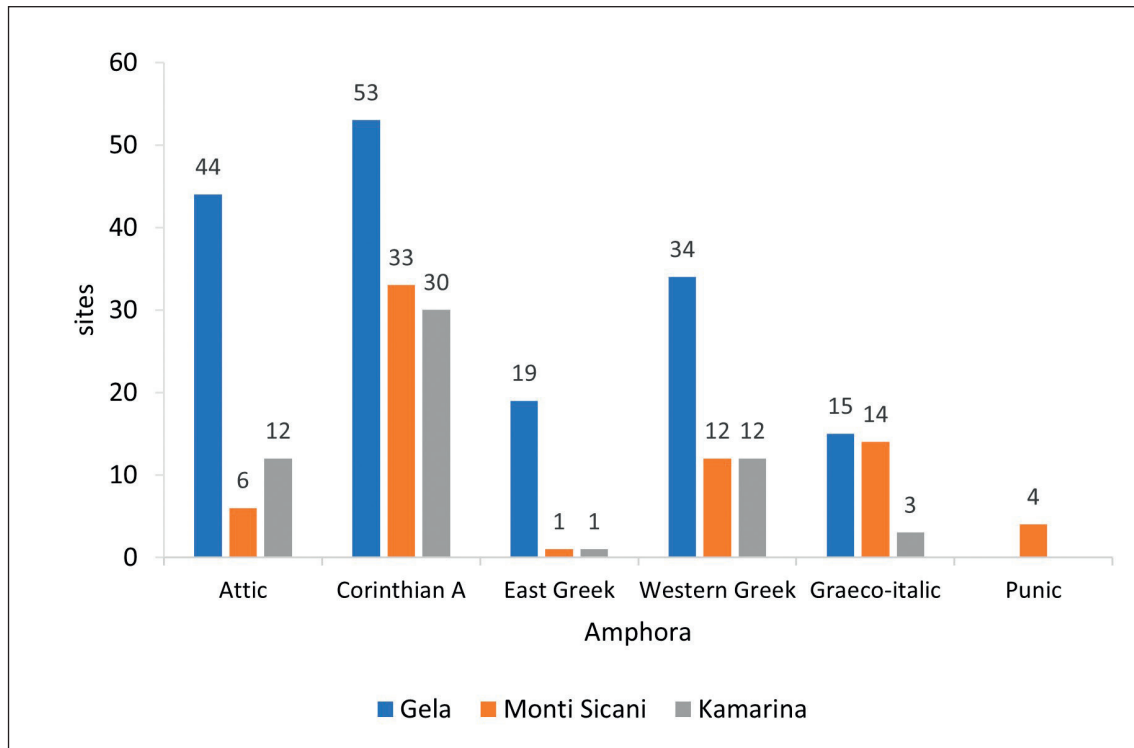


Fig. 7: Amphora distribution in the Gela survey, the Kamarina survey and the Agrigento hinterland survey.

phorae, which are very scarce in the chora of Kamarina. However, we should compare this result with the amphorae found in the necropolis of Kamarina. Most of the tombs in the Rifriscolaro necropolis belong to the 6th century BC, but some are datable to the beginning of the 5th century BC.²¹ There are at least 3476 burials here, with almost 1700 usable for statistical research.²² More than half of the burials are so called Fossa-tombs. Nevertheless, enchytrismoι burials are very common: 34,5% of the burials are in amphorae, and 0,3% in pithoi. In total, these comprise 658 amphorae.²³ Once more, the Corinthian A amphora is the biggest group, with almost one third of the finds, and the Western Greek amphorae make up the second largest group (fig. 8). However, in contrast to the chora, more than 15% of the amphorae found in the necropolis are of Eastern Greek origin. It is clearly visible that the variety amphorae types in the city itself is higher than in the rural sites. The import, particularly imports from far away, are not as common in the chora as in the city.

However, we should focus on the non-Greek areas as well. What does the distribution of amphorae look like beyond the chora? The results of the Agrigento hinterland survey (Monti Sicani) can give some answers.²⁴ The surveyed area covers the territories of Cianciana, Alessandria della Rocca, Bivona and Santo Stefano Quisquina, in total more than 270 km². Greek amphorae are detectable on 46 sites.²⁵ Once more, most of the fragments (94) can be identified as Corinthian A amphorae. They were found on 30 sites (fig. 7). The next group, with 20 fragments on twelve sites, are the Western Greek amphorae, followed by 16 Attic fragments on six sites. There is no difference between the distribution of Greek amphorae types in the non-Greek area and in the Greek area, be-

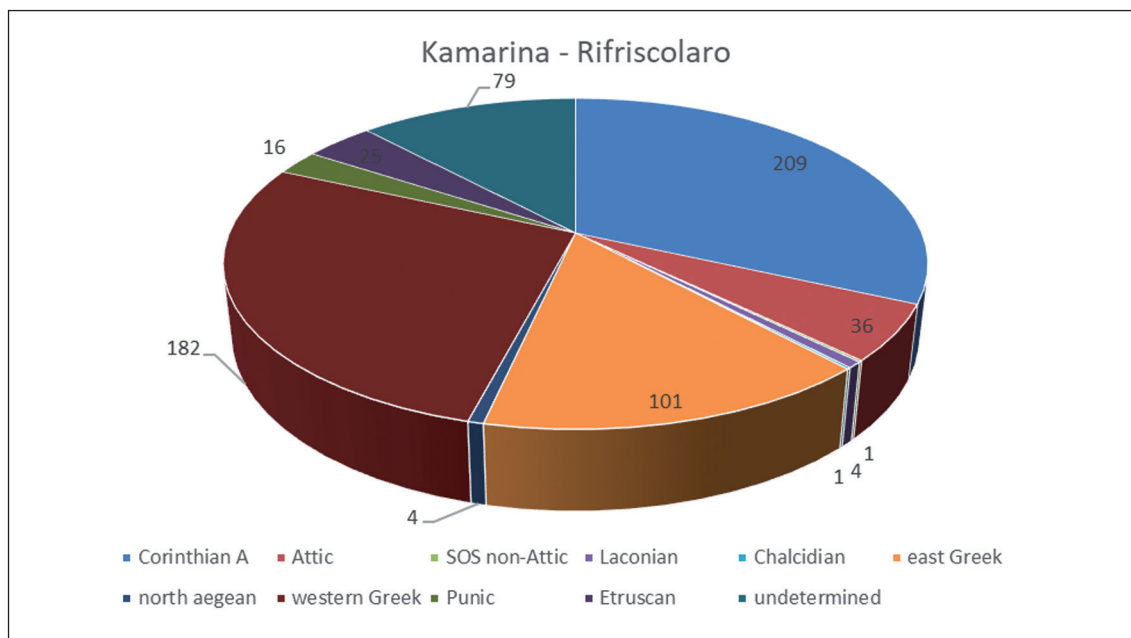


Fig. 8: Amphora assemblage in Kamarina.

sides the site density with Greek amphorae. In Kamarina as well as Monti Sicani there are 30 sites with Corinthian A amphorae and 12 sites with Western Greek amphorae. This seems equal. But, the Survey area in Kamarina covers around 40 km², whereas the area in the Monti Sicani covers 270 km².

Conclusion

After analysing the distribution of amphorae in Sicily and southern Italy, and after focussing on some case studies, a review of the former questions and assumptions seems necessary.

The first question focusses on the amphora types arriving to the Greek cities. More than 250 sites were analysed for this purpose. It is clearly visible that the variety of different amphora types depends predominantly on chronological aspects. In the Greek cities there are normally amphorae of different origins: the Greek mainland, Eastern Greek areas, northern Aegean, Western Greek, as well as Etruscan and Punic types. What differs from case to case is the percentage of each type. This leads us directly to the second question: Is there a special connection to the mother city? Not at all. In general, Corinthian A amphorae are dominant in the 7th and 6th century BC not only in the cities founded by Corinth. Cumae was founded by Euboea as well as Naxos. But there are no amphorae of Euboea detected here. Maybe some of the SOS amphorae are not Attic but Euboean, but this would constitute a rather small number. Otherwise, the comparison between several survey projects has shown that Eastern Greek amphorae are not common in the rural sites, but in the chora of Gela there are at least 19 sites with Eastern Greek amphorae. Half of the fragments belong to Rhodian amphorae. In the face of the founding of Gela, this could be a hint of a stronger connection with Rhodes. But unless there are more cases, this should not be over-interpreted. Therefore, more research is necessary in this case.

Another question was focused on the non-Greek areas. For the rural sites we can say that there are no differences between Greek and non-Greek areas. In both cases, the Corinthian A and the Western Greek types are dominant. This is also true for the non-Greek cities or centres, with the difference being that Western Greek amphorae are more widely distributed there, especially in southern Italy.

Notes

* The Gela-Survey, the Agrigento-Hinterland-Survey and the Kamarina-Survey were conducted by Prof. Dr. Johannes Bergemann, Georg-August-Universität Göttingen. I want to thank him for the possibility to study the material.

¹ Klug 2013, 115–122.

- ² Klug 2013, 100.
³ Klug 2013, 103.
⁴ Klug 2013, 101 f.
⁵ Sourisseau 2009, 185. 189.
⁶ Lentini 1986.
⁷ Klug 2013, 61.
⁸ Lentini 1986, 420 f.; Klug 2013, 61.
⁹ Lentini 1986, 423; Klug 2013, 62.
¹⁰ Savelli 2006.
¹¹ Klug 2013, 81 f.
¹² Dehl-von Kaenel 2003, 438–442.
¹³ Dehl-von Kaenel 2003, 442 f.; Klug 2013, 63.
¹⁴ Vassallo 1993; Daniele 2008; Amico 2008; Badagliacca 2008; Esposito 2008.
¹⁵ Klug 2013, 53–55.
¹⁶ Vassallo 1999; Bechtold – Vassallo 2018.
¹⁷ Klug 2013, 55 f.
¹⁸ Vassallo 1996, 202.
¹⁹ Belvedere 1988, Abb. 198; Belvedere 2002, Abb. 219.
²⁰ Bergemann 2010.
²¹ Sourisseau 2006, 131.
²² Pelagatti 2006, 60 f.
²³ Klug 2013, 57.
²⁴ Bergemann 2020.
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The Trade of Adriatic Wine in the Southern Iberian Peninsula and its Connection with the Economic and Social Transformations in the Context of the Roman Civil Wars¹

Daniel Mateo Corredor

Introduction

Since the last 3rd of the 2nd century BC, coinciding with an important increase of the Italic imports in the Mediterranean, a change occurred in the amphorae used for transporting wine. Greco-Italic amphorae give way to two containers of higher resistance and size. The Dressel 1, produced mainly on the Tyrrhenian coast, but widely imitated in other Mediterranean areas, and the Lamboglia 2, the container in which the wines produced on both shores of the Adriatic coast would be traded.² Both types were produced and traded during more or less the same period, roughly from the last third of the 2nd century until the last quarter of the 1st century BC. This explains their frequent comparison in studies about the trade of Italian wine during the late Republican period. These two amphorae present an unequal distribution in the western and eastern Mediterranean. Traditionally, it has been accepted that Dressel 1 amphorae supplied the western part of the Mediterranean, while the Lamboglia 2 supplied the eastern area, especially in the Aegean, with only a minor presence in the western part.³ Thus, although there is much more information published in the west than in the east, the map published by Lindhagen (fig. 1) shows that the concentration of the remains is much higher in the scarce eastern sites with quantitative data available.

The Lamboglia 2 in the Southern Iberian Peninsula

If the proportional presence of the Lamboglia 2 is analysed in comparison to the Dressel 1, the latter prevails widely in the western Mediterranean, with one exception, the south of the Iberian Peninsula. Here, we find two areas where the presence of the Adriatic type is similar than the evidences of Dressel 1 (fig. 2).⁴

The main area is located in the southeast, where Molina Vidal⁵ already showed that Lamboglia 2 had similar values as Dressel 1 in an area that extends from Cape San Antonio to the Gulf of Mazarrón, with sites like Lucentum,⁶ Ilici, Carthago Nova, and Loma de Herrerías. Recent quantitative amphorae analyses carried out by the author in other sites from Andalucía,⁷ have allowed us to confirm this phenomenon and expand this area to the coasts of Almería; sites like Baria and Abdera reached similar proportions of both types, with 64,4% in Baria and 36,8% in Abdera. Moreover, a similar situation has been identified in the southwestern area, which would extend at least from Baelo to

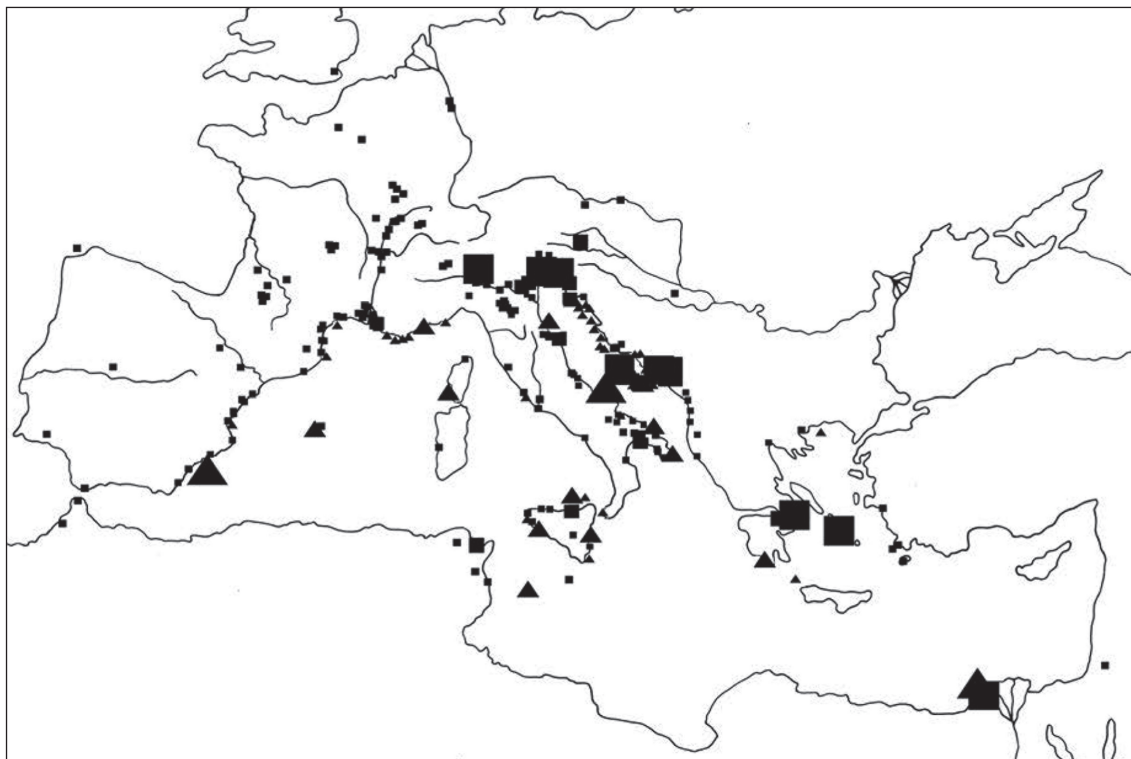


Fig. 1: Distribution map of Lamboglia 2 amphorae. Black squares from smallest to largest: 1–10 finds (or unknown number); 11–50 finds; 51–700 finds. Triangles from smallest to largest (underwater finds): 1–10 finds (or unknown number); 10–100 underwater finds; 100–700 underwater finds.

the mouth of the Guadiana River, and probably much further. Thus, even with a smaller quantity of amphorae, similar proportions are also reached in the assemblages analysed in Baelo, La Algaida, and Baesuri. On the contrary, in the rest of the areas, Adriatic wine has a lower presence, comparable to other parts of the western Mediterranean. In any case, it has been confirmed that the almost total lack of Lamboglia 2 findings in Hispania Ulterior presented in scientific literature was due simply to a gap in research that has been partially filled during the last decade.

A complex trade system was already established during the late Republican period, where routes were selected according to geographical areas. In the model proposed by Nieto Prieto,⁸ this would create a complex port hierarchy connecting the main ports and generate areas around them where the goods were redistributed. In this sense, the unequal distribution of the Adriatic and the Tyrrhenian wine amphorae could be an indicator to suggest the area of influence of the main ports. Thus, following this model, Molina Vidal⁹ proposed that the hinterland of the main port of the southwest, Carthago Nova would extend from Cape San Antonio to at least the Murcia coast. With the information of Baria and Abdera, it can be extended up to an undetermined location on the

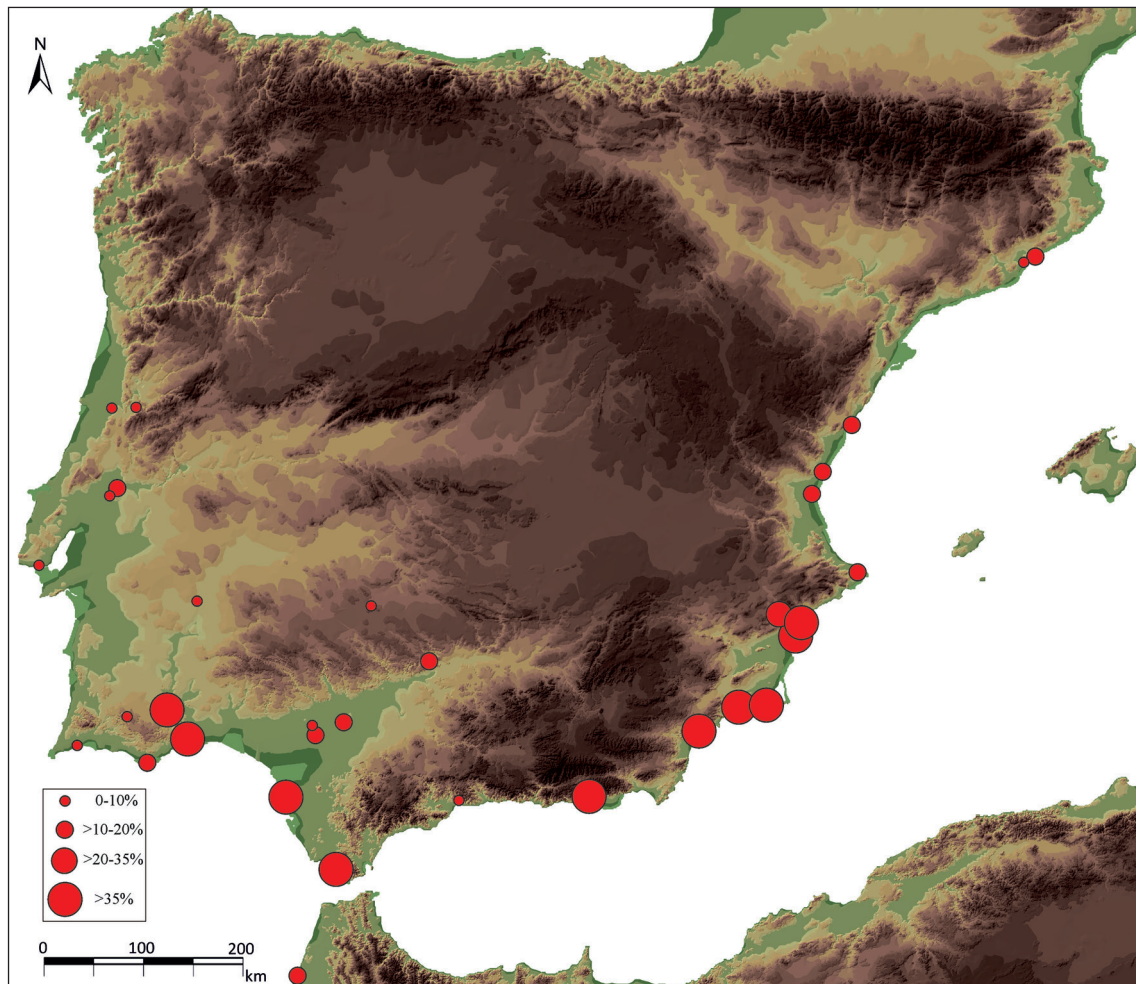


Fig. 2: Map with the proportional weight of the Lamboglia 2 versus Italic Dressel 1 (only with the sites with quantitative information analysed in Molina Vidal 1997 and Mateo Corredor 2016).

coast of Granada. The same indicator allows us to suggest that the hinterland of Gades would extend from the Straits of Gibraltar to Cape San Vicente, but this is based on a lower volume of information.

After demonstrating the unequal distribution of the Lamboglia 2 in comparison with the Dressel 1 in the south of Hispania, now we can examine when the Adriatic amphorae type arrived. This arrival does not seem to have happened continuously during the whole period of the type's production, but is concentrated in a shorter period. I propose that this was around the second and the beginning of the third quarter of the 1st century BC. This is suggested by the major presence of the evolved forms with a squarish rim, instead of the triangular rim (despite the morphological variations of the type). Moreover, Lamboglia 2 tends to appear more often in the same archaeological

contexts as Dressel 1B and C, than with Dressel 1A. In this respect, I am going to analyse some sites of this area, which can provide chronological information.

In ancient Scallabis, whose occupation starts at the end of the 2nd century BC, all the Lamboglia 2 were registered in a context from the second half of the 1st century BC.¹⁰ Likewise, this type is absent in Mata-Filhos in a context dated to the end of the 2nd century BC.¹¹ However, at the nearby site of Myrtilis, a deposit with six Lamboglia 2 appears along with Dressel 1C (some of them from the Guadalquivir Valley);¹² thus, this context could be dated in the second quarter of the 1st century BC. More significant is the late Republican phase of Monte Molião, dated between 130 and 80 BC, which has 59 NMI of Italic amphorae but only limited evidence Lamboglia 2. Of the latter there are only two rims and both are decontextualized.¹³

In the same way, in Baesuri, the Lamboglia 2 are absent in the Forte de São Sebastião, dated to the last third of the 2nd century BC.¹⁴ However, in the Castelo of Castro Marim, where very limited information is available for the first half of the 1st century BC, all the Lamboglia 2 appear in levels of the third quarter of the 1st century BC.¹⁵ In Baelo, the Adriatic wine is absent in the late Republican phase of the southern quarter, which is roughly dated between the 2nd half of the 2nd century and 80 BC.¹⁶ Moreover, in the assemblage from the excavations of 1966,¹⁷ all the Lamboglia 2 findings that I analysed belong to a context dated in the central decades of the 1st century. Within the province, in La Loba,¹⁸ with a well-dated context from the first quarter of the 1st century, there is an important assemblage with 400 amphorae rims. Of these, 82% is from the Italian Peninsula but only three rims (0,83%) are Lamboglia 2, which is too low even if this site is not placed in the preferential area.

In the southeast, we will start by focusing on the chronology of the shipwrecks with Lamboglia 2. The last proposal of Ribera¹⁹ dates the Escombreras 2 wreck between 80 and 60 BC. The only shipwreck in this area in which Lamboglia 2 is the main cargo, is the Punta de Algas.²⁰ For this wreck, it is difficult to establish a precise chronology, but the large presence of black gloss from the late series of Cales, state that the period between 80 and 40 BC as the most likely. Additionally, the San Ferreol²¹ wreck seems to support the continuity of the arrival of the Adriatic wine during the end of the second or third quarter of the 1st century. The case of *Valentia* is very clear. Between its foundation in 138 BC and its destruction by Pompey during the Sertorian Wars, the Lamboglia 2 amphorae appear mainly in layers related with this last episode.²² In fact, the gap in occupation in the following decades after 75 BC could explain the lower percentage of Lamboglia 2 in comparison to the area around Carthago Nova.

Definitively, the available data allows us to propose that the preferential import of the Adriatic wine into the south of the Iberian Peninsula did not happen regularly during the whole period of production of the type. Rather, it was concentrated in a shorter period, probably between 80/75 BC and the beginning of the third quarter of the 1st century BC.

Exploring the Causes behind the Arrival of the Adriatic Wine

In order to find a possible explanation for the high quantity of Adriatic wine arriving on the south-eastern coast of the Iberian Peninsula, Molina Vidal²³ formulated the hypothesis of a connection between the exploitation of Iberian mines and the slave trade of Delos. After the establishment of Delos as a free port in 167 BC, this island soon became the main slave market of the Mediterranean, reaching as many as 10,000 slaves sold in a single day.²⁴ The annexation of Pergamon in 133 accelerated the importance of the eastern market. Tchernia,²⁵ in order to justify the large number of Adriatic amphorae in Delos and in other sites of the east, proposed that both Adriatic wine and oil would serve as an exchange element in the slave markets of the East. Adriatic products would be transported as a return cargo, in a mechanism similar to that which proposed for Tyrrhenian wine in Gaul.

To explain the massive presence of Lamboglia 2 in the hinterland of Carthago Nova, Molina Vidal proposed a relation between the slave trade, Adriatic wines, and the metals from the Iberian southeast. Mainly this was based on Tchernia's hypothesis and the great need of labour force in the mines of Carthago Nova. Ships would depart from the Adriatic coast to Delos loaded with wine and oil, where the slaves would be shipped. A small part of the ships would go to Carthago Nova, directly or after returning to Italy, where they would be loaded with Adriatic wine. In Carthago Nova, they would then unload wine and slaves, and load metals from the Iberian mines.

But the new chronological data available placed the preferential period of the Adriatic wine arrival just at the point when the decline of Delos and the transformations of the east were happening. Thus, the great slave market of Delos decreased during the Mithridatic Wars with episodes like the second sack of Delos in 69 BC, which led to the temporary abandonment of the island. At the same time, the slave trade suffered a great setback after the anti-piracy operations led by Pompey in 67 BC. Linked to both events is the major development of self-consumption of the eastern markets, after years of presence of Italic traders there. This would also affect the Adriatic wine trade in the east.²⁶

In that sense, I would like to highlight that the beginning of this period mainly coincides with the anti-piracy campaign of Pompey the Great, the fall of Delos, and the resulting collapse of the slave trade in the east, to which the trade of Adriatic wine was related. I propose that there might be a relationship between the crisis in the eastern markets and the rise of the Lamboglia 2 in specific western areas, taking up a previous idea of A. Tchernia.²⁷ Due to the limitations of their preferred market, namely the east, trade agents could increase their presence in the west, becoming involved with Tyrrhenian wine and local productions.

The possible connection with Pompey in the production of Adriatic wine²⁸ and the increase of its exports during this period is very suggestive. On the one hand, it is known that Pompey had a great number of land properties in Picenum,²⁹ one of the

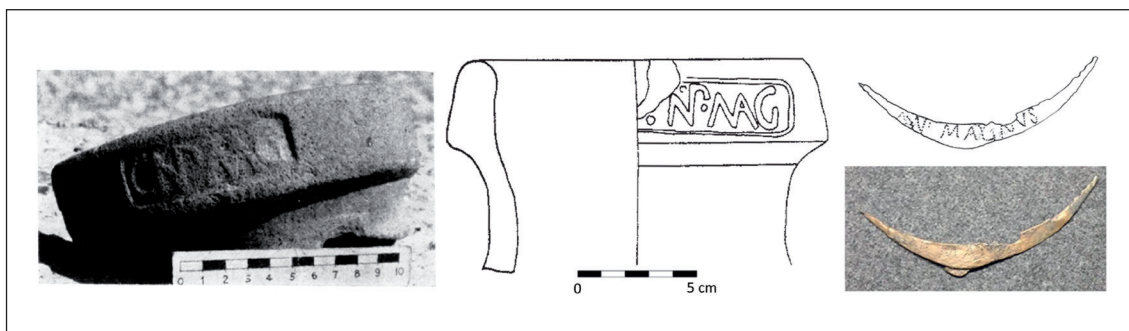


Fig. 3: Left and center: amphorae with the stamps related to Pompey. Right: bracelet with the inscription CNPMAGNUS.

main areas devoted to the wine production. Tchernia proposed that Pompey and already his father Pompeius Estrabo must have played an important role at the beginning of the large-scale commercialisation of Picenian wine;³⁰ this is precisely the area of greater production of Lamboglia 2.³¹ In addition, the link between Pompey, the wine production and Lamboglia 2 amphorae is also supported by two stamps (fig. 3): *CNPMG* from Civitavecchia,³² and *[---]·NP·MAG* found in Pantelaria.³³ The two stamps belong to the Lamboglia 2 type, although the latter was classified as Dressel 1³⁴ due to its Campanian fabric, where in any case, it would have been a minority production of Lamboglia 2.³⁵ Examining the two stamps enables us to deduce its identification with C. Pompeius Magnus.³⁶ The inscription *CNPMAGNUS* on a bronze bracelet found at Capo Rasocolmo reinforces the relationship between the development of the two stamps and Pompey,³⁷ whose cognomen Magnus began to be used after he was sent to Hispania to fight against Sertorius in 77 BC.³⁸

Thus, Pompey arrives in the Iberian Peninsula in the context of the Sertorian Wars (83–72 BC), and his presence in this territory will be constant throughout his career. This period corresponds with the time when the arrival of Lamboglia 2 to the south of the Peninsula reaches its peak. During these years, Pompey developed an important network of clients,³⁹ especially in Celtiberia, but also in cities like Carthago Nova. For example, he had the Cornelii Balbi from Gades among his most famous clients, and he granted them with Roman citizenship for their support during the war (*Cic. Balb.* 3, 6; 17, 38; *Plin. Nat.* 5, 3, 6).

Conclusion

To sum up, it has been analysed that there might be a link between Pompey, the wine production, and Lamboglia 2 amphorae. The chronological coincidence between the period when this type of amphora arrived in higher amounts to the south of the Iberian Peninsula, the presence of Pompey, and the development of his network of clients in

this territory was also highlighted. Altogether, these arguments allow us to suggest the hypothesis that the trade of Adriatic wine reaching the area of southern Hispania could be related to the economic interests of Pompey or his clients. Moreover, Pompey developed an active role in the transformation of the eastern markets with his anti-piracy campaign and other political and military actions. We have seen also that the decline of Adriatic exports in the East could be one of the causes to explain the important arrival of the Lamboglia 2 amphorae to the Iberian Peninsula.

In any case, the current state of the research does not allow us to go beyond pointing out these ideas. On the one hand, there is the leading role played by Pompey in the fall of Eastern trade and his important presence in the south of the Iberian Peninsula after 77 BC. On the other hand is the coincidence with the period when a larger quantity of Lamboglia 2 arrived to Southern Hispania, in whose production and commercialisation Pompey directly participated. In that sense, the hypothesis that is proposed connects and integrates all these factors. However, it is far from being confirmed, largely due to the inherent difficulties when relating archaeological information to historical figures.

Notes

¹ This research has been developed in the context of the projects PGC2018-099843-B-I00 (MCIU/AEI/FEDER, UE), PID2019-107264GB-I00 and GV/2020/060.

² The proposal of Lindhagen 2009, that the main production of Lamboglia 2 was placed along the central Dalmatian coast has been strongly criticised by Panella 2010 and Carre et al. 2014.

³ Tchernia 1986, 68–74; Carandini 1989, 114; Lund 2000.

⁴ Due to the fact that the quantification done by rim counts corrected by MR (Mateo Corredor – Molina Vidal 2016). In fact, the quantity of Adriatic wine was still much higher than the Tyrrhenian one, when one considers that the average capacity of Lamboglia 2 is more than 50% higher than Dressel 1 (37 l vs 23,9 l) (Molina Vidal – Mateo Corredor 2018).

⁵ Molina Vidal 1997, 204; Molina Vidal 2013.

⁶ These values have been confirmed in the study of new contexts from Lucentum (Guilabert et al. 2010; Martínez Martínez – Molina Vidal 2015; Mateo Corredor 2019).

⁷ Mateo Corredor 2016.

⁸ Nieto Prieto 1997.

⁹ Molina Vidal 1997; Molina Vidal 2013.

¹⁰ Bargão 2006, 92.

¹¹ Luís 2003.

¹² Fabião 1987; Mauricio 2007.

¹³ Arruda – Sousa 2013, 107 f.

¹⁴ Arruda – Pereira 2008.

¹⁵ Viegas 2011; Mateo Corredor 2016, n. 244.

¹⁶ Bernal Casasola et al. 2007.

- ¹⁷ Domergue 1973.
¹⁸ Benquet – Olmer 2002.
¹⁹ Ribera i Lacomba 2013.
²⁰ Mas García 1971.
²¹ Mas García 1985.
²² Ribera i Lacomba – Pascual Berlanga 2015.
²³ Molina Vidal 1999.
²⁴ Str. 14, 5, 2.
²⁵ Tchernia 1986, 70–74.
²⁶ Tchernia 1986, 166; Tchernia 2011, 164; Molina Vidal 2002.
²⁷ Tchernia 1986, 166.
²⁸ Amela Valverde 2011.
²⁹ Plut. *Pomp*, 6, 1; Vell. 2, 29, 1.
³⁰ Tchernia 1986, 193.
³¹ Carre et al. 2014.
³² Gianfrotta 1981, 80f.
³³ Baldassari – Fontana 2002.
³⁴ Baldassari – Fontana 2002, 976–978; Manacorda 2005, 139f.
³⁵ Hesnard 1998.
³⁶ Manacorda 2005, 137.
³⁷ Lazzarini 2001; Manacorda 2005, 138f.
³⁸ Plutarco *Pomp*. 13, 7, 10.
³⁹ *Vid.* Amela Valverde 2003.

Image Credits

Fig. 1: Lindhagen 2009, fig. 4. – Fig. 2: by the author. – Fig. 3: Left and center: Gianfrotta 1981; Baldassari – Fontana 2002. Right: Manacorda 2005; www.nauticareport.it.

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Trade and Institution from Alexandria to Rome: The Amphorae from Pompeii

Daniel J. Martín-Arroyo Sánchez

Introduction

Concerning the main lines of research in the EPNet Project,¹ one of the aims is to increase our knowledge on the trade dynamics by systematizing the study of the *tituli picti* from a wide range of amphorae. At the beginning of our work, the specialized CEIPAC Database was mostly composed of objects with stamps. Amphorae with *tituli* comprised just 14%. Most of them were attested in olive oil-amphorae from Baetica and Africa Proconsularis. In order to study the trade of other contents, such as wine and fish-based products, we must increase the amount of available data pertaining to other amphorae types. In that sense, we are incorporating the *tituli* from the fourth volume of the *Corpus Inscriptionum Latinarum* (*CIL*) to the CEIPAC Database. These *tituli* were attested on the pots from Pompeii and its surrounding archaeological context, generated by the eruption of the Vesuvius in 79 AD. In that way, we can duplicate the amount of available *tituli* for amphorae other than those that carried olive oil.²

The *CIL* has provided 2576 artefacts with *tituli picti*. The main recorded amphorae types are shown in figure 1. Central spots in the figure indicate the geographical provenance of these amphorae. In the case of the form Pompeii 12 (PO12), equivalent to the Dressel 2–4, the wide dispersion of sites of production is here reduced to one point in the Campanian region. The surrounding circles indicate the number of recorded amphorae with *tituli picti*. In the case of the PO12, some amphorae that were more recently reclassified as Dressel 2–4³ have been included in the total amount. In the case of the PO8, amphorae reclassified as Crétoise 2⁴ are included too, as well as other records from different parts of the Roman Empire.⁵ The amount of the PO7, a container for fish-based products is scantier. The olive-oil amphora PO11 also is quite reduced. The rest of them are wine amphorae. Some of the PO12 probably were Eastern in origin. PO13 probably contained the sweet wine known as *passum* or *γλυκός*. This wine was likely the most frequent content of the PO8 and 10.⁶ These amphorae were classified with the help of the table I *Vasorum Formae* in the *CIL* IV, before the current typological standards were defined. Under the PO10 shape, several current types were classified, most of them being Cretan amphorae types.⁷ The set of the PO8 fits quite accurately with the Cretan type 2,⁸ and it is the most outstanding.

For this reason, the current research focuses on the homogeneous and large set of the PO8 by following different research strategies, as explained in previous papers.⁹ Within this research, the specific goal of this paper is to provide a documentary base for the study case of the Tiberii Claudii, a familiar group frequently attested in the *tituli picti*, especially on the PO8. Its existence has been highlighted by the historiography on

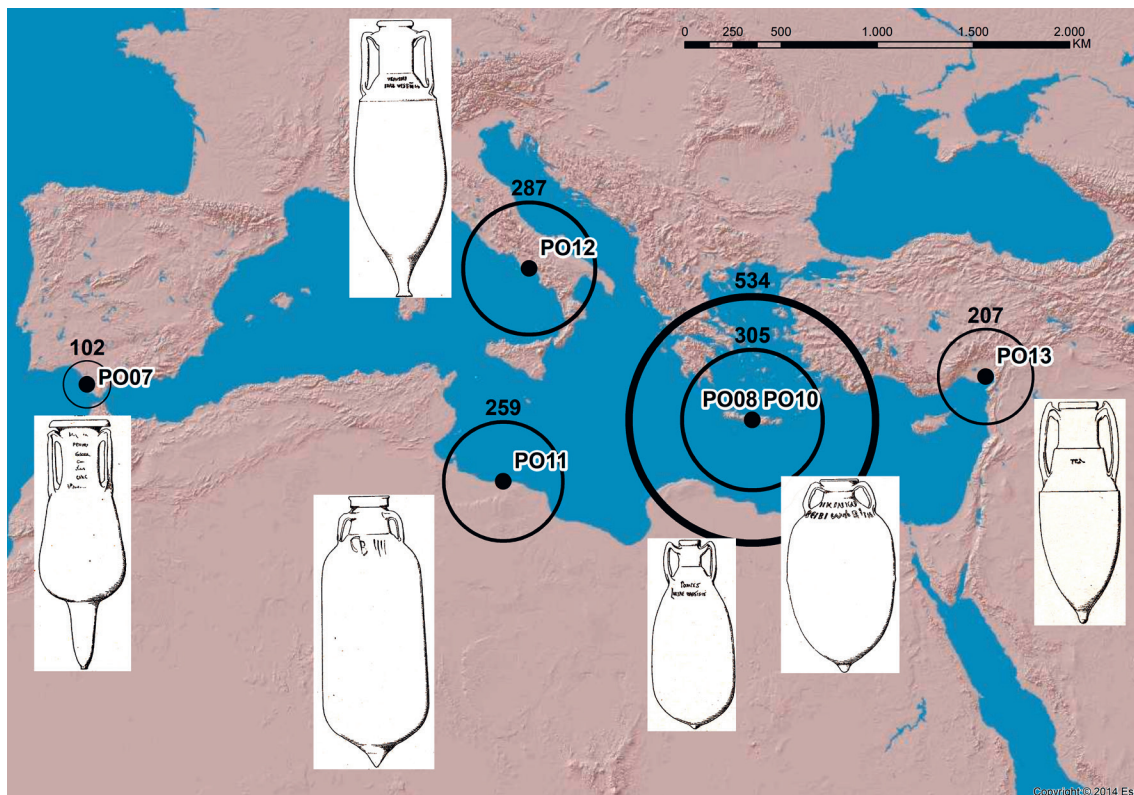


Fig. 1: The more recorded amphorae types in the EPNNet Database for CEIPAC. Central productive locations and quantitative representation of amphorae by type.

Pompeian amphorae¹⁰ and Cretan wine.¹¹ This is particularly because they could have been Imperial freedmen,¹² so they could show in a certain way how public and private business were intimately related to Roman politics and economy. However, a full understanding of who these people were and what their role was requires a detailed examination of the evidence as well as an open list of the possible historical explanations.¹³

Furthermore, the abundance of Cretan amphorae in Pompeii is regarded as evidence of the special involvement of Cretan wine in the grain-supply route from Alexandria to Rome, and particularly with the stopover in Puteoli, as the neighbouring city of Pompeii. The payment of *vectigalia* from the Cretan *praefectura* of Capua, another neighbouring city of Pompeii, has been considered as an alternative hypothesis for the mentioned abundance.¹⁴ Consequently, research on the identity of the Tiberii Claudii and their role in Cretan wine can help to understand the commercial success of this product and its relationship with Roman institutions.

Sources and Methodology

The *tituli picti* on the Tiberii Claudii have been compiled by different authors in the main tome and the *supplementa* to the fourth volume of the *CIL* from 1871 to 1970. In addition, there are other contributions to this corpus.¹⁵ These inscriptions were recorded as transcriptions and tracings.¹⁶

Previous evidence and its record conditioned the following transcriptions and readings, for example, in the case of Tiberius Claudius Secundus.¹⁷ The use of abbreviations and initials increases the difficulties. Examples have been selected that report the full or practically full names and the most evident abbreviations and initials. Those that contain the sequence *Ti. Cl.*, or its Greek equivalent *Ti. Κλ.*, have been accepted as valid abbreviations or initials. Occasionally, the omission of the characters *I(ai)*, *I(iota)*, *L(el)*, or Λ (lambda) has been accepted, especially when there are parallel *tituli* in which these characters appear or the corresponding *cognomina* match. For example, see the cases *Ti. C. O.* and *T. C. O.* in the cluster of signatures in number 18. See also the related cluster 19 for Ti. Claudius Orpheus (fig. 2, column B).

The resulting list provides 106 objects with inscriptions (fig. 2); 104 of them are *tituli picti* on ceramic pots (mostly amphorae).¹⁸ Two of them are stamps on building materials.¹⁹ Other *tituli* concern the *gens* Claudia.²⁰ Some of them are without a recorded *praenomen*, so they could have been Tiberii Claudii too. Although proposed to be [TI(berii)] CLAVDI/ALEXANDRI, the *praenomen* cannot be clearly read in the fragmented amphora Dressel 12 found in Ephesus. Its archaeological context dates from the later years in the reign of Augustus to the reign of Tiberius, perhaps even to the reign of Claudius.²¹ The name Ti. Claudius Nobilis is recorded in some *tituli* beta on Dressel 20. They have been dated from 145 to 161 AD,²² and from 174 AD.²³ Tiberius Claudius Nobilis is recorded in an inscription from Baalbek (Syria), but it is difficult to rely on eastern people for the trade of Baetican Dressel 20 amphorae to Rome.²⁴ Regarding the dates and provenance of these amphorae, Ti. Claudius Nobilis has been excluded from the list of Tiberii Claudii in this study. Within the general group of Claudii, some names were written on Cretan amphorae found in Rome and Ostia.²⁵ These are interesting data regarding the spatial and chronologic spread of the Claudii's activities related to the Cretan wine.

Within the group of the Tiberii Claudii, initials and abbreviations allow us to define 43 signatures (fig. 2, column B). Given the different manners of writing a name, signatures could attest to different individuals. A difference within the clusters of signatures 1 and 2 could be stated by the use of the Greek and Latin alphabets respectively. The degree of abbreviation in the *cognomina* is especially relevant. For example, regarding the case of object number 5 (cluster 3), the *cognomen* A. could be Anicetus, Antiochus, Anθ., or Atimetus (clusters 4 to 7). Some signatures have been established after transcriptions offered by the *CIL*, as in cluster 6. Minor differences in the way of writing the names are included as the same signature when the completeness of the *tituli* allows it

A	B	C	COGNOMEN	INSCRIPTION	REFERENCE	TYPE
1	1		...	Tl. Κλ(---)	10887	AMP
2	2		...	T. I. C. && Ti. C.	6198	PO10
3			...	T. C.	G-C 1991, 321–322	PO14
4			...	T. C.	G-C 1991, 389	PO04
5	3		A.	T. C. A.	9510	AMP
6	4	1	Anicetus	Ti. · Cl(audi-) · Anicet[1]	5805	PO08
7			Anicetus	Ti. Cl. Aniceti	6930	PO36
8			Anicetus/ Antiochus	Ti. · Cl(audi-) · An[i](icet-) && An[t](ioch-)	5806	PO08
9	5	2	Antiochus	Ti. Cl(audi) Anti(ochi)	5751	PO11
10	6	3	Anθ.	T. Cl. · An^θ.	9315	DR2–4
11			Anθ.	T. Cla^u^pi / A^n^θii	9483	PO14
12			Anθ.	Ti. · Claudi · A^f[---]	9484	AMP
13			Anθ.	Ti. · C[l]au(di) A[nt]p. && Ti. Κλαυ(διου) Αρ(ιστοτελλους)	9485	CR2A
14	7	4	Atimetus	Ti. Cl. Atimeti	10736	AMP
15	8	5	C.	T. I. C. · C. && Ti. C. · C.	6199	PO08
16	9	6	D...	Ti. Cl. D[l][---] && DL[---]	5523	PO12
17	10		E.	Ti. C. E.	9424	PO11
18	11	7	Eutychus	Ti'. · Claudi E'ut[y]c(h).	10326	PO10
19	12	8	Evenus	Ti. H. && Tib. / Cl. · Eveni	10772	AMP
20			Evenus	T'i. · Cl'audi Eu[liodi] && Evi[---]	5807	AMP

Fig. 2: List of objects (A) with regards to the number of signatures (B) and the minimum amount of resulting *cognomina* (C). Conservation of the *tituli picti* after the CEIPAC rules of transcription. References to *CIL* IV. Typology of objects: *ignotae* (IGN), *tegula* (TEG), ceramic pot (CER), amphorae (AMP), amphora types Pompeii (PO), Dressel (DR), and Crétoise (CR).

A	B	C	COGNOMEN	INSCRIPTION	REFERENCE	TYPE
21	13	9	Ha.	T. C. / Ha.	9643	PO10
22	14	10	I.	Ti. I. Cli.	10324	PO08
23	15	11	L. B. (?)	Ti. Claudi- / L. B.	5803	PO13
24	16		M. (?)	T. · C. V. ^M. && T. · C ^L. ^M.	6226	AMP
25	17	12	Moschus	ticisimesch && Ti. CisiMcschi	2632	CER
26	18		O.	T. I. C. O. && Ti. C. O.	6196a	PO13
27			O.	T. I. C. O. && Ti. C. O.	6196b	PO13
28			O.	T. C. O.	6197a	AMP
29			O.	T. C. O.	6197b	AMP
30			O.	T(i). C. O.	6341a	PO13
31			O.	T(i). C. O.	6341b	PO13
32			O.	Ti. C. O.	6500	PO13
33			O. (?)	cccc && CCCC	6354	PO08
34			O. (?)	c[c]cc && C[C]CC && Ti. C. [O.]	6355	PO08
35	19	13	Orpheus	Ti'. Claudi' Orp<h>ei' / vect(ura) ·	5894	PO31
36	20		P.	Ti. C. P.	10325	PO08
37			P.	Ti. · C. P.	9487	PO08
38	21	14	Pa.	T. · C. · Pa. && Ti. C. · Pa.	9511	PO13
39	22	15	Potiscus	TI·CLA·POTISCI·	G-C 1991, 151	TEG
40			Potiscus	TI CLAVDI AVG·L·POTISCI	G-C 1991, 170	IGN
41	23	16	Sim.	Ti. Cl(aud-) Sim(il-) && Sim(pl-)	5809	PO10
42	24	17	So.	Ti. · Ci. · So.	10327	AMP

Fig. 2 (continued)

A	B	C	COGNOMEN	INSCRIPTION	REFERENCE	TYPE
43			So.	Ti. · Ci. · So.	10327a	PO11
44			So.	Ti. Cl. [T]o.	5808	AMP
45			So.	Ti. Cl. So.	9319	PO09
46			So.	Ti. Cl. So.	9425	AMP
47			So.	Ti. · Cl. · So.	G-C 1991, 208–210	PO11
48			So...	Ti. · Cl(aud-) So[---]	5760	AMP
49	25	18	T.	τιςτ[---]	10897	AMP
50			T.	Ti. C. · T.	9488	PO11
51			T.	T. C. T. && P. C. T.	9512	PO08
52	26	19	V.	tic · lam && Ti. · Clau[dii] V[eri]	2631	CER
53	27	20	αινεικου (Αινειος?)	Ti. Κλα(---) / αινεικου	5535	PO37
54	28	21	Ανα[---]	Ti. K. / Ανα[---] && Αναρ[---]	6992	PO08
55	29		αναυκας	Ti. K(---) / αναυκας	10436	PO08
56	30	22	Ανικητος	Ti. K. / Αν{ε}ικητω	10437	PO08
57	31	23	Αντιμιος	Τ'ι' · Κ' / Αντιμιω	10438	PO08
58	32	24	Αντιοκος	Ti. / Κλα(---) / Αντιοκου	9760	PO08
59	33		Αντιοχος	(Ti.) Κ'(λαυδιου) Α'ν'τ'ι'οχ'ου'	10439a	PO08
60			Αντιοχος	(Ti.) Κ'(λαυδιου) Α'ν'τ'ι'οχ'ου'	10439b	PO08
61			Αντιοχος	(Ti.) Κ'(λαυδιου) Α'ν'τ'ι'οχ'ου'	10439c	PO08
62			Αντιοχος	(Ti.) Κ'(λαυδιου) Α'ν'τ'ι'οχ'ου'	10439d	PO08
63			Αντιοχος	(Ti.) Κ'(λαυδιου) Α'ν'τ'ι'οχ'ου'	10439e	PO08
64	34	25	Αντιφιλος	Ti. K. / Α[v][---]φ'ιλο[-]	6405	PO08
65	35	26	απαρολα	Ti. · Κ(---) · / Απαρολα	10440a	PO08

Fig. 2 (continued)

A	B	C	COGNOMEN	INSCRIPTION	REFERENCE	TYPE
66			απαρολα	Τι. · Κ(---) · / Απαρολα	10440b	PO08
67			απαρολα	Τι. · Κ(---) · / Απαρολα	10440c	PO08
68			απαρολα	Τι. Κ(---) Α[παρολα]	10440d	PO08
69			απαροχα	Τι. · Κ. · / Απαρ'οχα	6406a	PO08
70			απαροχα	Τι. · Κ. · / Απαρ'οχα	6406b	PO08
71			απαροχα	Τι. · Κ. · / Απαρ'οχα	6406c	PO08
72			απαροχα	Τι. · Κ. · / Απαρ'οχα	6406d	PO08
73	36	27	Αριστοτελης	Τι. Κλαυδίου / Αριστοτελους	9763	CR1A
74	37	28	Επαφροδιτος	Τι. Κ[λ][---] / Επαφροδιτου	10443	PO08
75			Επαφροδιτος	Τι. Κ(λ)[---] / Επαφ[ρο]διτου	10444a	PO08
76			Επαφροδιτος	Τι. Κ(λ)[---] / Επαφρο[δ]ιτο[υ]	10444b	PO08
77			Επαφροδιτος	Τι. Κ(λ)[---] / Επαφροδιτου	10444c	PO08
78			Επαφροδιτος	Τι. Κ. / Επαφροδ{ε}ιτου	10889a	PO08
79			Επαφροδιτος	Τι. Κ. / Επαφροδ{ε}ιτου	10889b	PO08
80			Επαφροδιτος	Τι. Κ. / Επαφροδ[ιτου]	10890	AMP
81			Επαφροδιτος	Τι. Κ(λαυδίου) · Επαφροδιτου	5942	PO08
82			Επαφροδιτος	Τι. Κ. / Επαφ'ρ'οδιτου	6408a	PO08
83			Επαφροδιτος	Τι. Κ. / Επαφ'ρ'οδιτου	6408b	PO08
84			Επαφροδιτος	Τι. Κ. / Επαφ'ρ'οδιτου	6408c	PO08
85			Επαφροδιτος	Τι. Κ. / Επαφ'ρ'οδιτου	6408d	PO08
86			Επαφροδιτος	Τι. Κ. / Επαφ'ρ'οδιτου	6408e	PO08
87			Επαφροδιτος	Τι. Κ. / Επαφ'ρ'οδιτου	6408f	PO08
88			Επαφροδιτος	Τι. Κ(λαυδίου) / Έπαφροδίτου	9764	PO08
89			Επαφροδιτος	Έπαφροδίτου	9765	PO08

Fig. 2 (continued)

A	B	C	COGNOMEN	INSCRIPTION	REFERENCE	TYPE
90	38	29	ετασεμεσα	ΤΙΗ && Τιη(---) / Κλετα·σεμ[ε]α	6994	PO36?
91	39	30	Κακκιανος	Κακκιανυ(ς) && Κακκιαν(ο)υ / Τι. Κλαυδιου && Τι. Κλαυδιος	Marangou-Lerat 1995, P29	CR2B
92	40	31	Μι...	Τ && Τ(ι.) Κ(λαυδίου) / μι[---] && Μι[---]	9766	PO10
93	41	32	Ο. Α.	Τι. · Κ. / Ο. Α.	G-C 1991, 420–421	PO08
94	42	33	Σεκουνδος	ΤΙΗ && Τιη(---) / Κλ. Σεκουν(δ-)	10891	AMP
95			Σεκουνδος	[Τιβ. / Κλ. Σε]κο[υνδ-]	2672	PO08
96			Σεκουνδος	Τιβ. / Κλ. · Σεκ[ουνδ-]	2673; 6430	PO08
97			Σεκουνδος	Τιβ. / Κλ. Σε[κουνδ-]	2674; 6431	PO08
98			Σεκουνδος	ΤΙΗ && Τιη(---) / Κλ. · Σεκουνδ-	5920; 6432	PO08
99			Σεκουνδος	ΤΙΗ && Τιη(---) / Κλ. Σεκο(υνδ-)	6433	PO08
100			Σεκουνδος	ΤΙΗ && Τιη(---) / Κλ. · Σεκο(υ) ν[δ-]	6434	PO08
101			Σεκουνδος	ΤΙΗ && Τιη(---) / Κλ. Σε[κουνδ-]	6435	PO08
102			Σεκουνδος	ΤΙΗ && Τιη(---) / Κλ. Σεκο[υν] δ-	6436	PO08
103			Σεκουνδος	Τιβ. / Κλ. · Σεκουν(δ-)	6437	PO08
104			Σεκουνδος	ΤΙΗ && Τιη(---) / Κλ. · Σεκουν(δ-)	6947	PO08
105			Σεκουνδος	ΤΙΗ && Τιη(---) / Κλ. · Σεκουνδ-	9767	AMP
106	43	34	Σκιου.	Τι. Κλλυδιο(υ) ...λ Σκιου.	G-C 1991, 290–291	PO08

Fig. 2 (continued)

(cluster 42), or when it is suggested in the consulted bibliography (cluster 17). For object 95, the very partial preservation of the *titulus* regarding the name Tiberius Claudius Secundus is compensated by the epigraphic context. In such a way, the red *titulus C · V · FRE* appears also in objects 96 to 98.

The identification of other names depends on how the inscription is understood. For example, *tria nomina* divided in two lines are found in the clusters 12 and 13. In the first case, the *praenomen* is isolated and it could be transcribed as *Ti. H.* or *Tib.* If the first transcription is accepted, the relationship with the *nomen Cl(audius)* can be refused. However, the letter beta in Tιβ. is often transcribed as H (aith) or H/Η (eta). In that sense, see also the clusters 38 and 42. Another option is a transcription as the Greek number TIH (315). Furthermore, just one name recorded in the version online for the *Lexicon of Greek Personal Names (LGPN)* starts with Tιη.²⁶ Thus the hypothesis of the *praenomen* Tiberius for these Latin inscriptions can be supported. In clusters 15 and 41, the separation of *praenomen-nomen* and the initials of a hypothetic double *cognomen L. B.* and *O. A.* could be proposed. However, sometimes *praenomen* and *nomen* can appear without *cognomen*, as observed in clusters 1 and 2. Such doubts and others concerning the preservation and trace of some letters (objects 24, 33 and 34), or the identification of names (object 53) are highlighted in the column *Cognomen* by question marks (?). Some Greek names have been transcribed without initial capital letters in the column *Cognomen* (clusters 29, 35, and 38) because any related record has been found in the *LGPN* online.

Names were normally written in a genitive form but dative forms can be found occasionally (clusters 30 and 31). Additional information has been added for objects 35 and 40. In the first case, the genitive form refers to the *vectura*, the transportation of the related merchandise. Tiberius Claudius Orpheus was involved as a *vector* in the trade of grain, as recorded in an eastern shaped pot (PO31) containing a sample of such type of cargo.²⁷ In the second case, relevant information about the social status of Tiberius Claudius Potiscus is given by the abbreviated idiom *Aug(usti) l(ibertus)*.

The inscriptions in the column *Inscription* (fig. 2) have been recorded by following the transcription rules from the CEIPAC database. They reproduce alternative transcriptions of the *tituli* (&&) proposed by the authors of the *CIL* or the author of this study; some interpretations as personal names were noted in the *CIL* commentaries of the related inscriptions. The resulting list is open to the criticism and the refutation or corroboration of the proposed *nomina* and abbreviated forms.

Results

The minimum number of resulting *cognomina* is 34 (see fig. 2, column C). For such calculation, inscriptions without *cognomina* (objects 1 to 4) have been excluded. Inscriptions with abbreviated *cognomina* also have been excluded when it is possible to

identify them with another more completely written *cognomen*. Previously, Łos compiled 22 Tiberii Claudii, more than 25% within his list of Roman citizens mentioned on amphorae, and 21 among these produced Greek *cognomina*.²⁸ The aforementioned 34 *cognomina* are an astonishing number, as other Roman *gentes* are recorded by two or three individuals on a small quantity of inscriptions. For example, see the *nomina* Annius, Antonius, Epidius, Licinius and Stablorius in Łos' appendix of people mentioned by the inscriptions on Cretan amphorae.²⁹ They have only two related individuals for each one. Any of these individuals has more than the four inscriptions related to Likinius Beibios (Licinius Vibius). Only the *nomen* Iulius has three entries, but one of them without an associated *cognomen*.

Within the group of the Tiberii Claudii, there are 55 Greek and 51 Latin inscriptions (fig. 3). The proportion of Latin entries in the *CIL* are higher³⁰ than in the researched group of the Tiberii Claudii. The *tituli picti Graeca* from *CIL* reach 796 (approximately 31%) out of 2569 entries. 286 (57%) amphorae carried *tituli picti Graeca* out of 503 PO08.³¹ 52% of the Tiberii Claudii's inscriptions were written with Greek characters. This figure is closer to the ratio of Greek inscriptions on PO08. Actually, this amphora type reached 52% out of the total of the recorded objects for this study.

The use of inks fits the observed general distribution for inscriptions on PO8.³² When recorded, most of Greek *tituli picti* were written with black ink, while the Latin ones were written with a higher diversity of inks. Out of 104 *tituli*, 23 Greek³³ and 16 Latin³⁴ lack information about the ink. Greek *tituli* were written with black ink on 31 occasions³⁵ and only in one case with red ink.³⁶ Latin *tituli* were written with black ink on 14 occasions,³⁷ with red ink in 8 cases,³⁸ and with other less frequent types in 11 cases.³⁹

This study involves 19 typological categories (fig. 3), from which PO8 is clearly highlighted, especially regarding Greek inscriptions. If we consider other Cretan types, as the current types Crétoise 1 and 2, plus the PO10 (Crétoise 1, 2 or 3) and 36 (Crétoise 4),⁴⁰ the resulting amount is 50 Greek and 15 Latin inscriptions. These add up to 65 Cretan amphorae out of 106 objects. At least 25 out of 34 *cognomina* are involved in the inscriptions on Cretan amphorae. These 25 *cognomina* are the result of the presence of at least one of the aforementioned Cretan types within the clusters from column C (minimum amount of resulting *cognomina*) in figure 2. In the case of objects 36–37, the abbreviated *cognomen* *P.* was on two PO08. This initial can be assumed as the abbreviated form of the following *cognomina*, in clusters 14 and 15 respectively, where any Cretan amphora has been recorded. Then *P.*, even if it is in any cluster, can be incorporated to the list of *cognomina* on Cretan amphorae.

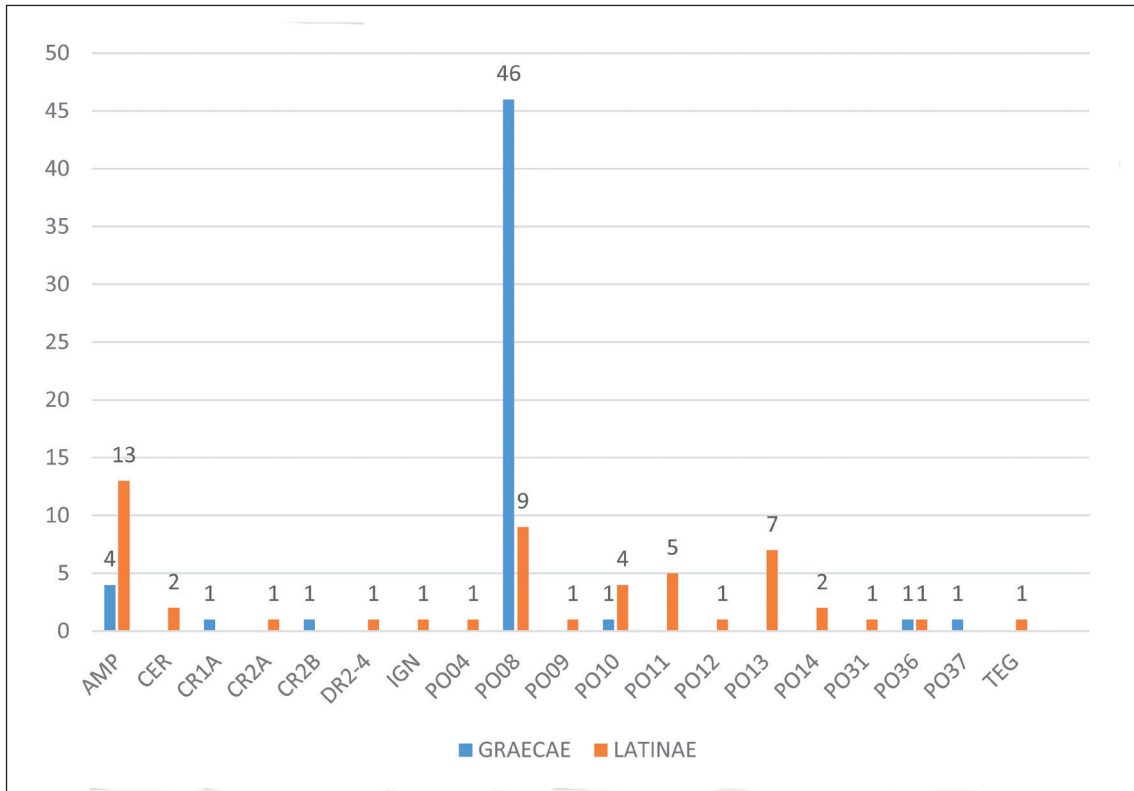


Fig. 3: Typology of carrying objects and used language for the Tiberii Claudii's inscriptions. Typology of objects: *ignotae* (IGN), *tegula* (TEG), ceramic pot (CER), amphorae (AMP), amphora types Pompeii (PO), Dressel (DR), and Crétoise (CR).

Conclusion

Epigraphy and ancient economy studies will benefit from a more systematic and comprehensive analysis of the *tituli picti* on amphorae from Pompeii and its surrounding area. This corpus provides a considerable volume of information, unusual for the ancient epigraphic record. Within this dossier, the Cretan amphorae and the family group of the Tiberii Claudii have a remarkable significance. The detailed analysis of the evidence is crucial to overcome previous views, which repeat hypotheses that become platitudes. In that sense, this study presents new approaches to deal with a documentation (the *CIL* IV), which provides an ever-partial archaeological evidence (the *tituli picti*) together with the added difficulties of former record methods. The offered list of Tiberii Claudii is a research tool to be improved and interpreted. It is a starting point for research on the identity and the role of these people within the Roman trade and institutional systems.

Notes

¹ Production and Distribution of Food during the Roman Empire: Economic and Political Dynamics (FP7/2007–2013/ERC grant agreement n° 340828).

² Martín-Arroyo – Remesal 2017, 257–263 figs. 1. 2.

³ Panella – Fano 1977, 157–163.

⁴ Rediscovered amphorae in Marangou-Lerat 1995, 131–146.

⁵ Martín-Arroyo 2018, fig. 3.

⁶ Martín-Arroyo 2020.

⁷ Markoulaki et al. 1989, 570 f., as a criticism on the recorded amphorae in Panella 1976, 151–161 pl. 43.

⁸ Martín-Arroyo 2018, 320 f.

⁹ Martín-Arroyo et al. 2017; Martín-Arroyo 2018; Martín-Arroyo 2020.

¹⁰ Panella 1976, 156 f. n. 34; Marangou-Lerat 1995, 154.

¹¹ Los 1997, 66–71; Paluchowski 2003, 586; 592 f.; 596–599.

¹² For example, this hypothesis is fully accepted by Tchernia 2007, 62.

¹³ Martín-Arroyo 2020b.

¹⁴ Marangou-Lerat 1995, 157; 159; Tchernia 2007, 61–63; Rizzo 2014, 324.

¹⁵ Giordano – Casale 1991; Marangou-Lerat 1995.

¹⁶ For example, *CIL* IV 9319 and 10327a respectively. Perhaps there are some freehand drawings too. For example, *CIL* IV 10327. The following references to *CIL* IV are abbreviated by keeping just the number of every inscription in the *Corpus*.

¹⁷ 2673 (Tab. XLIV 12) and 5920.

¹⁸ List of references according to the order established in *CIL* IV and the following publications: 2631–2632; 2672–2673–2674 (= 6430–6431); 5523; 5535; 5751; 5760; 5803; 5805–5809; 5894; 5920 (= 6432); 5942; 6196 (two amphorae)–6197, (two amphorae)–6198–6199; 6226; 6341 (two amphorae); 6354–6355; 6405–6406 (four amphorae); 6408 (six amphorae); 6433–6437; 6500; 6930; 6947; 6992; 6994; 9315; 9319; 9424–9425; 9483–9485; 9487–9488; 9510–9512; 9643; 9760; 9763–9767; 10324–10327 (two amphorae); 10436–10439 (five amphorae)–10440 (four amphorae); 10443–10444 (three amphorae); 10736; 10772; 10887; 10889 (two amphorae)–10891; 10897; Giordano – Casale 1991, 208–210 (one amphora); 290–291 (one amphora); 321–322 (one amphora); 389; 420–421 (one amphora); Marangou-Lerat 1995, P29.

¹⁹ Giordano – Casale 1991, 151. 170.

²⁰ Including those with the abbreviated form CL or KA, the related amphora types are: PO04 (Giordano – Casale 1991, 366); PO06 (6921; 9418); PO07 (5629; 5640; 5649; 10286 (one of two amphorae)); PO08 (5570; 5804; 6297; 6996; 9486; 10770 (two amphorae); Giordano – Casale 1991, 339); PO10 (6407; 6425; 9817); PO11 (5998); PO12 (10441); PO13 (10442); Crétoise (Casaramona et al. 2010, 116 (four amphorae)); Crétoise 1A (Rizzo 2014, 325); and some specimens, simply classified as amphorae or *fragmenta* (5734; 5810–5812; 6913; 9499; 10770 (one *fragmentum* with two PO08)–10771; 10803). See too the results of the search %claud% in CEIPAC: Amphora incerta (23449); Dressel 20 (02217; 21874–21877; 21879–21886; 29765; 30209; 43554–43556).

²¹ González 2012, 117 f.

²² CEIPAC 03019; 21873.

- ²³ CEIPAC 43553.
- ²⁴ Remesal – Aguilera 2014, 47. The inscription from Baalbek in *CIL* III, 14386a = IGLS-06, 02721 = EDCS-ID: EDCS-17700142.
- ²⁵ Rome: Casaramona et al. 2010, 116 (four amphorae). Ostia: Rizzo 2014, 325.
- ²⁶ V1-1287: Τύρας, masculine name from inscription found in the Cycladic island of Andros, dating from the 1st–2nd century AD (*IG* XII (5) 777).
- ²⁷ Martín-Arroyo 2020.
- ²⁸ Los 1997, 66.
- ²⁹ Los 1997, 73–75.
- ³⁰ Martín-Arroyo – Remesal 2017, 269 fig. 5.
- ³¹ Martín-Arroyo et al. 2017, 188 fig. 2; 189.
- ³² Panella 1976, 156.
- ³³ 5535; 6405–6406 (four amphorae); 6408 (six amphorae); 6433–6437; 6994; 10887; 10889 (two amphorae)–10891.
- ³⁴ 2631–2632; 5760; 5803; 5805; 5807; 5809; 5894; 6199; 6226; 6354–6355; 6930; 10736; 10772; 10897.
- ³⁵ *Atramentum*: 2672–2674; 5920; 5942; 6947; 9760; 9763–9765; Giordano – Casale 1991, 290f. (one amphora); Giordano – Casale 1991, 420f. (one amphora); Marangou-Lerat 1995, P29. *Nigrum*: 9766–9767; 10436–10439 (five amphorae)–10440 (four amphorae); 10443–10444 (three amphorae).
- ³⁶ *Rubrum*: 6992.
- ³⁷ *Atramentum*: 9319; 9424; 9485; 9487; 9643; Giordano – Casale 1991, 321f. (one amphora). *Nigrum*: 9425; 9483; 9512; 10324–10327 (two amphorae).
- ³⁸ *Rubrum*: 5751; 5806; 9315; 9484; 9488; 9510–9511; Giordano – Casale 1991, 389.
- ³⁹ *Albus* (white): 5523; 6198. *Carbone* (charcoal): 5808; Giordano – Casale 1991, 208–210 (one amphora); *Gilvus* (yellow): 6196 (two amphorae)–6197 (two amphorae); 6341 (two amphorae); 6500.
- ⁴⁰ Marangou-Lerat 1995, 67–89.

Image Credits

Fig. 1: after Martín-Arroyo Sánchez. – Fig. 2: after Giordano – Casale 1991; Marangou-Lerat 1995; Martín-Arroyo Sánchez. – Fig. 3: after Daniel J. Martín-Arroyo Sánchez.

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Los grafitos “ante cocturam” de las ánforas Dressel 20. Propuesta de sistematización para la elaboración de un corpus¹

Pablo Ozcáriz-Gil

El grupo CEIPAC surgió bajo la dirección del Dr. José Remesal Rodríguez de la Universidad de Barcelona. Su nombre responde al objetivo de estudiar las relaciones económicas entre las diversas provincias del Imperio romano a partir de la comercialización y producción de alimentos. Para conseguir este fin, se ha centrado en su principal fuente: la epigrafía anfórica. El punto de partida para este grupo de investigación fueron las ánforas béticas de aceite o Dressel 20. Y dentro de las diferentes actuaciones en este ámbito, una de las más significativas fue la creación de una base de datos que recogiese toda la epigrafía anfórica. Desde el año 2002 se encuentra *on line* en la dirección <http://ceipac.ub.edu>. Este banco de datos comprende información, sustancialmente epigráfica, sobre las ánforas romanas distribuidas por todo el Imperio Romano². Por otra parte, la comparación directa del material arqueológico-epigráfico permite precisar la cronología exacta de muchos recipientes, consiguiendo convertir el *corpus* en un instrumento de trabajo necesario para otros historiadores y arqueólogos europeos. La base de datos cuenta en la actualidad con 45.421 registros, de los cuales 35.995 corresponden a sellos, 7.967 a *tituli* y 1.459 a grafitos.

El actual proyecto de investigación EPNet, una ERC advanced Grant concedido al Dr. Remesal, ha llevado a cabo la reestructuración y mejora de la base de datos Ceipac.³ Este texto aquí presentado surge como resultado de un proceso de reflexión sobre los grafitos que se integra dentro de este proyecto de investigación, como una propuesta de ideas previas para la reestructuración y mejora de la base de datos.

Los grafitos de las ánforas Dressel 20

Cuando hablamos de grafitos nos referimos a las anotaciones incisas sin matriz realizadas sobre la cerámica. No se han conservado en la misma proporción que los sellos, en parte porque tradicionalmente se les ha considerado mucho menos valiosos, y en parte porque suelen tener unas dimensiones mayores y la fragmentación de las piezas hace, a menudo, que su conservación sea parcial y no permita su lectura completa.⁴

Los grafitos, al contrario que los sellos – y es ésta una de sus principales características – suelen permitir una notable libertad de formato y mensaje. En algunos casos se trata de mensajes seriados, pero en otros casos dan pie a un mayor margen de improvisación. Debe quedar claro que, aunque generalmente la diferencia de técnica epigráfica utilizada en el *instrumentum* (sello, grafito o *titulus*) revela una función diferente de la

inscripción, no siempre es así. A menudo encontramos un uso indistinto entre sellos y grafitos, como en el caso de los barriles⁵ o como en el caso en el que el grafito sustituye al sello en las Dressel 20.⁶

Técnicamente existe una primera división en dos tipos de grafitos: *ante cocturam* y *post cocturam*.⁷ Los del primer tipo han sido realizados durante el proceso de producción, antes de la solidificación del soporte, de manera que formarán parte original de la pieza terminada. Los realizados *post cocturam* fueron incisos después de la solidificación del soporte, de manera que no estarían en relación con el proceso de producción. La mayoría de los grafitos sobre Dressel 20 son *ante cocturam*. Éstos son reconocibles porque al ser realizados sobre una superficie blanda, el surco resultante suele ser por lo general grueso y presenta una ‘rebaba’ en sus lados. Si se ha utilizado un *stylus*, quedará un trazo fino y regular. Si se trata de una caña o rama, algo más ancho e irregular. Si se utiliza el dedo, trazos gruesos. Posteriormente, el proceso de cocción iguala la coloración y la textura de la superficie de la pieza y el surco del grafito, algo que no ocurre en los *post cocturam*. El ánfora se realizaba en varias fases: por un lado, la campana inferior y el pivote y, por otro lado, la campana superior. Posteriormente, ambas piezas venían ensambladas y se les añadían el cuello, la boca y las asas.⁸ Durante este proceso se realizaban los diferentes tipos de grafitos que conocemos. El valor de estas marcas era exclusivamente interno. Los grafitos nominales de condición servil en nominativo aparecen junto a otros en genitivo, lo que hace pensar en cuadrillas con una organización de trabajo en la que existen encargos especializados en un proceso específico de la elaboración del ánfora y que dependían de un capataz responsable de su trabajo⁹. El marcaje de las piezas estaría relacionado con la contabilidad de las remesas o la fecha de su elaboración, ya que hasta el ensamblaje final de las dos partes tenía que pasar un tiempo de secado. Después del ensamblaje, la función de estos grafitos termina totalmente, y los que fueron realizados cerca del pivote serán prácticamente invisibles y quedarán “boca abajo”.¹⁰

Estructura de la base de datos

Partiendo de esta premisa, la base de datos debería configurar una herramienta dirigida al estudio de los grafitos *ante cocturam* teniendo en cuenta la naturaleza del grafito y sus características formales, que permita estudiar el desarrollo diacrónico de los diferentes tipos de grafitos, y la intensidad de marcado. De igual modo, debería permitir avanzar en la interpretación de cuáles fueron las funciones de la realización de los grafitos, a lo largo del tiempo, pudiendo encontrar variantes de los diferentes tipos de forma sencilla. También debería permitir relacionar los cambios de producción de las ánforas con los cambios en los hábitos de marcaje (si se trataba de diferencias en la organización de las figlinas, en la organización de los grupos de trabajo, etc.) y establecer de forma más precisa la relación entre los sellos, los *tituli* y los grafitos.

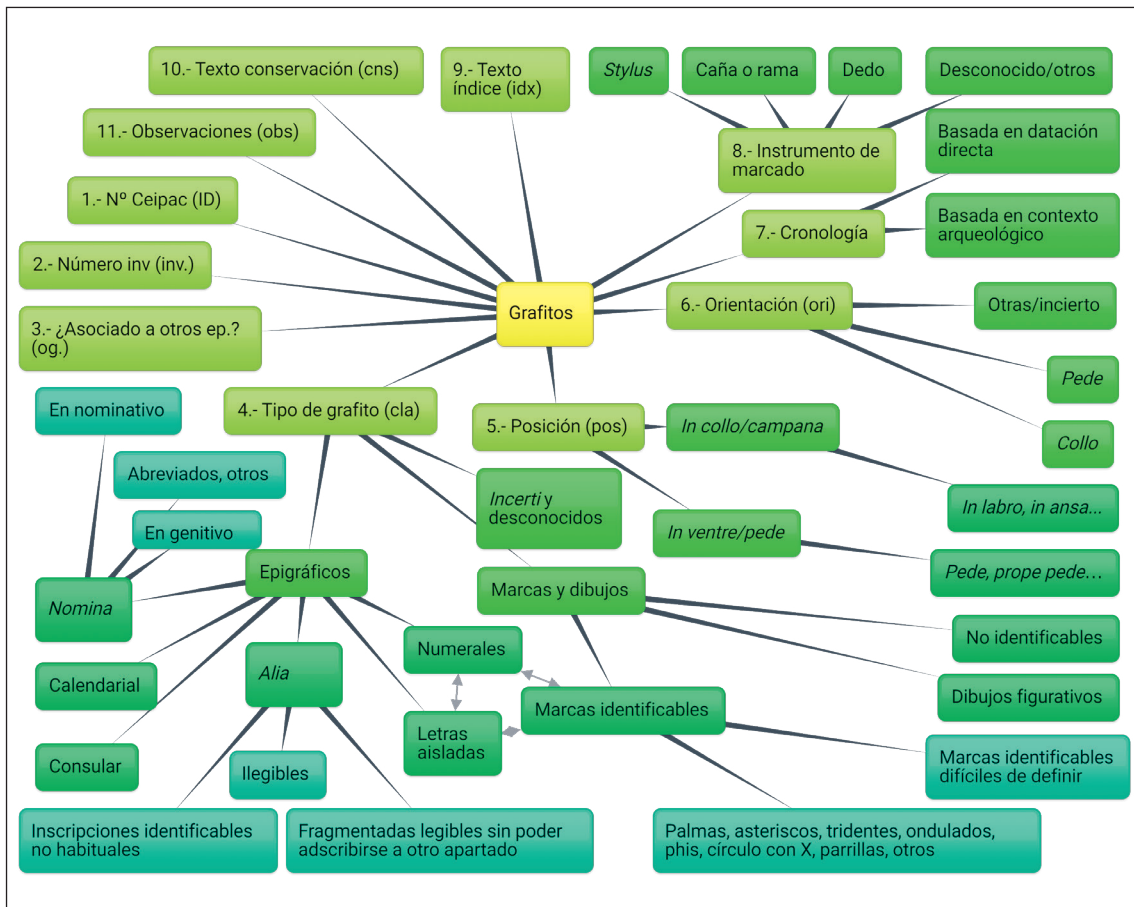


Fig. 1

Para conseguirlo, proponemos el siguiente esquema:

Siguiendo la estructura habitual de las bases de datos epigráficas, el punto de partida se establece con tres primeros campos básicos: 1.- El número propio de la base. 2.- El número de inventario que le dio la publicación original. 3.- Si se encuentra asociado a otra epigrafía. Este campo será de especial importancia para poder vincular la información de los grafitos con sellos y *tituli* de la misma pieza.

Tipología de los grafitos (campo nº 4)

El cuarto punto corresponde a la división tipológica de los grafitos *ante cocturam* en Dressel 20. Sin duda alguna es el tema que más complica la propuesta de organización de la base de datos. Se trata de un tema con una cierta tradición historiográfica, por lo que será necesario exponer las soluciones planteadas por otros investigadores hasta la fecha.

La primera división tipológica fue propuesta por el propio Dressel, quien ya en su volumen del *Corpus Inscriptionum Latinarum* dividió los grafitos en dos grupos: Por un lado, las letras, siglas y números, según él muy frecuentes. Y por otro, los nombres aislados, para él, poco habituales.¹¹

En 1984, Emilio Rodríguez Almeida realizó una primera división de los grafitos sobre Dressel 20 en tres categorías: 1) Lo que él llamó “grafitos anecdóticos” (nombres acompañados de fechas u otros temas). 2) Letras aisladas o siglas de gran formato. 3) cifras. El resto parecían fruto del capricho de algún trabajador.

Hasta la nueva clasificación propuesta de Rodríguez Almeida en 1993, podemos señalar que Laubenheimer diferenció los grafitos *ante-cocturam* de lo que ella denominaba “marcas” *ante cocturam* trazadas con el dedo.¹²

Emilio Rodríguez Almeida reorganizó su propuesta anterior en 1993.¹³ Se trata de la clasificación más pormenorizada realizada hasta la fecha, aunque no deja de presentar algunos problemas. Sería la siguiente:

1. Grafitos con datación consular y calendarial (en dos líneas), seguidos de un nombre en genitivo
2. Fecha calendarial precedida o seguida de un nominal en nominativo o genitivo.
3. Fecha calendarial cerrada entre dos líneas con dos nombres de persona en nominativo
4. Nombres aislados en genitivo.
5. Nombres aislados en nominativo
6. Letras aisladas de gran formato: probablemente firmas simplificadas o signos personales de un trabajador.
7. *Signa*, es decir, dibujos o símbolos personales: estrellas, círculos, círculos con una o dos líneas cruzadas, etc. También palmas y monogramas.
8. Numerales *in ventre*.
9. Numerales *in collo*.
10. Caprichos y anomalías.

El mayor número de grafitos sobre ánforas Dressel 20 publicado hasta ahora se encuentra en las 6 monografías con resultados de excavación del monte Testaccio, en capítulos publicados por diferentes miembros del CEIPAC.¹⁴ Ahí, ya desde el primer volumen publicado en 1999, se ha utilizado la siguiente clasificación: 1.- Numerales, 2.- Siglas y letras, 3.- Nominales y calendariales 4.- indeterminados (aquellos para los que no existe una interpretación clara). Esta división fue mantenida con pocos matices hasta el volumen quinto (2010), con la división de los signos que son descriptibles pero cuya interpretación desconocemos y de aquellos cuyo dibujo no es posible determinar en su totalidad. Esta clasificación es seguida también por Rovira (2007).

Broekaert, Berni y Moros propusieron en 2015 una clasificación novedosa, basada en el momento de la aplicación del grafito en el proceso de elaboración del ánfora.¹⁵ Partiendo de Rodríguez Almeida (1993), establecen lo siguiente:

1. Tras completar la panza, el *figulus* incluiría su firma usando una caña, señalando su trabajo con su nombre abreviado, letras aisladas o iniciales, signos o símbolos, generalmente de gran tamaño.
2. Después, cuando las panzas del ánfora terminadas se pusiesen a secar, se aplicaría el segundo grafito. No sería un *figulus* o trabajador de la *officina*, sino un *tabularius* o *scriptor*, a raíz de la escritura cursiva regular y la utilización de un *stylus*. Estos grafitos se podrían clasificar en tres grandes grupos, que son, a grandes rasgos, los del tipo 1 al 5 de Emilio Rodríguez Almeida o el de nominales/calendariales del Ceipac:
 - A. Aquellos con fecha calendarial: su finalidad sería el anotar la fecha de una remesa de panzas.¹⁶ Las variantes incluyen nombres en nominativo y genitivo, y dataciones consulares.¹⁷ La datación de estos grafitos ocupa todo el año¹⁸ y probablemente se producían grandes cantidades de ánforas que se utilizaban posteriormente.
 - B. Nombres aislados: simples *cognomina*. Cuando aparece un *cognomen* solo, es más habitual que aparezca en genitivo que en nominativo.¹⁹ Cuando son dos, en dos líneas separadas, los dos en genitivo o uno en genitivo y otro en nominativo. En este caso, suele interpretarse como el *figulus* o *figlinator* (el trabajador) en nominativo y el del *officinator* en genitivo.²⁰
 - C. Grafitos anecdóticos: Un ejemplo gráfico es el de CIL XV 3612: *futu[i]/futui/futui/quaero cuius* (follé, follé, follé. Imagino de quién ...)
3. Cuando se coloca el botón del pivote en el ánfora se le aplica un símbolo tras cerrar el agujero. Letras sueltas (I, II, A, C, D, P, R, S, V, X, etc.). Según Broekaert *et al.*, serían iniciales o figuras para contar el trabajo realizado²¹. Aunque los autores no lo citan, parece razonable que fuese en este momento cuando aplicaban también los numerales que aparecen junto a este grupo.
4. Finalmente, al voltear la pieza se trazaba el último tipo de grafitos, los numerales localizados *in collo*, más abundantes en el siglo III.

A la hora de crear una base de datos, estas clasificaciones son importantes. Pero existen prioridades a la hora de establecer las búsquedas que nos harán cambiar la estructura. Nuestra propuesta no modifica ni cuestiona estas tipologías previas, puesto que va dirigida a que el investigador pueda obtener respuestas útiles en una búsqueda informática, que necesariamente tiene que tener otros criterios.

En primer lugar, propongo una diferenciación entre grafitos epigráficos, y marcas y dibujos. En el primer grupo se incluyen los conjuntos de nominales, calendariales, consulares, *alia*, letras aisladas y numerales. En el segundo, se incluyen las marcas identificables, los dibujos figurativos y los no identificables. Con todo, algunos subgrupos de uno y otro bloque están claramente relacionados. Por ejemplo, las letras sueltas, cuya vinculación con el conjunto de marcas identificables es clara. El tipo de grafito, el *ductus* y el tamaño trasladan la impresión de que hay poca diferencia entre hacer una letra o un dibujo sencillo como una espiral o un tridente en la zona de *in ventre/in pede*. Algunas de estas marcas son casi iguales a letras. El conjunto de “letras sueltas” también tie-

ne una clara relación con el de los numerales. ¿Cómo diferenciar una C de cien de una C de C(aii)? Letras como la R podrían también ser tomadas por numerales o como marcas. Incluso los signos como la palma o los asteriscos podrían tener implícito un sentido numeral y de autoría. La palma, el tridente, podrían esconder un número concreto de piezas realizadas por una persona concreta.

En cuanto a las tipologías que involucraban nombres personales, no tiene sentido establecer – en una base de datos – como grupos diferenciados las diferentes combinaciones de dataciones y nombres en nominativo y genitivo como hizo Emilio Rodríguez Almeida. Estas asociaciones están compuestas por cuatro variables que se intercambian para generar el “formulario”. Para esta circunstancia resulta de gran utilidad el concepto de *codex*, que Aguilera y Remesal ya aplicaron a los sellos y los *tituli*.²² El *códex* sería el *iter* que siguen los diversos elementos de cada inscripción: 1.– Nominales en nominativo, 2.– Nominales en genitivo, 3.– Fechas calendariales, 4.– Dataciones consulares, 5.– *Alia*. Con estas variables, dispuestas en cualquiera de sus posibles combinaciones, el investigador puede buscar en la base de datos de forma efectiva. Lo mismo puede aplicarse al resto de piezas que cuentan con más de un grafito.

El segundo gran grupo, como he mencionado, es el de las marcas y dibujos. En ambos casos se trata de trazos figurativos. La diferencia entre ambos reside en la repetición de las primeras frente a las segundas.

En último lugar se encontrarían los *incerti* y los desconocidos. Este grupo será muy numeroso y podemos aventurar que el avance de la informática y el “machine learning” proporcionarán en el futuro interpretaciones con mucha certeza de fragmentos que por ahora no podemos adscribir a un tipo o a otro.

Localización del grafito en el ánfora y su orientación (campos nº 5 y 6)

Para establecer la localización de los grafitos (campo nº 5) es necesario leer las curvas de torno y conocer el grosor y curvatura de los fragmentos de cada parte del ánfora. Una vez identificado el lugar del fragmento en el ánfora en el que se encuentra el grafito, la primera selección que ofrezca la base de datos deberá ser uno de estos dos grandes conjuntos: 1.– aquellos grafitos realizados durante la elaboración de la campana, y 2.– los grafitos realizados durante la elaboración de la parte de la boca o una vez unidas las dos partes. Esta diferenciación espacial que proponemos – que no es necesaria en las bases de datos de *tituli* y sellos – es fundamental para la gestión eficaz de la base de datos de grafitos: Debemos tener, por tanto, un primer campo que divida los grafitos en *in collo/campana* e *in uentre/pede*. Después, como una segunda opción posterior a ésta, se debe precisar – ahí sí – en qué parte exacta del ánfora apareció, según el sistema utilizado en los sellos y *tituli*.

La orientación de los grafitos (campo nº 6) se establece teniendo en cuenta la referencia superior del soporte, esto es, el botón o la boca del ánfora. Los grafitos *in ventre/*

pede están realizados con la pieza vuelta respecto al proceso final del ánfora, con lo que el eje será el botón del ánfora. Aquellos *in collo/campana* tendrán su eje de referencia en la boca. Sin embargo, existen excepciones que habrá que registrar. Otro dato importante será la inclinación de la escritura, lo que permite conocer incluso la postura que adoptó el ejecutor del grafito.

La cronología (campo nº 7)

Después de la publicación de 6 campañas de excavación, correspondientes a diferentes etapas de descarga de los siglos II y III, una de las primeras conclusiones que podemos extraer es la existencia de una evolución muy importante en el sistema de marcaje mediante grafitos. Esta evolución debe incorporarse a la base de datos. Para ello, la presencia de un campo cronológico es de gran importancia, aunque el margen de datación deberá ser flexible, para incorporar tanto márgenes temporales breves (cuando el grafito pueda estar en relación con un *titulus delta* o grafito con datación consular o con un sello producido en un arco cronológico breve), así como para márgenes amplios (como el contexto cronológico de una excavación o el período de la tipología del ánfora). Esta variable diacrónica servirá sin duda para ponerla en relación con la evolución tipológica de las ánforas, una vía de investigación hasta ahora poco trabajada.

Otros aspectos a tener en cuenta (campos nº 8–11)

El instrumental de marcado (campo nº 8) es un dato relevante que debe estar en esta base de datos. Fue el trabajo de Broekaert, Berni y Moros (2015) el que puso de relieve el diferente uso del instrumental de escritura en los distinta tipología de grafitos. Resulta relativamente fácil de identificar tres tipos básicos a partir de la propia pieza o de una buena fotografía: los realizados con un *stylus* (generalmente finos y con una buena caligrafía), los hechos con cañas o ramas (algo más gruesos e irregulares), y los aplicados con el dedo.

Finalmente, para la búsqueda del texto epigráfico habrá que incluir un texto índice (campo nº 10) y un texto conservación (campo nº 11), siguiendo para ello los mismos criterios de transcripción diacrítica que se han seguido en las bases de datos de sellos y *tituli* de la base CEIPAC.²³

Conclusiones

La elaboración de un corpus informático supone organizar y estructurar la información extraíble de unas inscripciones cuyos parámetros organizativos y reglamentarios se escapan a nuestro conocimiento. Esta perspectiva obliga al investigador a un replantea-

miento de la forma de sistematizar la información y a establecer nuevas formas de análisis que, de otra forma, no llegarían a desarrollarse.

La división entre grafitos con escritura y los de tipo figurativo/marcas, la utilización del concepto de *codex*, la división neta de los grafitos en las dos partes del ánfora, o la introducción de la visión diacrónica permitirán analizar estos trazos desde una nueva perspectiva, conllevando ello un significativo avance en el conocimiento y comprensión de los mismos.

Notas

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² Para un planteamiento de la base de datos anterior al proyecto EPNet, cf. Berni et al. 1997; Remesal 2007.

³ Remesal et al. 2015.

⁴ Remesal et al. 2003, 363.

⁵ Baratta 1994.

⁶ García – Ozcáriz 2007, 549–554.

⁷ Dressel 1878, 146 s.; CIL XV 556; Rodríguez Almeida 1972, 235; Casulleras et al. 1999; Remesal 2007, 1181; Ozcáriz 2009, 547–549. 555–556.

⁸ Berni 2008, fig. 1; Remesal 2011, 120.

⁹ Esta línea de trabajo cuenta ya con una dilatada trayectoria: ad ex. Rodríguez Almeida 1984, 262–264; Remesal 2011, 120.

¹⁰ Remesal 1977, 87–120; Rodríguez Almeida 1989, 35–40; 1993, 95–106 esp. 96.

¹¹ CIL XV p. 556.

¹² Laubenheimer 1985, 419.

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¹⁴ Casulleras et al. 1999; García Brosa et al. 2001; Remesal et al. 2003; Remesal et al. 2007; Remesal et al. 2010; Remesal et al. 2014.

¹⁵ Broekaert et al. 2015, 171–174.

¹⁶ Berni 2008, 35; 2016.

¹⁷ Broekaert et al. 2015, 173.

¹⁸ Berni 2008 tab. 2.

¹⁹ Broekaert et al. 2015, 173.

²⁰ Berni 2008, 145.

²¹ Fernández et al. 2008, 243 fig. 3.

²² Cf. también Remesal et al. 1999, 101–128; Aguilera 2004; Remesal 2012 p. 87; Aguilera 2001.

²³ Berni et al. 1997, 482.

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Who in Antiquity Sealed Amphorae and Stamped Stoppers? An Attempt to Understand the Process Based on Examples of Finds from Berenike (Egypt) and Risan (Montenegro)¹

Marta Bajtler

In Antiquity, ever since the beginnings of maritime transport, there existed the need for the hermetic sealing of containers. From a very early period, plugs of various kinds are known to have been made of timber, ceramics, natural cork, textiles, grasses or leaves and to have been sealed with plaster, organic mixtures, or resin.

In Roman Egypt, local wine designated for international trade was closed by different organic and nonorganic plugs, sealed by plaster, and sometimes stamped. Seals made from wet clay were popular in local small-scale trade during the Hellenistic and late Roman period. In the Adriatic region, wine produced in amphorae during the last two centuries of the Republic was sealed by ceramic stopper produced on the potter's wheel or formed in a mould. The sealing substance was used probably only to seal thin breaks between the stopper and inner walls of the amphora's neck. These kinds of stoppers carry inscriptions and decorations created during the production of the entire stopper. I would like to focus on examples from two sites: Berenike in Egypt and Rhizon in Montenegro (fig. 1).

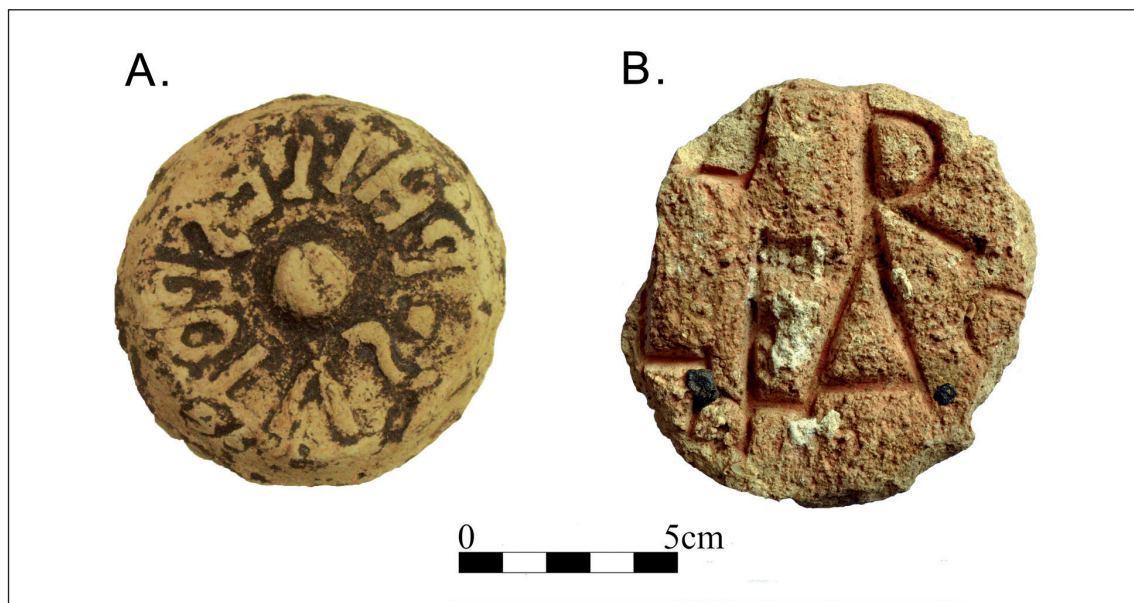


Fig. 1: A. Ceramic stopper with an inscription made in a mould, Risan, Montenegro; B. Plaster stopper with monogram, Berenike, Egypt.

Berenike Troglodytica,² a harbor city, was founded in the early 3rd century BC by Ptolemy II Philadelphos on the Red Sea coast. The city grew very fast and became one of the most important coastal centers responsible for long distance trade with Arabia, South Africa, and India. The city was connected by a road network with the Nile Valley and the towns located there.³

During years of excavations, 496 elaborate jar and amphora stoppers⁴ have been found. Among the used materials were: wood, natural cork, shell, reef, reed, palm fibre, textile, pottery lids, bowls, fragments and sherds, and as a sealing substance: plaster, resin, and unfired clay. The largest group consists of plaster stoppers and was found in an early Roman context. The plaster stoppers were characteristic of far-reaching trade and usually sealed Egyptian wines.

Similar finds were discovered in the whole area of the Eastern Desert. The most numerous stoppers were excavated at the sister ports of Myos Hormos and the Mons Claudianus quarry, with single ones known from Mons Porphyrites and Sikait.⁵

Greek, Egyptian or Roman names appeared on the stamps. The names belonged to individuals. Some of them are connected with traders known from ostraca or papyri.⁶

Present-day Risan (Montenegro) was known in ancient times as Greek Rhizon and Roman Risinium and was one of the most important centres in Sinus Rhizonicus (Kotor Bay). The settlement was situated in an area called Iliria, then the Roman province of Dalmatia. Rhizon was mentioned by Pseudo-Scylax in the second half of the 4th century BC. But his *Periplus* probably described the previous situation.⁷ Since 2001, Polish-Montenegrin excavations have been carried out in Risan.⁸ More than 1500 stoppers were found during 18 years of excavations. Stoppers had a distinctive disk shape and were made from a mould (with one or two parts), on a potter's wheel, or were cut out from bigger vessels or tiles. Decorations, individual letters, or entire words turn up only on disks made from moulds. Inscriptions were made in both Greek and Latin alphabets. Among the decorations are also linear, solar, or geometric motifs.

In most cases, stamps at stoppers from Risan and Berenike were commercial wine stamps, which provide information about the estate, producer, or merchant who sold these goods. In Egypt, individuals known from other documents related to trade appear on plaster stamps. Analogies for names can be found on ostraca and papyri, and in Risan mostly only on amphorae.

Notes

¹ I would like to express my gratitude to Iwona Zych and Steven Sidebotham from The Berenike Project and Piotr Dyczek, Director of the Risan excavations who made the materials available to me.

² More about the city: Sidebotham 2011.

³ Sidebotham et al. 2008, 329–343.

⁴ Bos 2007; Bos – Helms 2000; Cashman 1999; Dielman 1998; Gates-Foster forthcoming; Mulder 2007; Sundelin 1996; Zych 2011.

⁵ Thomas 2011, 32.

⁶ Thomas 2011, 27. For example, some names were identified in the Nikanor Archive, see Fuks 1951.

⁷ Lemke 2017, 489.

⁸ Dyczek et al. 2014; Dyczek et al. 2007; Dyczek et al. 2004.

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Fig. 1: A. Photo J. Reclaw, B. Photo S. E. Sidebotham, Digitizing M. Bajtler.

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Greek Coinage

Panel 5.24

El ataque cartaginés a Acragante en 406 a. C.: Análisis numismático

José Miguel Puebla Morón

Introducción histórica

La invasión cartaginesa de Sicilia a finales del siglo V a. C. produjo un fuerte impacto en las acuñaciones de las poblaciones griegas de la isla. En concreto, el ataque cartaginés del 406 a. C. a la ciudad de Acragante es un buen ejemplo de cómo se desarrolló este efecto en su moneda.

Este ataque está enmarcado dentro del proceso bélico que tuvo su origen en el conflicto entre la población élida de Segesta y la griega Selinunte. Este conflicto no sólo fue el origen la expedición ateniense a Sicilia, sino que tras su derrota produjo la incorporación de Cartago en el conflicto.

Si analizamos las fuentes escritas, contamos únicamente con el texto de Diodoro de Sicilia, el cual narra durante los capítulos ochenta a noventa y uno de su décimo tercer libro todos los acontecimientos relativos al asedio, conquista y saqueo de la ciudad de Acragante a manos del ejército cartaginés.

La moneda en periodos de conflicto bélico

En el caso de las acuñaciones de las poblaciones de Sicilia durante las décadas finales del siglo V a. C., es muy interesante observar cómo existe una relación entre los volúmenes de acuñación de estas poblaciones y los conflictos de carácter bélico.

Se produce un aumento en la acuñación de grandes nominales como decadracmas, tetradracmas y didracmas los cuales estarían relacionados con grandes pagos a realizar como la contratación de tropas mercenarias o la construcción o reconstrucción de obras de carácter defensivo ante el inminente ataque cartaginés.¹

También podemos observar una relación directa entre la acuñación de moneda de oro y el desarrollo de estos conflictos bélicos como el que nos atañe y la aparición de acuñaciones en oro durante el periodo 409–405 a. C. en las poblaciones de Siracusa, Gela, Camarina y Acragante. Estas fueron series monetales de emergencia,² como el tetradracma de oro acragantino, pues el oro no era un metal de acuñación común debido a su alto valor en relación con la plata.³ Además, no sólo podemos analizar estas características en cuanto al volumen, metrología y metal de las acuñaciones, sino que también podemos ver elementos iconográficos asociados a estos periodos, lo que nos lleva en el caso concreto de Acragante a poder hablar de un posible programa iconográfico relacionado con el ataque cartaginés del 406 a. C., el cual podría formar parte de un pro-

grama cuyo origen podríamos retrotraer hasta el ataque ateniense de Sicilia en la década justamente anterior.

La creación de este tipo de iconografías o de programas iconográficos podría responder al propio uso de la moneda y su papel en cuanto elemento representativo de la población que la acuña o al menos de sus clases dirigentes.

Análisis de las metrologías en Acragante

El estudio de los volúmenes de acuñación en Acragante durante el periodo 420–406 a. C., que abarca tanto el ataque ateniense como cartaginés revela un aumento de las acuñaciones de los grandes nominales de plata así como la aparición de las primeras y únicas acuñaciones en oro de esta población siciliana.⁴

Las acuñaciones de plata del periodo 420–406 a. C. podrían dividirse en dos claras cronologías: 420–410 a. C. y 410–406 a. C., mientras que para las monedas de oro y bronce la cronología correspondiente sería 415–406 a. C.

Por lo que respecta al grupo de acuñaciones de moneda de plata correspondientes al 420–410 a. C., éstas estarían relacionadas con el ataque ateniense a Sicilia. A este grupo pertenecen los tetradracmas con pez y cangrejo (2 series) y Escila (5 series) en el reverso, así como las 47 series de hemidracmas.

En cuanto al segundo grupo, su cronología lo relacionaría directamente con el ataque cartaginés a Acragante. A este grupo pertenecen los decadracmas (4 series), tetradracmas con cuadriga (14 series), didracmas (3 series), dracmas (1 serie), litras (5 series), hemilitras (2 series) así como las acuñaciones en oro (11 series) y las diferentes acuñaciones en bronce (395 series).⁵

El alto volumen de acuñación manifiesta una necesidad urgente de metal debido a una situación de emergencia como sería el ataque cartaginés a la ciudad de Acragante. Esta cantidad de capital sería destinada al pago de tropas locales y la contratación de mercenarios según podemos extraer del texto de Diodoro,⁶ donde relata que se emplearon unos dos mil trescientos mercenarios (mil quinientos bajo las órdenes de Dexipo y ochocientos campanos) para ayudar al ejército acragantino durante el asedio cartaginés.

Además, Diodoro también relata que todos los bienes de la población fueron llevados al interior de sus murallas,⁷ de donde podemos suponer que parte del capital iría también destinado a la restauración de los elementos defensivos y preparativos de guerra, así como a la obtención de alimento, pues el asedio duró ocho meses.⁸

Análisis de la iconografía de Acragante

El estudio y análisis de los nuevos elementos iconográficos utilizados durante el periodo 420–406 a. C. en Acragante pone de manifiesto la posible existencia de una intencionalidad relacionada con los ataques ateniense y cartaginés.

Este grupo de nuevos elementos iconográficos se compone de las siguientes representaciones: Apolo-Helios en la cuadriga, el saltamontes, Escila, el Ceto, el águila devorando a un potro o a una serpiente y la cuadriga.

El estudio realizado por Westermarck⁹ sobre las acuñaciones de Acragante ha posibilitado un análisis más pormenorizado de los elementos iconográficos utilizados durante este periodo que abarca del 420 al 406 a. C., pudiendo determinar qué elementos estarían relacionados con el ataque ateniense y cuáles con el cartaginés.

En primer lugar, conviene destacar las representaciones de Escila y el Ceto en los tetradracmas del 420–410 a. C., los cuales habría que relacionar con el ataque ateniense a Sicilia. Ambas representaciones responden a animales mitológicos que representan los peligros del mar y que tuvieron una amplia representación en el territorio de la Magna Grecia a tenor de las cerámicas halladas en este territorio.¹⁰ En ambos casos, su representación podría interpretarse como una invocación a estos seres marinos como ayuda o intimidación frente al ataque ateniense.

En cuanto a las acuñaciones relacionadas con el periodo del ataque cartaginés, los nuevos elementos iconográficos serían el Ceto, Escila, Apolo-Helios en la cuadriga, el saltamontes, la cuadriga con Niké, el águila y el cangrejo con serpiente y el águila sujetando un potro con sus garras. Estos nuevos elementos iconográficos podrían expresar un mensaje de fuerza y victoria ante el enemigo cartaginés.¹¹

Por lo que respecta al Ceto y Escila, el análisis iconográfico sería el mismo que en periodo anterior, como invocación a estos seres marinos como ayuda o intimidación frente al ataque cartaginés, ya que se trataría de un ataque por mar.

En lo referente a Apolo-Helios en la cuadriga, se trataría de la identificación del personaje masculino representado en el anverso de los decadracmas.¹² La corona que porta el personaje, similar a unos rayos solares, además de la curvatura descrita por los caballos que conducen la cuadriga avalarían esta explicación como Helios.¹³

El cuanto a la figura del saltamontes que aparece en el reverso de los decadracmas, ésta estaría en relación con la figura del Apolo-Helios del anverso. En este caso, la aparición del saltamontes en las monedas de Acragante obedece a un atributo o símbolo de Apolo,¹⁴ ya que la representación del saltamontes en las acuñaciones de la Magna Grecia responde casi en su total mayoría vinculados a una imagen o atributo de Apolo, con la excepción de sus referencias a Heracles y su paso por la región de Reggio.¹⁵

Además, es muy interesante la relación del saltamontes con la figura de Apolo Par-nopio en cuanto a liberador de plagas ya que este tipo de enfermedades aparece descrito por Diodoro de Sicilia durante el asedio cartaginés a Acragante.¹⁶

En cuanto a la representación de la cuadriga de los tetradracmas, éste sería un elemento iconográfico alusivo a la victoria que se desea conseguir. Esta victoria además quedaría matizada por la Niké que aparece sobrevolando la cuadriga.

Por lo que respecta a las representaciones del águila de del cangrejo con la serpiente como presa, se trata de la representación de un oráculo. Este elemento aparece asociado a situaciones previas de guerra o batalla,¹⁷ y es descrito por primera vez en la *Ilíada* de Homero.¹⁸ En el caso de la moneda de Acragante, concuerda con la acuñación de moneda de oro y de monedas de gran valor nominal como el decadracma¹⁹ ante un momento de necesidad. Es interesante ver como a finales del siglo V a. C. este elemento iconográfico sólo aparece en ciudades de carácter costero en Sicilia como Acragante y Zancle-Messana, ciudades que en ese mismo periodo serán destruidas por el ejército cartaginés.

Por último, en cuanto a las representaciones del águila sujetando un potro con sus garras, se trata de un elemento iconográfico que aparece únicamente en dos series de hemidracmas y que conlleva una problemática a la hora de relacionarlo con su cronología.

Según el estudio de Westermarck,²⁰ esta representación es interpretada como un águila sujetando en sus garras un ciervo. Su presencia es en dos únicas series de hemidracmas de un total de cuarenta y siete series, por lo que se trata de un elemento iconográfico muy breve en el tiempo.

La cronología que propone Westermarck para todas las hemidracmas acuñadas en este periodo es 420–410 a. C., pero si analizamos la anatomía del animal podemos ver que concuerda con la de un caballo o potro además de carecer de cornamenta. Por lo tanto, podríamos vincularlo a una cronología más cercana al ataque cartaginés si interpretamos esta escena iconográfica como el águila (Acragante) devorando un potro (Cartago), ya que el elemento principal de las acuñaciones de Cartago en este periodo es el caballo. Además, la representación del Ceto devorando un pez en el reverso completaría esta escena alusiva al ataque cartaginés a Acragante.

Conclusiones

En conclusión, el análisis de las acuñaciones de Acragante ante el ataque cartaginés del 406 a. C. permite ver una serie de características concretas tanto en sus volúmenes de acuñación como en su iconografía. Esta serie de características revela cómo durante el periodo de acuñación que ocupa los ataques ateniense y cartaginés a Sicilia (420–406 a. C.), la ceca de Acragante no sólo modificó el tipo y volumen de monedas que acuñaría respecto al periodo anterior, sino que incorporó toda una serie de elementos iconográficos que pueden ser interpretados dentro de este periodo bélico.

Por lo que respecta a los volúmenes de acuñación, no sólo se incrementaron en el caso de los tetradracmas y didracmas, sino que aparecieron nuevos nominales como

el decadracma y nuevos metales de acuñación como el oro. El incremento de los volúmenes de acuñación así como el uso del oro nos sitúa en un periodo de emergencia, una situación de carácter bélico necesitada de grandes cantidades de capital para afrontar los gastos del enfrentamiento inminente.

Además, habría que añadir la aparición de nuevos elementos iconográficos los cuales se pueden relacionar con un enfrentamiento de carácter bélico. Este tipo de nuevos elementos (Escila, Ceto, Apolo-Helios, el saltamontes o el águila devorando a una serpiente o potro) aludirían a la protección tanto de divinidades del panteón local griego como a seres mitológicos ante el ataque del ejército cartaginés.

Por lo tanto, se podría hablar de un programa iconográfico o, al menos, de una clara intencionalidad de representar ciertos elementos iconográficos alusivos a la victoria y defensa de la ciudad en referencia a la situación bélica que se estaba produciendo ante el inminente asedio del ejército cartaginés.

Notas

¹ Puebla Morón 2017b, 29 s.

² Caccamo Caltabiano 199, 129, n. 172; Carradice – Price 2010, 68.

³ Puebla Morón 2017b, 29 s.

⁴ El estudio de estos volúmenes de acuñación ha sido actualizado por Ulla Westermark en su obra *The coinage of Akragas c. 510–406 BC*, de donde se han extraído todos los datos relativos a volúmenes de acuñación y cronologías de series expuestos en esta publicación.

⁵ Las acuñaciones en bronce se conforman de hemilitras (190 series), tetras (116 series), hexas (72 series) y uncias (17 series).

⁶ Diodoro de Sicilia, *Biblioteca Histórica*, XIII, 85.4.

⁷ Diodoro de Sicilia, *Biblioteca Histórica*, XIII, 81.3.

⁸ Diodoro de Sicilia, *Biblioteca Histórica*, XIII, 91.1.

⁹ Westermark 2018.

¹⁰ British Museum, número de catálogo 1865,1212.4.

¹¹ Rutter 1997, 149 s.

¹² Hill 1903, 25; Jenkins 1972, 103; Robinson 1971, 61, pl. XVIII; Kraay 1966, 297, pl. LXII–LXIII; Sear 1978, 78, n. 749; Rizzo 1946, 89 s.; Carradice 2010, 63.

¹³ Puebla Morón 2017b, 31–33.

¹⁴ Una de las principales divinidades que recibían culto en la ciudad de Acragante como se puede observar en las acuñaciones de periodos posteriores (287–279 a. C.) con la efigie del dios (Calciatti 1983, 208, n. 117).

¹⁵ Se refiere al episodio de Heracles y las cigarras del río Álex, actual Alece (Diodoro, *Biblioteca Histórica*, IV, 22.5; Estrabón, *Geografía*, VI, 1.9; Timeo, FGrHist 566, fr.43b), y la relación del héroe con el saltamontes en la moneda de este territorio de puede observar en las acuñaciones de Tarento (Rutter 2001, 976) y en la arqueología y moneda de Regio (Kraay 1969, 779; Puebla Morón 2017a, 209).

¹⁶ Diodoro de Sicilia, *Biblioteca histórica*, XIII, 86.2, 114; XIV, 70.4, 71; XV, 24.2–3, 73.1; Finley 1979, 78.

¹⁷ Rodríguez Pérez 2010, 4.

¹⁸ Homero, *La Iliada*, XII, 201 s.

¹⁹ Jenkins 1966, 25.

²⁰ Westermark 2018, 187, n° 581 s.

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Burial Coins in the Peloponnese: Testimonies of Monetary Relations and Coin Circulation

Antonia G. Nikolakopoulou

In Greece, the practice of placing coins inside a burial appears in Macedonia at the beginning of the 5th century BC.¹ In the Peloponnese, the earliest known burials with coins date slightly later, just before the middle of the 5th century BC. During the Classical period, this numismatic practice in the graves of the Peloponnese is very limited. In the Hellenistic era, the custom is quite widespread without, however, becoming a strict rule in burial practices. Based on the position of the coins in the mouth or close to the head of the deceased,² it is estimated that one of the basic functions of the burial coins in the Peloponnese is connected to the custom of Charon's obol.³

Funerary coins reflect people's superstitions for life after death. However, apart from their symbolic value and contribution to chronology, they serve as testimonies of history, relations, and numismatic circulation within the region where they are found. The current study will examine this information.

Classical Period

According to published archaeological data the earliest examples of burial coins were found in Corinth inside a grave dated to 460–450 BC, and in Argos in the middle of the 5th century BC. The custom appears very limited in graves in Eva in Kynouria, during the end of the 5th – beginning of the 4th century BC, in Patras and in areas of Elis and Triphylia in Eleia in the first half of the 4th century BC (fig.1).⁴ The graph demonstrates the distribution of burial coins by mint and region: the twenty-eight coins found in Classical burials in the six aforementioned regions were issued in eleven mints (fig.2).

In the case of Corinth, nine out of the eleven burial coins were Corinthian (eight obols, one bronze), and only two came from foreign mints, Lefkada (an obol) and Thebes (a hemiobol).⁵ Local issues, contemporary with the burials, were coins in circulation. The discovery of foreign coins could be interpreted in the context of Corinthian relations with the specific regions, since silver and bronze coins of Lefkada and Thebes have been found either in public or religious areas of the ancient city.⁶

In contrast to the burial coins of Corinth, in the case of Argos a silver hemiobol was placed in just one grave of the city. The remaining burials contained silver obols of foreign Peloponnesian mints:⁷ Phlious (1), Kleonai (1) and Sicyon (5), as well as obols of Aegina (2). Even though Argos had a significant coinage and the commencement of its silver issues was quite early (in 470 BC),⁸ yet it is the use of non-local currency that is observed in the city graves.



Fig. 1: Map of the Peloponnese.

The predominance of the coins of Sicyon may belong to the wider context of the city's important status acquired during Sparta's hegemony. It was a vital ally for Sparta and remained essentially a member of the Peloponnesian League until its dissolution⁹ in the 360s BC. Sicyon, due to its geopolitical location, gave the Lacedaemonians unhindered access to the Corinthian Gulf and the Isthmus area. Sparta was not on good terms with Argos and the passage through its lands was not safe.¹⁰ According to J. Warren,¹¹ who has studied the coinage of Sicyon, its mint must have been the main mint of the Peloponnesian League during the Peloponnesian War. Furthermore, in terms of their relations, Argos and Sparta enjoyed a period of relative calm and stability following the battle of Mantinea in 418 BC. A thirty-year peace treaty was concluded and an oligarchic regime was established in Argos.

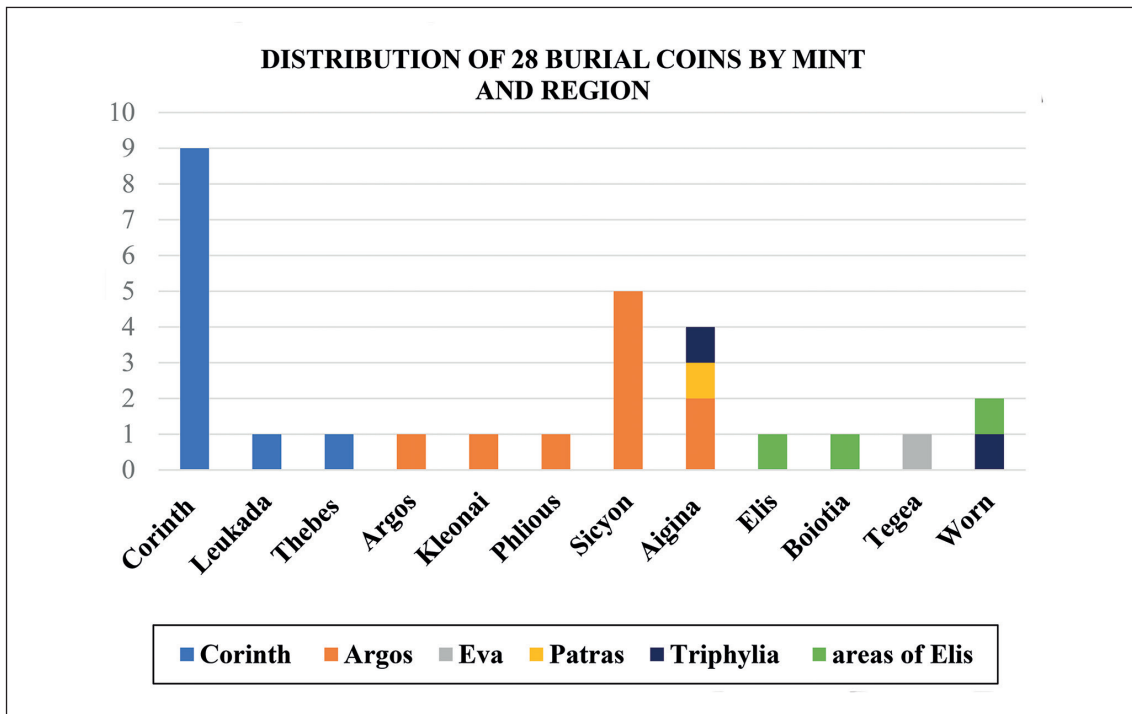


Fig. 2: Classical Period.

As seen in the graph, silver coins of Aegina were placed inside the graves of Argos, Patras, and Triphylia (fig. 2). The economic influence of Aegina in the Peloponnese was significant and based on the famous “turtles”, which were described by the ancient authors as “the currency of the Peloponnese” (Peloponnesion nomisma).¹² The earliest hoards buried in Arcadia and Elis contained only Aeginetan currency.¹³ With the exception of Corinth, almost all the Peloponnesian silver coins that were issued until the mid-3rd century BC were struck to the Aeginetan weight standard.¹⁴

In areas that did not produce their own coinage, burial coins offer evidence for local numismatic circulation. Thus, the silver obols of Aegina found in Patras and ancient Makistos in Triphylia, the silver trihemiobol of the Arcadian city of Tegea in neighboring Eva, the silver obol of Elis in a grave in the Cyllene area, the harbor of the capital of the Elians, were probably used in daily transactions before being deposited in graves.

Hellenistic Period

In the Hellenistic period, the burial custom in the Peloponnese appears widespread, since it is observed in the cemeteries of all thirteen areas under examination. Compared to the Classical period, the number of burial coins is larger, since the Hellenistic graves produced one hundred forty-five coins.

In the Corinthian graves, as in the Classical period, the local coins placed inside are contemporary with the burials. More specifically, of the fifteen burial coins, twelve were Corinthian: three silver obols and eight bronzes of the type Pegasus/Trident and one trihemiobol of the type Pegasus/Gorgoneion. Only three coins came from foreign mints: an obol of Argos, a diobol of Lefkada, and an hemiobol of Boeotia. Contrary to the local coins, the diobol of Lefkada and the hemiobol of Mycalessos in Boiotia were earlier in date than the burials.¹⁵

In Elis, the coins were found in four funerary monuments and a family cemetery in Triphylia,¹⁶ more precisely in the wider area of the acropolis of Platiana, which has been identified with the ancient city of Typanaiai. Of all the eighteen burial coins from Platiana, nine were issued by Sicyon (four triobols and five obols). As it was a region with no coinage of its own, the large percentage of finding Sicyonian coins in its graves is indicative of the local numismatic circulation. The presence of two obols of the Archaean League, which Tryphilia joined in 367 BC,¹⁷ falls within this context.

Furthermore, burial coins reflect the relationship of Tryphylia with other cities. Firstly, the absence of coins from Elis, the capital of the Elians, due to hostile relations between the two cities¹⁸ is noteworthy. Secondly, the coins of Corinth (one diobol), Argos (one triobol), and Sparta (one obol) reveal the city's relations with the powerful centers of the Peloponnese. Thirdly, the presence of a fairly worn tetrobol of Histiaia is associated with their widespread circulation during the 3rd and 2nd centuries BC in the Peloponnese.¹⁹ The individual case of a bronze coin of Cassander and – in an excellent state of preservation – the obol of the *Opountian Locrians* of 340 to 330 BC in a 3rd century grave, suggest that they could have been placed either as a family heirloom²⁰ or as non-legal currency.

In Hellenistic Pylos in Messenia, the burial practice appears at the end of the 3rd century BC in the graves of a tumulus. Bronze coins from Messene (1) and Megara (1) were used as burial coins, as were silver coins: one hemidrachm of Korone and one triobol of the Achaean League, contemporary with the burials.²¹ The coins from the graves in Pylos offer information on the history of the thriving Hellenistic city, which the Messenians and the Achaean League had claimed since the 3rd century BC. In 191 BC, Pylos joined the Achaean League concluding a separate treaty from the other cities.²² The coins of the other Messenian cities – Messene and Korone – as well as the Achaean League were probably in circulation in the city, since Pylos did not have its own coinage until the era of the Severan dynasty.²³

In Sparta,²⁴ this burial practice makes its appearance in the early Hellenistic times. The late presence of the funerary coins belongs to the general context of avoiding luxury and the acquisition of wealth (*chrematismos*)²⁵ that characterizes Spartan society, as well as the subsequent delayed silver coinage of the city during the reign of Areus I (309/8–265 BC).²⁶ In all sixty-eight burials of the Spartan cemetery, only three contained coins: a silver obol of Sicyon of 400–300 BC, and two silver obols of the local mint of Lacedaemon, issues of king Areus I. In addition, a bronze coin of Lacedaemon and one

of Sicyon were found in a late Hellenistic grave. The almost equal presence of coins struck in the local mint and Sicyonian coins reflects the relations between the two powerful cities.

In Argos, there is a wide distribution of the burial practice. Forty-one funerary coins came from twenty-one Hellenistic burials, from the city’s two cemeteries.²⁷ In the total coinage from Argos, only six were the city’s issues. As we have already mentioned, this phenomenon was observed in the graves of the Classical period. The mint of Sicyon with sixteen silver coins is predominant. The number of coins of Phlious (four silver obols and five bronzes) is also significant. There are also coins from Aegina (one obol), Corinth (four bronzes), Kleonai (one obol), Alea (one obol), Tegea, (one silver trihemio-bol), Pheneos (one bronze), and the Arcadian League, a bronze issue of the Megalopolis mint (fig. 3).

In the graves of Argos, the percentage of finding foreign Peloponnesian silver and bronze coins – and particularly those of Sicyon – is large, even though the numismatic production of the Argive city was particularly rich and long-lasting, until the 1st century BC.²⁸ Several coins of the mints of Sicyon, Corinth and Phlious also have been found in excavations in Argos. According to C. Grandjean,²⁹ the foreign small denominations were used by the citizens of Argos along with the coins of the city.

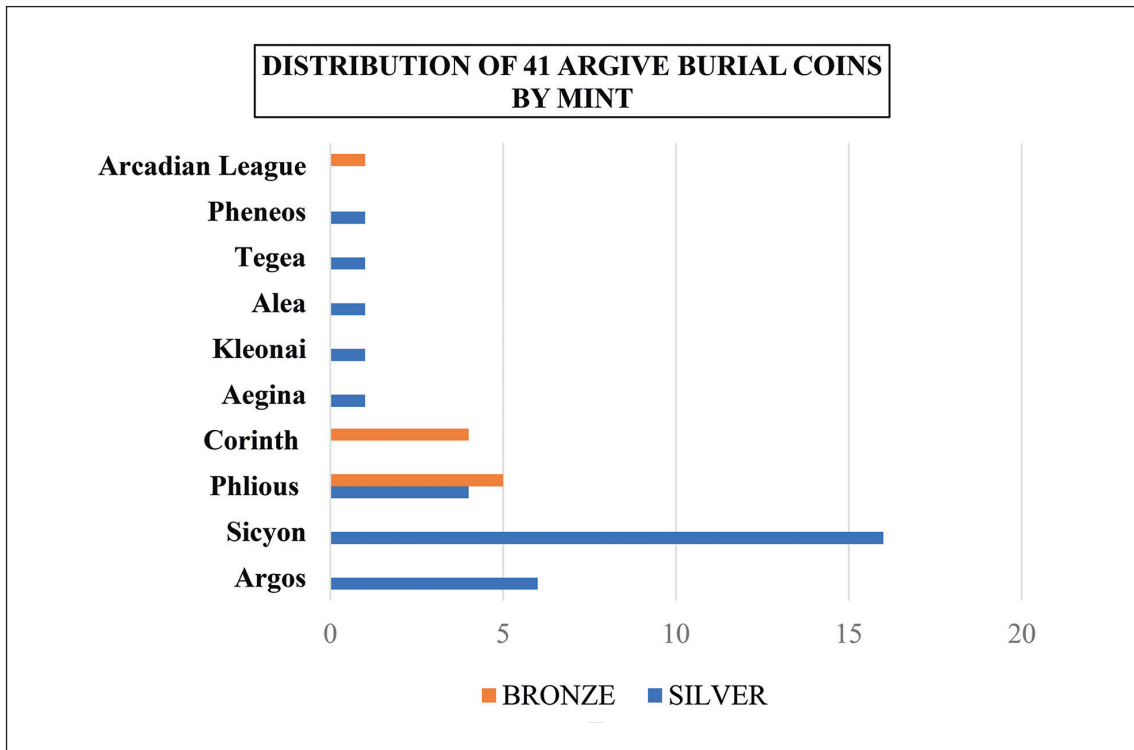


Fig. 3: Hellenistic Period.

Of the twenty-five foreign silver issues, eleven were quite earlier than the burials: three silver obols of Sicyon, three silver obols of Phlious, as well as the obols of Tegea, Aegina, Kleonai, Alea and Pheneos. In addition, of the six local coins only four were contemporary with the burials while in two cases they were more than one hundred years earlier.³⁰ The coins' chronology as well as their extensive wear indicate a long-lasting circulation.

Unlike the case of Corinth, where the local coins in circulation were dominant in the city's graves, the picture was completely different in Argos. In the burials of the Argive city, coins dating earlier than the graves and Sicyon issues that were widely circulating in the city were common. The remarkable presence of the Sicyonian coins in the 3rd century BC graves of Argos falls into the historical context of the period. Following its re-foundation by Demetrius Poliorcetes, Sicyon became one of the two main centers of the establishment of the Antigonids in Corinthia and held a prominent place in the years of the Macedonian authority.³¹ In the second half of the 3rd century, when Aratus ruled the city, Sicyon played a prominent role in the powerful political union of southern Greece after joining the Achaean League (251 BC).³²

In neighboring Asine, unlike Argos, the burial practice is limited. Coins were found in three of the seventeen graves from the city's Hellenistic cemetery.³³ More precisely, there were two silver obols of Argos, two bronzes and one obol of Sicyon, and one of the Arcadian League, struck in the mint of Megalopolis, all contemporary with the burials. The chronology of the graves corresponds to the period of the re-settlement and fortification of Asine, at the beginning of the 3rd century BC, in order to strengthen the power of the Antigonids in the southern Peloponnese through Argolis.³⁴ As in the case of Argos, the significant presence of Sicyon's coins in the graves of Asine reflects the economic importance of the city within the relative political and military stability in Argolis and Corinthia under the rule of the Antigonids. Furthermore, the funerary coins testify to Asine's relations with powerful Peloponnesian cities and, possibly, local numismatic circulation, since the city of Asine never issued its own coins.

In Arcadia, the funerary coins from burial monuments of the important cities of Phigalia and Alipheira are examined. The Arcadian cities had no coinage, except for a series of bronzes issued by Phigalia and Alipheira in the middle of the 2nd century BC, when they were members of the Achaean League.³⁵ In the burial monuments of Phigalia,³⁶ there were coins of the Arcadian League struck in the mint of Megalopolis (one bronze), since Phigalia was one of the members of the League in 370 BC. In addition, there were coins of the Achaean League (one triobol), from the mint of Lacedaemon neighboring Elis, Argos (one obol), and Sicyon (two obols and three trihemioobols). The grave in the funerary monument of Alipheira³⁷ also contained a bronze coin of Sicyon. The coins from the graves of the two Arcadian cities offer information on the relations they had with major centers of the Peloponnese and on the coins in use in everyday transactions.

In Hellenistic and late Hellenistic times, the vast majority of funerary coins were struck in Peloponnesian mints. Of the total of 121 silver and bronze coins, only seven

came from non-Peloponnesian mints, while the remaining were produced in sixteen mints of Peloponnesian cities (fig. 4). The large number of coins of Sicyon is noteworthy. One-third of these consist of burial coins and were found in the graves of nine regions: Sicyon, Aigion, Triphylia, Pylos, Sparta, Argos, Asine, Phigalia and Alipheira.

Based on the archaeological evidence, large quantities of bronze coins of Sicyon have been found in various excavated sites:³⁸ in Argos, from the second half of the 4th century to the 1st century BC; in Corinth, Nemea, Olympia and many areas of Achaia and Arcadia. Also, bronze coins of Sicyon were buried together with the bronzes of the city: such hoards, of Hellenistic times, have been found in Argos (Argos 1924, IGCH 217), Corinth (IGCH 200 and 263), Messenia (IGCH 301), and Arcadia (IGCH 184).³⁹ The earlier view that bronze coins were limited to local circulation⁴⁰ does not seem to be the case here.

Therefore, their presence outside the borders of their issuing authority requires an explanation. Indeed, as C. Howgego has pointed out, the distribution of coins is prob-

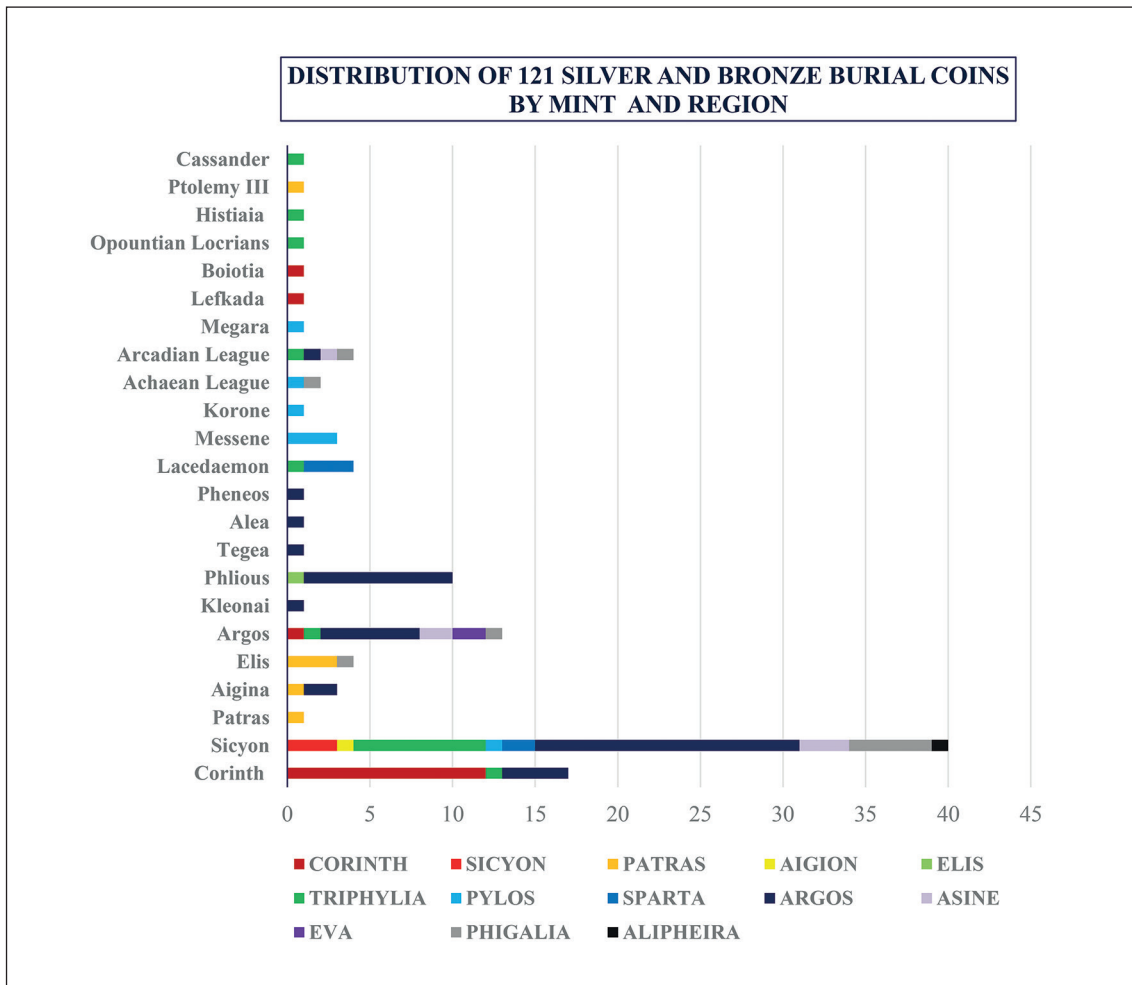


Fig. 4: Distribution of 121 silver and bronze burial coins by mint and region.

ably the best way to illustrate the aggregate movement of people.⁴¹ Based on the archaeological data and considering that the coins of the Sicyonian mint came second in circulation after those of the local mints in many areas of the Peloponnese, it appears that the bronze currency of Sicyon was probably accepted by the local issuing authorities in daily transactions.

In the Hellenistic and late Hellenistic burials in the Peloponnese, apart from the silver and bronze coins, it was customary to place a special group of funerary coins: the gold “pseudo-coins”. Out of the total of twenty-four “pseudo-coins” from the Peloponnesian graves,⁴² it is of interest that twenty of them are imprints, that is, they replicate accurately silver and bronze coins of Sicyon.⁴³

In the Hellenistic period, Sicyon held a prominent place in the years of Macedonian domination and gained a distinguished role under Aratus after joining the Achaean League. In 218 BC, the Macedonian king Philip V transferred the meetings of the Achaean League from Aigion to Sicyon.⁴⁴ The eminent position held by the city at the Synedrion is further demonstrated by epigraphic evidence, in which Sicyonians are treated as representatives of the Achaeans.⁴⁵ In conclusion, the dominance of Sicyon’s coins in the Hellenistic graves of the Peloponnese reflects the widespread circulation of Sicyonian issues in the region.

Notes

¹ Chryssanthaki-Nagle 2006, 93.

² For the custom of Charon’s obol, see Grinsell 1957, 260–263; Kurtz – Boardman 1971, 211; Garland 1985, 23; Morris 1992, 105 f.; Stevens 1991; Chryssanthaki-Nagle 2006, 89 f.; Nikolakopoulou 2017, 11–17.

³ Nikolakopoulou 2019 (under publication).

⁴ Nikolakopoulou 2017, 114–119.

⁵ Blegen et al. 1964, 83 f. 88 f.; Nikolakopoulou 2017, 31 f. 115 pl. 16.

⁶ Edwards et al. 1933, n.268; Price 1967, 383, n. 114–116; Williams et al. 1974, 58 n.113. 114, 60, n.142; Williams – Fisher 1972, 180 n. 133; Williams – Fisher 1976, 150 n. 89; Zervos 1986, 194 n. 117; MacIsaac 1987, 112 n.154. 155.

⁷ Nikolakopoulou 2017, 90 f. 95.

⁸ Flament 2009, 83.

⁹ Lolos et al. 2011, 66–70.

¹⁰ Lolos et al. 2011, 65.

¹¹ Warren 2009, 11.

¹² Kraay 1976, 95.

¹³ IGCH 15, 20.

¹⁴ Hoover 2011, Iv.

¹⁵ Nikolakopoulou 2017, 124 f. pl.16.

¹⁶ Nikolakopoulou 2017, 63–70. 130 f. pl.16.

- ¹⁷ Xenophon, *Ἑλληνικά* 7.1.33.
- ¹⁸ Arapogianni 2012, 414.
- ¹⁹ Tsourti 1999, 23.
- ²⁰ Estiot 2001, 518. 522; Brown 2008, 126.
- ²¹ Nikolakopoulou 2017, 71 f. 131.
- ²² Polybius 18, 42.7.
- ²³ BCD Peloponnesos, 815.
- ²⁴ Nikolakopoulou 2017, 76–78.
- ²⁵ Xenophon, *Lacedaemonian Constitution* 7. 2.; Holladay 1977, 118.
- ²⁶ Hoover 2011, 139.
- ²⁷ Nikolakopoulou 2017, 80–94 pls. 13. 16.
- ²⁸ Hoover 2011, 157–168.
- ²⁹ Grandjean 2016, 83 f.
- ³⁰ Nikolakopoulou 2017, 97.
- ³¹ Lolos et al. 2011, 72.
- ³² Lolos et al. 2011, 76 n. 89.
- ³³ Hägg – Hägg 1980, 60–64. 77–82. 101–103; Nikolakopoulou 2017, 101–104 pl. 14.
- ³⁴ Hägg – Hägg 1980, 129.
- ³⁵ Warren 2007, nos. 71–75. 670–702.
- ³⁶ Nikolakopoulou 2017, 107–110.
- ³⁷ Nikolakopoulou 2017, 111.
- ³⁸ Warren 1983, 23–56; Warren 1984, 1–24; Warren 1985, 45–66; Knapp – Mac Isaac 2005, 149–154; Grandjean 2012, 15–18.
- ³⁹ Grandjean 2012, 17 f.
- ⁴⁰ Le Rider 1989, 159–172.
- ⁴¹ Howgego 1985, 95, 101; Howgego 1995, 101 f. L. Robert (Robert 1951, 77, n. 8 and 1966, 113 f.) emphasized the importance of bronze as an indicator of people’s movement; S. Psoma (Psoma 2009, 3–38) has proposed the presence of bronzes outside the frontiers of their issuing authority in relation to military purposes.
- ⁴² Nikolakopoulou 2017, 21, 126–133. 139. 141. 143–145. 149 f.
- ⁴³ Nikolakopoulou 2019, fig.4. For the typology and the use of the “pseudo-coins” see Stefanakis – Nikolakopoulou 2019.
- ⁴⁴ Polybius 5.1.7–9.
- ⁴⁵ Lolos et al. 2011, 76 n. 89.

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Defence and Coinage in Late Classical and Hellenistic Crete

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Abstract

Recent research has demonstrated the link between coinage and public expenditure, especially military. Crete was famous for the incessant wars between its cities. However, even if the precious metal for minting coinage came mainly from the military activities of the Cretans, as mercenaries *par excellence* in the armies of the Hellenistic powers, and also as pirates, the link between war and coinage is not always obvious. This is especially the case for a local currency that did not circulate outside the island. However, there are periods of minting activity related to military causes, either internal or external. Thus, the goal of this study is to investigate if during these periods a relation could be established between minting and the building of defence infrastructures.

The purpose of this paper is to combine our respective knowledge on the defences of the Cretan cities and their coinage in the late Classical and Hellenistic periods to see if there is a relation between public expenditure for urban and extra-urban fortifications and patterns of coin production on the island.

The Fortifications: Methodological Problems

City Walls and Coinage as Markers of City Status?

Although the existence of a city wall and the activity of minting coins generally indicate city status, they are not necessarily essential elements. In Crete ca. 43 cities or communities minted silver or bronze coinage in the Classical and Hellenistic periods (fig. 1). We know that coinage is dissociated from the concept of sovereignty and independence of a city-state.¹ In the same way, even if the city walls, if they exist, are indeed the mark of the status of city, the cities which do not have any, are nonetheless cities. Thus, according to the study carried out on the urban fortifications in Crete, of the 56 Cretan sites considered as cities (fig. 2),² more than half are not fortified (fig. 3). Of the 29 fortified cities,³ whether minor or important, whether on the coast or inland, only 18 have coinage (fig. 4).⁴ Thus, it seems that neither geographical location nor political importance is a sufficient criterion for the construction of a city wall.

The Reasons for Building: Differences between Eastern and Western Crete

During the Hellenistic period, internal conflicts multiplied for hegemonic, territorial, socio-economic, and ideological reasons. In eastern Crete, the building of urban fortifications is often related to a specific danger, particularly under the pressure of Praisos

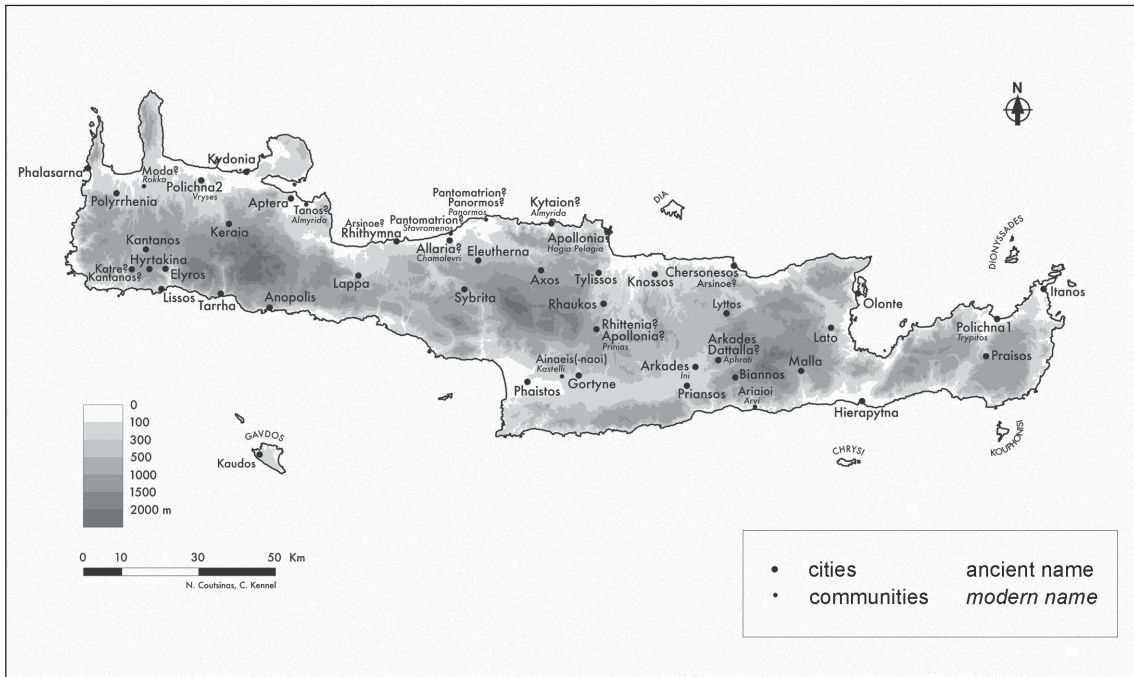


Fig. 1: Cities and communities minting coins.

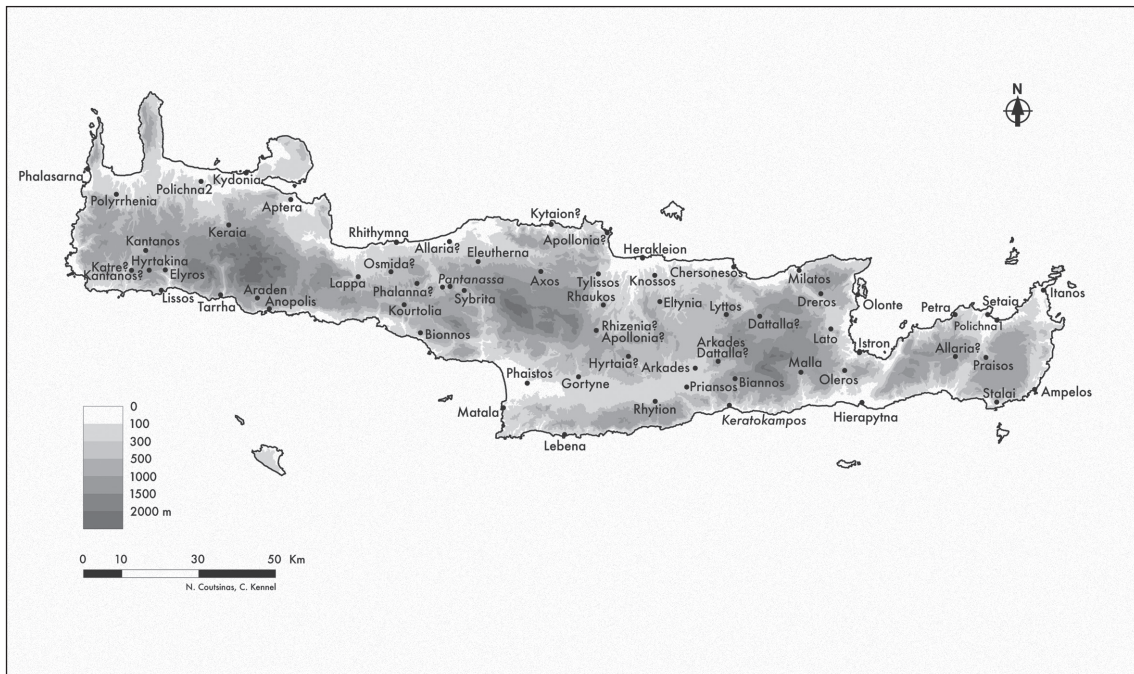


Fig. 2: The cities of Crete.

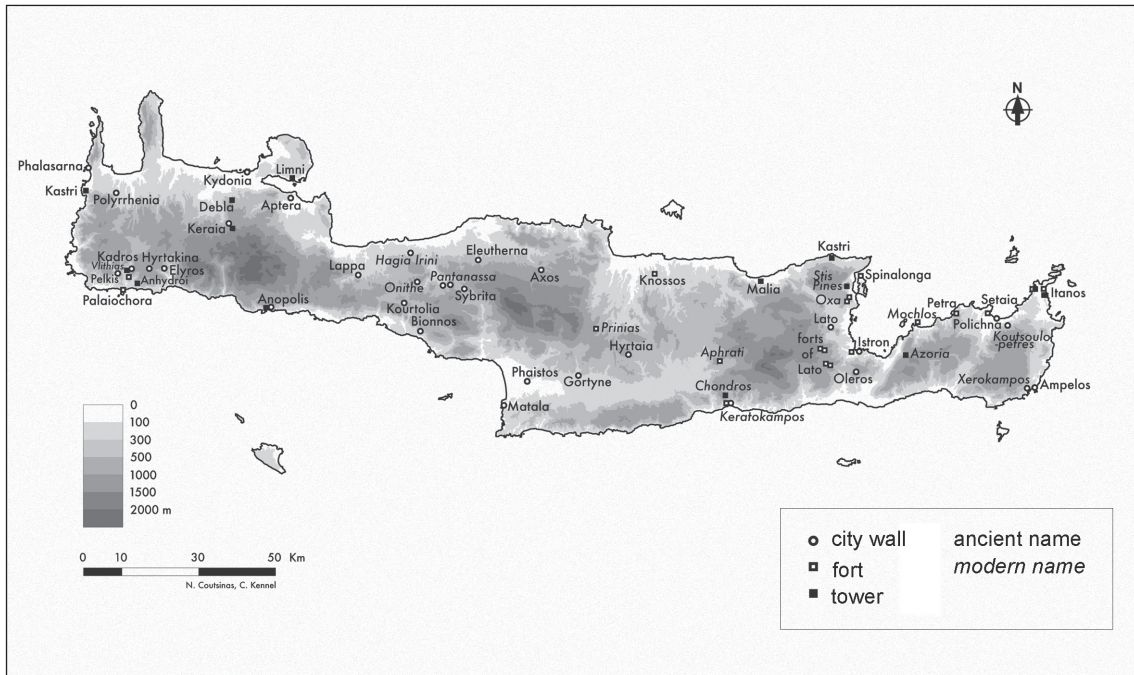


Fig. 3: Cretan fortifications.

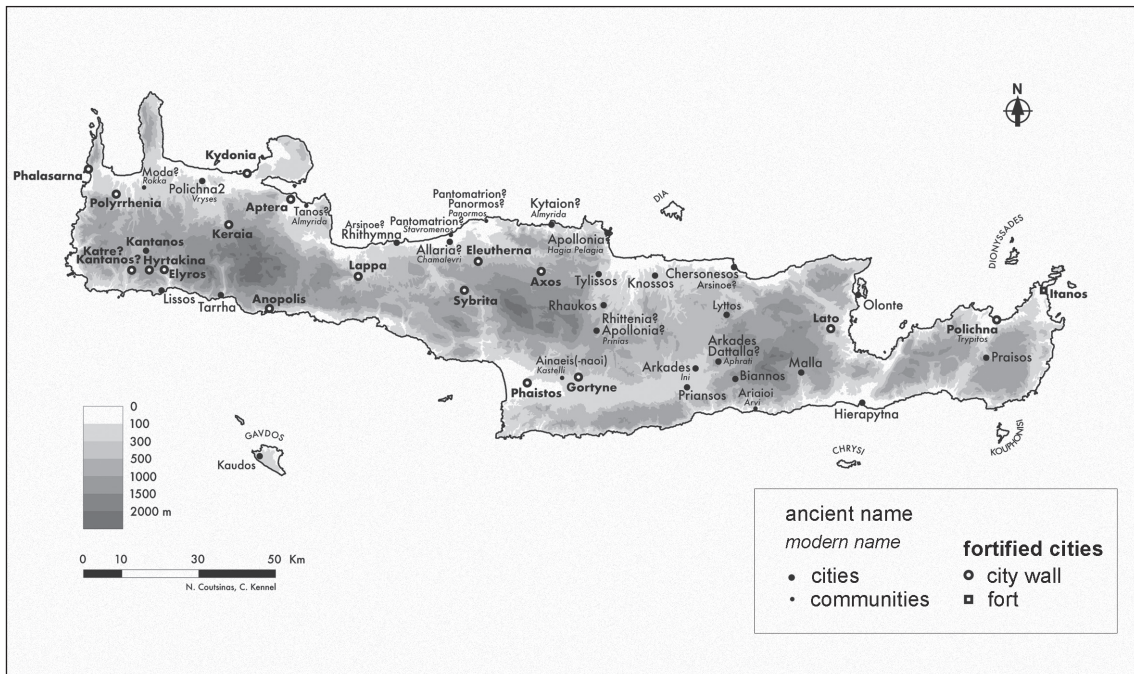


Fig. 4: The fortified cities amongst the cities and communities minting coins.

and Hierapytna, and in western Messara under the pressure of Gortyn. On the contrary, in western Crete most of the city walls constructed in the Classical period (Aptera, Phalasarna, Keraia, and Kydonia), are mainly “prestige” walls that do not respond to a specific threat.⁵

The Dating of Fortifications

The dating of fortifications and their replacement in a specific historical context, especially in Crete, remains vague and approximate because of certain difficulties:

- a. the near absence of written historical sources and their problematic use for the dating of the fortifications. For the Hellenistic period, the cities for which we have both written sources and archaeological remains are: Kydonia, Anopolis, Gortyn, Itanos, and Eleutherna;⁶
- b. the study of the masonry type and the structural features that allow only a general dating to the Classical or Hellenistic period;
- c. the scarcity of stratigraphic excavations in order to identify the chronological phases of construction.⁷ The only specific excavations in Crete concern the extra-urban fortifications, located in strategic points of the territory.⁸

Nevertheless, among the urban and extra-urban fortifications in Crete, those more accurately dated are: the city walls of Cap Koutri – Phalasarna (335–325 BC), the fort of Erimoupolis-Itanos (350–250 BC); the watch tower of Azoria-Hierapytna (end of 3rd – beginning of 2nd century BC); the fort of Prinias, Patela – Rhizenia (?) (end of 3rd or beginning of 2nd century BC), and the city walls of Hagioi Deká, Prophitis Ilias – Gortyn (221–219 BC and 80s or 70s BC).⁹

The Financing of Defence Infrastructures

The protection and defence of the territory of the cities required expenses in three categories: 1) the building and restoration of urban and extra-urban fortifications; 2) the building and restoration of the fleet; 3) the equipment and manning of these defences and mainly the pay of men (citizens and mercenaries) engaged in the operations.¹⁰

Especially in Crete, the modes of financing and the cost of the defensive works are topics difficult to treat because of the scarcity of written texts. In the case of the Hellenistic cities, the purpose of a large number of public subscriptions and loans from the late Classical period were associated with war expenses, including the building and repair of fortifications and towers.¹¹ However, few documents mention the construction of fortifications, with the rare inscriptions instead mentioning repair works.¹²

The Funding Sources

The financing of defence works comes, on the one hand, from the income of the city and in some cases from special funds assigned to the building or restoration of city walls or

forts. On the other hand, it can come from citizens, wealthy individuals, kings, foreign cities and sanctuaries, through *eisphorai*, *epidoseis*, donations and loans.¹³

However, it is necessary to underscore the absence in Hellenistic Crete of subscriptions among citizens and other inhabitants and of loans contracted with private individuals or other cities. There is also the near absence (unlike the Roman period), of local *euergetai* or *choregoi* as evidenced by the small number of decrees and honorary inscriptions found on the island, dedicated mainly to kings, Roman magistrates and doctors. It is well known that in Crete, most of the projects for the construction and restoration of temples and statues were undertaken and supervised by the State and financed by public funds.¹⁴

Nevertheless, there is one example of funding by foreign powers: Gortyn's city walls. According to Strabo's testimony (10.4.11), Gortyn's city wall was financed by Ptolemy IV Philopator (222–204 BC), but remained unfinished. The construction is certainly to be placed in the years of the war against Lyttos (221–219 BC). In the 80's or 70's,¹⁵ the city tried again to protect itself, probably because of a serious political and military crisis.¹⁶ It was then necessary to build new city walls, the first ones being probably too ruined to be repaired.¹⁷

Moreover, according to a recent hypothesis, the fortified harbour of Phalasarna, built between 335–325 BC and then rebuilt in the Hellenistic period,¹⁸ was financed by Persian money that arrived in Crete in 333 BC through the king of Sparta, Agis III. This was for the recruitment of the mercenaries on the island.¹⁹ Its construction was probably related to the war with Polyrrhenia, its neighbour to the east. However, it is unclear whether the 30 silver talents of Agis III, according to the testimony of Arrian (*Anab.* 2.13.6), were intended for Phalasarna or other Cretan cities which joined the anti-Macedonian side. Moreover, although the amount in question is very small for financing the fortifications of Phalasarna, N. Sekunda mentions that further money could have been contributed later to the city directly by the commanders of the Persian fleet.²⁰ Similar arguments were put forward for financing the fortifications of Polyrrhenia,²¹ even if the current remains of the city walls are later than the last quarter of the 4th century,²² as well as for that of the fortification of Aigli (Kastro) on the island of Aigila (modern Antikythira) – which was under the control of Phalasarna – built in the second half of the 4th century BC and abandoned in 69 BC.²³

The forts and watchtowers were also constructed with public funds. However, it should be noted that the impressive fort of Prinias Patela, dating to the late 3rd or early 2nd century,²⁴ was probably built with financial aid from the Ptolemies, like the city walls of Gortyn, to which it certainly belonged.

In the absence of any evidence to the contrary, their regular maintenance was entrusted to the men who occupied them, and their restoration or reconstruction could also be handled by the officers assigned to them. The treaty concluded in the 3rd century between the Ionian cities of Teos and Kyrbissos provides the richest documentation for the forts, their garrisons, and their administration by the city. The annual expenses of

Teos for the fort of Kyrbissos corresponded to the considerable amount of 8,640 drachms, to which the purchase of dogs and the supply of weapons were added.²⁵

Furthermore, as the Cretan inscriptions reveal, *phrouria* or *oureia*, established in the mountains or in border areas (*eschatiai*), were a more common reality than the few towers and forts that have been found on the island.²⁶ For example, the small number of urban and extra-urban fortifications likely indicates that many of the fortified posts in the territory²⁷ were only temporary installations that have since disappeared.²⁸

So, even if the epigraphic documentation testifies that the fortifications and the garrisons were among the main defensive priorities of the Greek cities,²⁹ it appears that in Crete the latter are few. This is the case despite the ongoing wars between the Cretan cities and their territorial conflicts. Thus, without the deterrent role of these urban and extra-urban fortifications being ignored by the Cretan cities (as seen mainly in western Crete), it seems that on the island, the protection of the city does not necessarily rest on defensive works. Rather it depended on the organisation of territorial patrols, for reasons of territorial security (economic and administrative), as evidenced by the epigraphic sources.³⁰

Building Costs

Due to the absence of written sources and archaeological data, the costs of building defensive structures cannot be estimated in most cases.³¹ The cost of a fortification includes: 1) the building materials, whose transport increases their price. However, in Crete, the stone was generally extracted on the site itself and therefore in the immediate vicinity of the fortification; 2) the labour force of varied legal statuses: free, local or foreign (entrepreneurs, craftsmen and workers), but also servile, qualified and paid. In the case of Crete, it seems that the state was the main contractor and used chiefly public slaves, which were easy to acquire, lacked rights, and constituted cheap labour, as well as prisoners of war, free non-citizens (*apeleutheroi*), and foreigners.³²

To give a scale of prices, we can mention some examples:³³

- At Kyzikos, in the 4th or 3rd century, the building or rebuilding of a tower and its staircase were awarded for 440 staters (evaluated by F. G. Maier at 9,200 Attic drachms).³⁴ Following P. Ducrey, who estimates the daily wage of a worker at 6 obols, it corresponds to about a month's work for fifty men. Following the same estimation, the tower built at Eleusis in 329/328, which cost 1,686 drachms, corresponds to about a month's work for ten men.³⁵
- In Thasos, in the 1st century, the amount for the restoration of a tower was drawn from the surpluses of the city and was of the order of 7,000 drachms.³⁶

Recent research on the cost of urban and extra-urban fortifications has clearly demonstrated that the cost, which was generally high for medium-sized cities,³⁷ remained relatively modest, compared with the cost of war itself in pay and maintenance of troops and the fleet.³⁸ Therefore, most of the coins probably served to pay the armies.³⁹

Cretan Coinage and War

From the 5th century BC, Cretan cities followed a common weight standard, which is referred to as “Cretan” in the epigraphic sources of the Hellenistic period.⁴⁰ Between the 5th and the first quarter of the 2nd century, this local monetary system was adapted on a reduced Aeginetan standard and in the first third of the 1st century on a reduced Attic.

Cretan coinage did not circulate outside the island. The monetary policy followed by the Cretan cities allowed silver coins of two types to circulate in their territory: local currencies and international ones (Aeginetan coins and Athenian *stephanephoroi* tetradrachms depending on the periods and the reference monetary system used on the island). Such international coinages were mainly used by cities for transactions outside the island but probably also for some internal transactions. However, cities (when they minted coins) had every incentive to use their own currency for transactions inside the island, where, being overvalued, they enjoyed a premium.⁴¹

The precious metal for the minting of Cretan coinage came mainly from the wages of Cretan mercenaries, booty (slaves and luxury goods) and the redemption of prisoners – procured by the military and piratical activities of the Cretans – as well as from the presence of foreign military troops on the island. Despite this, the relation between war and coinage in Crete, famous for the incessant internal conflicts, is not always obvious.

However, among the ca. 43 Cretan cities or communities that minted coinage in the Classical and Hellenistic periods, only a small number issue gold coins and have an abundant monetary production in silver and this in specific periods of warfare and for a limited time.

The first period of a visible increase in minting activity on the island, situated between 330/20 and 280/70 BC corresponds to a period of internal conflicts, as evidenced by the large number of hoards buried in 280/70 BC, especially in central Crete.⁴² Thus, the minting by Phalasarna⁴³ and Polyrrhenia⁴⁴ of a silver coinage during this period has been associated to the construction of their impressive fortifications. However, due to the lack of a corpus and quantification for Phalasarna’s and Polyrrhenia’s monetary series of this period, one can only speculate. The minting of their coinage also could have been used to pay the wages or for the arming of their soldiers, or to finance other military expenditures not specifically related to the construction of their fortifications.

A little before or during the Lyttian war (221–219 BC), which involved the entire island, Cretan minting was resumed in three Gortynian issues: gold staters following the Attic weight standard,⁴⁵ and silver drachms and triobols of a reduced Cretan weight standard.⁴⁶ The gold Gortynian issue pertained probably to the pay of mercenaries.⁴⁷ Thus, despite the well-known Ptolemaic fund given to the city for the construction of its city walls, the Gortynian monetary production appears very limited. This period of war led however to the expansion of the minting in bronze on the island, which was prob-

ably due to Ptolemaic influence. This is attested by the ‘hoards’,⁴⁸ and especially by the large bronze denominations minted by Gortyn and Knossos.⁴⁹

In western Crete, the minting of silver coinage (mostly in small denominations) in the first quarter of the 2nd century by the cities of Polyrrhenia, Kydonia, Tanos, Allaria, Keraia and Aptaera is also linked to the hegemonic expansionism of Kydonia, who managed to seize Phalasarna in 185/4 BC and Apollonia in 170 BC.⁵⁰ The testimonies of Diodorus (16.63.3) and Polybius (4.55.4) on the two sieges of the city of Kydonia attest to the existence of city walls at the end of the Classical and the Hellenistic periods. The construction of these could be traced back to the last third of the 5th century. Like Kydonia, Keraia, Aptaera and probably Polyrrhenia were fortified already since the 4th century.⁵¹

The second broad period of minting occurred in the first third of the 1st century BC and was connected with the Mithridatic and Civil Wars and thus to the establishment of Roman power on the island. The resumption of silver minting by probably twelve cities (Hierapytna, Lato, Priansos, Lyttos, Arkades, Gortyn, Knossos, Axos, Lappa, Aptaera, Kydonia and Polyrrhenia) during this period concerns the military and defensive needs of the cities and/or the financing of the needs of the Romans on the island.⁵²

Thus, one could suppose that Gortyn’s large production of silver drachms⁵³ in the 80s or 70s is probably associated to the rebuilding of its defensive system.⁵⁴ Likewise, the turreted head of Tyche on the obverse of the coinage of Hierapytna,⁵⁵ besides its symbolic meaning in representing the personification of the city,⁵⁶ could be related to the building of fortifications in the city. The amount of ca. 210 Attic talents produced by the Hierapytnian mint⁵⁷ during this period could be compared to: the 200 or 300 estimated as the cost for building the city walls of Syracuse, the 500 evaluated for the construction of the long walls of Athens by Conon between 391 and 395 BC, and the 1700 estimated for the construction of the walls of the Epipoles by Dionysius of Syracuse.⁵⁸ Nevertheless, the only fortifications found so far in Hierapytna date to the late Roman and early Byzantine period.⁵⁹ Moreover, many Cretan cities resumed minting during this period, and had a predilection for specific denominations (tetradrachms in Knossos, didrachms in Hierapytna, drachms in Gortyn, hemidrachms in Polyrrhenia), as if they complemented each other. Together with these aspects, the absence of overstrikes and countermarks on these local coinages⁶⁰ points probably to other military needs and mainly to the pay of armies.

Conclusion

Even though the chronology of Cretan fortifications is generally approximate, some periods of convergence have been noted between the construction or maintenance of the city walls and the minting of silver or bronze coinage by some cities. Some examples of this are Phalasarna at the end of the 4th century, and Gortyn in the years 220–210 and

80s or 70s. However, it is unclear whether the coins in question were specifically used to finance the construction, maintenance, and equipment of fortifications, forts and watch towers, as well as the wages of the workmen and the pay of the garrisons. Moreover, the expansion of minting activity at the end of the 4th century – beginning of the 3rd century BC and in the first third of the 1st century BC strengthens the hypothesis of a common need to produce coinage for military causes, either internal or external (with the involvement of foreign powers in the island).

To sum up, there are rough correspondences between periods of minting and periods of defensive constructions in late Classical and Hellenistic Crete. While it seems reasonable that some of the new coinages may have been used for defensive structures, most of the money that was earmarked for military preparation would have been allocated for the payment of manpower.

Notes

¹ Martin 1985; Will 1988, 417–420; Hansen 2004, 147–149; De Callataÿ 2011, 77 f.

² On the “one hundred cities” of Crete, see Coutsinas 2013, 34 f.

³ We consider here only the cities with city walls. Some rare urban centres are protected by a fort (like Itanos) or a series of forts (like Olous; nevertheless, see Coutsinas 2020).

⁴ For the link between fortifications and coinage, see Coutsinas 2013, 301 f. Table 17 indicates only 16 fortified cities minted coins: Kantanos is not considered as a city and Eleutherna has been omitted.

⁵ Coutsinas 2013, 397 f.

⁶ For the literary and epigraphical sources, see Coutsinas 2013, 134 f.

⁷ Coutsinas 2013, 394 f.

⁸ Coutsinas 2013, 399.

⁹ Coutsinas 2013, 180–185. 214–220. 250–254. 341–343. 359–364.

¹⁰ Migeotte 2000, 146 f.

¹¹ De Callataÿ 2000, 353 f.

¹² Baker 2000, 183.

¹³ Migeotte 2000, 147–150; Chaniotis 2005a, 116–118; Migeotte 2014, 381–388.

¹⁴ Chaniotis 2004, 79–83 and 2005b, 95.

¹⁵ N. Allegro, in: Gortina IV, 285 f. Nevertheless, we should note the uncertain date (85–82 BC) of the bronze Gortynian coin (Hermes/Butting bull, see Jackson 1971a, 49) used for the chronology of this reconstruction.

¹⁶ Coutsinas 2013, 220. 274.

¹⁷ See Coutsinas 2013, 220.

¹⁸ Coutsinas 2013, 250–254.

¹⁹ Sekunda 2004–2009, 595–600; Stefanakis 2006, 55, n. 109 and 2013, 59; Tsaravopoulos et al. 2012, 557 f; Johnston et al. 2012, 253; Hadjidaki 2015, 132 f. See also Coutsinas 2013, 254.

- ²⁰ Diodorus Siculus (17.48.1–2). Sekunda 2004–2009, 599. We have to mention a probable second influx of money in Crete in the same year, this time through Alexander III, who sent funds to Amphoteris for bringing Crete over to the Macedonian side (Curtius, 4.8.15). See Stefanakis 1997, 132.
- ²¹ Stefanakis 2013, 59; Coutsinas 2013, 250.
- ²² See Markoulaki – Goula, 2015, 135–145.
- ²³ Tsaravopoulos 2009, 588–590; Coutsinas 2013, 254 n. 361.
- ²⁴ Coutsinas 2013, 219 n. 230. 363.
- ²⁵ Migeotte 2000, 150 f. and 2014, 384; Baker 2000, 185 f.; Chaniotis 2005a, 116.
- ²⁶ Coutsinas 2013, 373–375.
- ²⁷ In Crete, the guards of these “border posts”, *oroi* or *orophylakai*, probably had military and/or administrative duties. For details, see the treaty between Gortyn and the dependant community of Kaudos of the first half of the 2nd century BC (*IC*, IV Gortyne, 184, l. 11–18; Chaniotis 1996, 407–420, n° 69) and the obituary of Vasiliki in the region of Hierapytna of the 1st century BC (*SEG XXXIX* 967). See also Coutsinas 2013, 317.
- ²⁸ Coutsinas 2013, 391 f. 400.
- ²⁹ Baker 2000, 189.
- ³⁰ Chaniotis 2008.
- ³¹ Baker 2000, 179.
- ³² Chaniotis 1987, 263. 269.
- ³³ Maier 1959, II, 55–68.
- ³⁴ Migeotte 2014, 384.
- ³⁵ Ducrey 1986, 134 f.
- ³⁶ Tréziny 2001, 371; Coutsinas 2013, 272 f.
- ³⁷ Migeotte 2014, 387. See also the calculation of the cost of the Eleutherai fortress in Fachard et al. 2020.
- ³⁸ Tréziny 2001, 377 f.
- ³⁹ Migeotte 2000; Couvenhes 2006, 411. 434, n. 35; Picard 2010, 171; De Callataj 2000 and 2016, 14–17. However, see Howgego 1990 and Bresson 2008, 59 f.
- ⁴⁰ Stefanaki 2007–2008, 60–64.
- ⁴¹ Stefanaki 2007–2008.
- ⁴² Stefanakis 1997, 126–130.
- ⁴³ Svoronos 1890, nos. 4–11 pl. 25.
- ⁴⁴ Stefanakis 2013, 9–19.
- ⁴⁵ Svoronos 1890, 172 no. 113 pl. 15; no. 21.
- ⁴⁶ Stefanaki – Stefanakis 2013, 148, 166 (Series I).
- ⁴⁷ Stefanaki 2007–2008, 55; Stefanaki – Stefanakis 2013, 149, n. 12. In general, the Cretan cities did not employ mercenaries, but they often invited allied troops (Chaniotis 2005a, 21). See however the case of Phalaikos and his mercenaries employed by Knossos (Coutsinas 2013, 246). On the right of *xenologein* of the Cretan cities, mentioned in their treaties of alliances with the Hellenistic powers, see Couvenhes 2016, 184.
- ⁴⁸ Stefanakis 1997, 156 and 2000, 203.
- ⁴⁹ Jackson 1971a, 45 f. and 1971b, 290.

⁵⁰ Stefanakis 1997, 210–212. 237–241.

⁵¹ Coutsinas 2013, 247–250.

⁵² Stefanaki – Carrier 2020. Apart from the Cretan coinage with local types, pseudo-Athenian tetradrachms were issued between 86 and 83 BC by seven Cretan cities (Le Rider 1968), probably under the authority of the Romans for their needs on the island (De Callataj 2011, 65f.), as well as Gortynian tetradrachms with the symbols of the family of Q. Caecilius Metellus were minted a little before or after the Roman conquest (Stefanaki – Carrier 2020, 253). In this category of “special purpose money” mainly related to military needs also belong the gold half-staters of an Attic weight standard (CNG, Triton XIX, 5 January 2016, lot. 2042), and the didrachms of a Phoenician or Ptolemaic weight standard minted by Gortyn around 270/60 BC (Stefanaki 2007–2008, 55). To this list should also be added the minting of pseudo-Rhodian didrachms and drachms (semi-official Rhodian issues and local imitations), issued at the end of the 3rd–beginning of the 2nd century by Rhodian authorities on the island or by some Cretan cities under Rhodian influence or control (Stefanakis – Stefanaki 2006).

⁵³ Stefanaki – Stefanakis 2013, 167 f., Series IV and V.

⁵⁴ Coutsinas 2013, 220. 274. See also N. Allegro, in: Gortina IV, 285 f.

⁵⁵ Svoronos 1890, nos. 11–20 pl. 17.

⁵⁶ Coutsinas 2013, 272.

⁵⁷ Stefanaki 2021, 296. 324.

⁵⁸ Coutsinas 2013, 273.

⁵⁹ Mari 2010, 200–210.

⁶⁰ Stefanaki 2006, 308; Stefanaki – Carrier 2020, 254.

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Roman Coinage

Panel 5.25

Organized by

Peter Franz Mittag

Paestum, Velia, Pompeii: Monetary Policies in Tyrrhenian Campania from the 2nd Century BC to the 1st Century AD

Renata Cantilena – Federico Carbone – Giacomo Pardini

Research conducted by the University of Salerno on the use of small-value coins from the late Republican age found in the archaeological sites of present-day central and southern Campania highlights the scarcity of Roman small change: this is the case despite the fact that this was a Romanized region. This was certainly due to the meagre production of small-denomination coins in Rome, but also because of the city's policy of non-interference in the local circulation of small change.

The present study regards three cities, each with a different institutional status: Paestum, initially a Latin *colonia* and subsequently a *municipium* with a mint that was active until the Tiberian age; Velia, a Greek *polis* that became a *civitas foederata* and then a *municipium* after the Social War, which also minted coin; and Pompeii, a community that never had its own currency. A systematic analysis of the coins found in these sites makes it possible to define a more precise history of the coinage produced or used. It also offers insights into the policies adopted to meet the people's needs for small change between the 2nd century BC and the early Imperial age. Furthermore, an examination of the large number of recovered specimens allows us to check the weight standards of the coinage in use with the values of the Roman system.

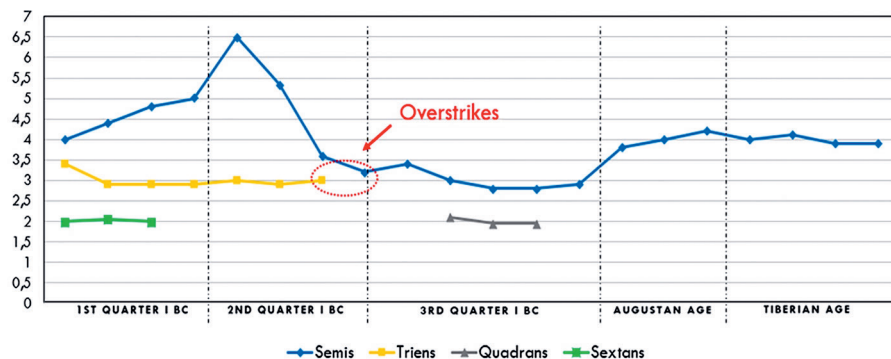
In the case of Paestum, we have examined bronze coins dating from the 1st century BC to the Tiberian age, when the mint was closed down.¹ The most frequently minted coin was the semis, but there was also sporadic production of triens and sextans. The quadrans was coined from the mid-1st century BC to the time of Octavian,² when minting in Paestum reached its peak and some imitations of its coins were struck elsewhere.³ The weight of the semis decreased steadily before being drastically reduced at this time to a weight previously assigned to the triens. This variation is documented by the systematic overstriking of the triens as a semis: an overstatement of the nominal value considering the weight had been halved.⁴

In the same period, Velia saw the minting of the abundant series of Athena/Tripod coins with the Greek inscription YEΛH. The survey made it possible to identify about 1200 specimens, over 1000 of which come from archaeological excavations carried out in the town and mostly from the so-called 'Agora' area and the 'Southern Quarter'.

The data provided by the large sample we have examined lead us to believe that this issue (theoretical weight about 2 grams; diameter 13 mm) corresponded to the value of a Roman quadrans.

A hoard found in Velia in 1967 contained no less than 330 examples of this coin (all of the Athena/Tripod type), along with 27 Republican bronze coins, 26 Republican silver coins and 2 bronze coins from Paestum.⁵ The Velia coins in this hoard were struck from

Weight standards in use at Paestum



A hoard from Velia

A large number of Athena / Tripod coins come from a hoard discovered in 1967 (PONTRANDOLFO 1974, 91-111).



Athena/Tripod coin; 2.8 g, 14 mm
From Velia Hoard n. 75.

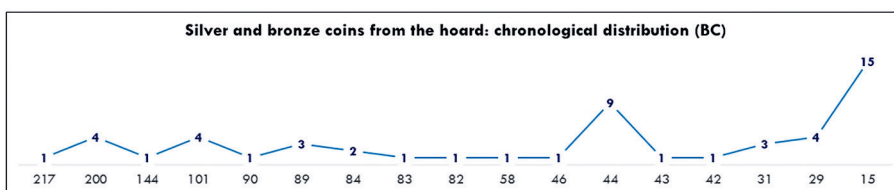
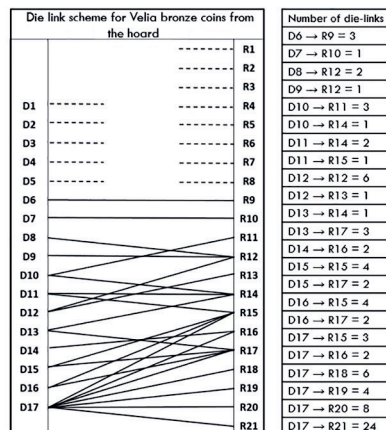
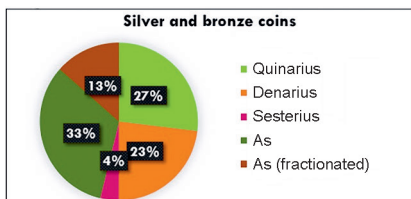


Fig. 1: Above, a summary diagram concerning the weight systems in use at Paestum. Below, a description of a hoard from Velia with die-link analysis for the bronze coins minted by the city, as well as the chronological distribution of the other coins (except those of Velia).

no less than 17 obverse dies and 21 reverse dies with numerous die links. This feature suggests they were issued shortly before they were hidden (the late 1st century BC). We can therefore hypothesize that these coins were minted in Velia mostly in the final decades of the 1st century BC: this was done hurriedly and on a huge scale using mobile dies, as is indicated by the numerous striking errors.

In Pompeii, on the other hand, bronze coins issued by other towns were used to meet the needs of daily life and for retail exchanges. Like other towns, they resorted to splitting bronze coins minted in Rome. The excavated sites (homes, shops, places of worship, etc.) show an increase in the use of foreign small change starting from the years immediately after the 2nd Punic War. Particularly noteworthy are the small coins from Ebusus and Massalia, which were well known in the area and were thus copied locally.⁶ Like the small change of a similar weight in Paestum and Velia, these were probably used with the value of quadrans.

In all three sites, the bronze coins were abundant between the second half of the 2nd century BC and the early Imperial age, but particularly in the final decades of the 1st century BC.

The growing need for small change, however, was met with a variety of solutions: in Pompeii with the splitting of the Roman as in circulation and the prolonged acceptance of foreign coins, which were copied in unofficial coinage; in Paestum with issues of coins by public or private magistrates; and in Velia with a substantial production in the name of the city.

The widespread use of local coinage – official, private or imitations – confirms Rome's lack of interest in providing such coins.

The most widely sought after coins were the semis and the quadrans. This was a long-lasting need that would be partially met only with the monetary reform of Augustus who, not surprisingly, re-introduced the quadrans to Rome, the minting of which had ceased more than half a century before.

Notes

¹ For further details, see Cantilena – Carbone 2015, 67–112 with previous bibliography.

² Carbone 2014, 30. 49.

³ Stannard – Carbone 2013, 259–264; Carbone 2014, 49f.

⁴ Carbone 2018.

⁵ Pontrandolfo 1974, 91–111.

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Fig. 1: by the authors.

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Coin Evidence for the Integration of the Cities of Bithynia and Pontus during the Reign of Trajan?*

Barbara Zając

Abstract

There are nine iconographic types reproduced on the coins of individual centers of Bithynia and Pontus during the reign of Trajan. These originate from Roman Imperial coins struck between 80–82 AD, in the Imperial branch mint located in Thrace or Bithynia. It could indicate a certain degree of integration or co-operation between cities. Is this a true thesis? In this period in Bithynia and Pontus, monetary policy may have depended on central intervention central intervention, rivalry between cities, trade, army, and cult.

Monetary Policy during the Reign of Trajan

Financial policy in the Roman Empire during the reign of Trajan had a centralizing tendency, just as in the period of Domitian.¹ Looking at the monetary policy in this period we can consider some type of coordination across the large territory of Roman Empire. The research of Kevin Butcher has addressed the stylistic similarities in silver provincial coinage that was struck in this period. He suggested that the production of these coins was carried out only in three main mints such as Rome, Alexandria and Antioch and were distributed to other regions.² The main provincial economy was focused on the bronze currency struck mostly in the local cities, but some of them were issued in Rome and distributed for the local needs to Syria, Cyprus, Cyrenaica and Cappadocia.³ Moreover, in the provinces the Roman Imperial coins also circulated.⁴

Central Intervention in Bithynia and Pontus

Giovanni Salmeri in his article about centralized intervention and case of Bithynia and Pontus, based on the letters Pliny the Younger⁵ wrote about two tends between centre and provinces. Rome's provincial administration was rigid, and had precise rules to be followed. In matters of policy, he also assumed that individual Emperors had the capacity to shape large-scale economic and social processes on a major level. Based on the letters between the Emperor and Pliny the Younger we can see some elasticity and adaptability in the final decisions, and sometimes these decisions were undertaken by only the *legatus*. Pliny gives attention to many issues, such as the administration of

justice, as well as the control of expenditure and public works.⁶ He also gives us some examples, such as the millions of sesterces of public funding for an aqueduct in Nicomedia,⁷ or the 10 million sesterces used for the theater in Nicaea.⁸ Pliny solved financial difficulties by the system of collective euergetism.

In this context, one should consider the impact of central intervention on monetary policy. Central intervention, according to the correspondence with the Emperor, was more a political and ideological action, rather than a strictly economic one. The city's money was not the priority of the Emperor, and he was worried more about some interests of local notables.⁹ According to Michael Rostovtzeff, 'the emperors of the first two centuries were upholders of economic liberalism, whose behavior left the way open to the development of a market economy in the Mediterranean area'.¹⁰ Moses Finley claimed that 'economic elements were inextricably joined to political and religious factors'.¹¹ In this case, there was no decision in Bithynia and Pontus that was purely economic in nature. Trajan's intervention had more of a political impact, but with economic consequences.¹²

How is this related to the monetary policy? The intervention of the center could have had some impact on monetary production, namely in terms of the amount of funds needed for some building works. For the provincial economy, this could have impacted the relationship of certain cities within a regional hierarchy.¹³ Following this approach, the funding was a matter of pride for local people, with which they could emphasize their position (such as through a *neokoros* title).¹⁴ The status of the city provoked rivalry between cities because they had more benefits and economic advantages. During this period there were conflicts between Nicomedia and Nicaea, and between Apamea and Prusa. Some denominations could be dependent from the status of the city. Dio of Prusa claimed an assize-district for his hometown. Stephen Mitchell stated that the presence and passage of the army to be a significant stimulus for the local economy.¹⁵ Gren focused on contacts between Bithynia and Thrace that lasted for many centuries and emphasized the relevant position of the Byzantium.¹⁶ Other factors that could influence economic and monetary policy could be trade and cult.¹⁷ Moreover, based on modern research, some Roman Imperial coins are visible in provincial material, which forces us to consider the importance this currency had in the provincial economy.

Are Coins the Determinant Factor of Local Integration?

The minting activity in Bithynia and Pontus was conducted by 14 cities, which struck bronze coinage. Among these centers are important harbors (Byzantium or Heraclea), metropolises (Nicomedia, Heraclea, Amastris), or autonomous cities (Calchedon). Two colonies (Apamea and Sinop) were located in the region, and their coins differ from the provincial ones due to the Roman citizens, who placed characteristic images and Latin legends.¹⁸

Coins of individual centers struck during the Trajanic period may indicate a certain degree of integration or co-operation. Kraay¹⁹ suggested the presence of a centralized system in the province, which could be reflected in the similar denomination, material, images, legends, and die-links of coins as well as the occurrence of a particular currency in circulation. Individual emissions in Bithynia and Pontus show some similarities, but not in all aspects, thus denying a strict centralization system; perhaps this points to a certain type of integration between centers.²⁰ Some centers had a similar monetary pattern, such as Heraclea and Tium, or Byzantium and Calchedon. However, cities often had rivalries with each other for status, and would benefit from this (in Bithynia and Pontus there was rivalry between Apamea and Prusa, and between Nicaea and Nicomedia).²¹ Why then was there integration in this period? Some effigies were placed on coins and reproduced in different centers, which reflect more Roman traditions than that of the local culture. One example is the type of Ares (RPC III Nicaea 1061, Juliopolis 1098, Amastris 1198), or other personifications (RPC III Apamea 1029–1030, Juliopolis 1099). They do not repeat images from coins issued locally in earlier periods (only single emissions), or Roman Imperial coins from the Trajanic period (only single emissions), which were also present in the province's circulation.

There are nine iconographic types reproduced on the coins of individual centers of Bithynia and Pontus during the reign of Trajan (Table 1). These originate from Roman Imperial coins struck between 80–82 AD, from the Imperial branch mint located in Thrace or Bithynia.²² If we take into account the denominations of particular types, they do not completely correspond to their prototypes. Coins with effigies of Pax/Eirene (RPC III Apamea 1029; Juliopolis 1099, Prusias ad Hypium 1101, Uncertain mint 1125–1126, 1131), Ares (RPC III Nicaea 1059, Juliopolis 1098, Amastris 1198) and Elpis (RPC III Amastris 1199, Abonoteichos 1211, Uncertain mint 1127) were minted. This is based on sestertii with these representations and represents larger denominations with a diameter of 30–35 mm and a weight between 20–26 g. In this case, some copies have a slightly smaller diameter and a lower weight when compared to the Roman sestertius, however none of these types were placed on smaller denominations. Coins with the image of Pax/Eirene were also issued during the Domitianic period in Nicaea (RPC II 633), and Prusias (RPC II 672). This indicates the popularity of this motif in this part of the province as well as the possible integration between individual centers.²³ The image of Victoria was placed only on the Imperial dupondius (RPC II 512). The same denomination and type was struck by Amisus (RPC III 1237), although this image also appeared on other units in other cities. Most of the denominations of Imperial coins issued between 80–82 AD are asses. Only some types have a similar denomination as the Roman as. These are coins with the effigy of Demeter from Juliopolis (RPC III 1100) and Amastris (RPC III 1200–1202), Poseidon from Tium (RPC III 1180) and Athena from Prusa (RPC III 1040). Perhaps some types were supposed to reproduce the same denomination, however, the value corresponded to the local assarion (18–20 mm, 4–6 g). If we look at all copied types, the least diverse denomination are coins that had a similar

Latin Coins from Thrace (80–82 AD)		Provincial Bronze Coins from Bithynia and Pontus (98–117 AD)		
Type	Denomination	Type	Mint	Denomination
Pax	Sestertius	Pax	Apamea	33 mm, 21 g
		Eirene	Juliopolis	32–33 mm, 25 g
			Prusias and Hypium	31 mm, 20 g
			Uncertain mint	30–34 mm, 22–35 g
Mars	Sestertius	Ares	Nicaea	35 mm, 21–22 g
			Juliopolis	31–32 mm, 25–26 g
			Amastris	30–31 mm, 22 g
Spes	Sestertius	Elpis	Uncertain mint	30–31 mm, 21–22 g
			Amastris	30 mm, 24 g
			Abonoteichos	31–32 mm, 20 g
Ceres	As	Demeter	Prusa	32 mm, 23–24 g
			Juliopolis	25–26 mm, 13 g
			Uncertain mint	21–22 mm, 6–7 g (Bassus) 24–27 mm, 11–12 g 24–25 mm, 9 g 20–22 mm, 6–7 g
			Amastris	25–27 mm, 10–12 g
			Abonoteichos	21 mm, 6 g
Victory	Dupondius	Nike	Uncertain mint	31–32 mm, 22–24 g 25–27 mm, 11–13 g
			Amastris	23–24 mm, 9 g
			Amisus	27–28 mm, 13 g 22–23 mm, 8 g

Table 1: Iconographic Types and Denominations of Latin Coins from Thrace (80–82 AD), and Provincial Bronze Coins from Bithynia and Pontus (98–117 AD).

Latin Coins from Thrace (80–82 AD)		Provincial Bronze Coins from Bithynia and Pontus (98–117 AD)		
Type	Denomination	Type	Mint	Denomination
Altar	As	Altar	Prusias ad Hypium	18–19 mm, 6 g
			Uncertain mint	19–22 mm, 6–7 g (Bassus) 24 mm, 9 g 20–21 mm, 5–6 g
			Amisus	22–23 mm, 9 g
Eagle	As	Eagle	Prusa	16 mm, 4 g
			Prusias ad Hypium	18 mm, 5 g
			Uncertain mint	21 mm, 7–8 g (Bassus) 22 mm, 5 g
			Amastris	23 mm 32 mm, 24 g
Neptune	As	Poseidon	Heraclea	24 mm, 14–15 g 18–20 mm, 4–5 g
			Tium	25 mm, 10 g
Minerva	As	Athena	Prusa	25 mm, 12–13 g
			Uncertain mint	21–22 mm, 6–7 g
			Heraclea	22–23 mm, 5 g 18 mm, 5 g
			Amastris	23–24 mm, 8–9 g
			Amisus	17 mm, 3 g
Roma	Dupondius		–	
Poppy with corn-ears	17 mm, 5–6 g		–	

Table 1 (continued)

value to the Roman sestertius. The rest of the copied types were made following different units. Among the cities imitating these effigies, it seems that Juliopolis and Amas-tris tried to reproduce the same denominations.

Determining the more accurate dating of individual coins with copied types is quite problematic. Due to the titles received by the Emperor, their chronology can be determined mainly for the periods after 98 and 102 AD. This, in turn, does not allow us to state whether the reasons for copying images from Roman Imperial coins are related to the coming of the Imperial legate and an attempt to bring the monetary system in the province more in alignment with the Imperial one. During the Domitianic reign, some of these types were already placed on coins in Nicaea,²⁴ Nicomedia,²⁵ and Prusias ad Hypium.²⁶ The distribution of particular iconographic types is visible during the Trajanic period. Some of the portraits of the Emperor on the obverse of the bronze coins from Bithynia and Pontus could also be based on Imperial coins. It could be a very good method to take advantage of another one.

Returning to the 'prototypes' of coins, the Roman Imperial branch mint was proposed to be in the area of Thrace by modern researchers,²⁷ due to the presence of these coins in museums and collections in Sofia, Belgrade, and Istanbul. However, perhaps one should return to the view of one researcher,²⁸ which situated the mint in Bithynia and, consequently, the subsequent reproduction of locally known coins during the Trajanic period. Researchers rejected this thesis due to differences between the styles, denominations, ore, and the axis of Imperial coins struck at the same time and the bronze coins in Bithynia.²⁹ Another hypothesis is that Thrace was a possible place of production for the needs of Bithynia.

Conclusion

During the reign of Trajan, does the copying of motifs similar to Roman Imperial coins struck between 80–82 AD indicate the integration of individual centers? Perhaps, but not necessarily for all of the province. Perhaps the integration of cities should be seen only in the centers of the western part of Bithynia. Despite similar effigies, there are many inaccuracies that may exclude integration. On their coins, cities placed only some of the above iconographic types, and they were still issuing coins with images related to local traditions. A large variation in denominations is visible. The rivalries of individual centers should be kept in mind. Maybe the phenomenon should be interpreted as an attempt to 'approximate' the provincial monetary system more to the Imperial one, which could also be related with the central intervention of the Emperor and the residence of his legate. Copying images from Roman Imperial coins from the period 80–82 AD would indicate that the reproduction of well-known motifs spread across Bithynia and Pontus.

Notes

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¹ Bennett 2015, 203; Carradice 1983, 3.

² Amandry et al. 2015, 798.

³ Amandry et al. 2015, 870.

⁴ Butcher 1988, 9–13; Among the published finds from this region, the hoard of imperial coins from Koçoğlu, Manyas in Turkey should be highlighted. Here, a large part of the coins are denarii issued in Rome from the period of Trajan and Hadrian (Arslan 1996, 31).

⁵ Plin., Ep. X; This is one of the few and very valuable relationships that is the basis for further research into the life and functioning of the region, and of Trajan’s policy itself.

⁶ Salmeri 2005, 188.

⁷ Plin., Ep. X, 38.

⁸ Plin., Ep. X, 39.

⁹ Salmeri 2005, 195

¹⁰ Salmeri 2005, 190.

¹¹ Finley 1999, 155.

¹² Salmeri 2005, 191.

¹³ Salmeri 2005, 196.

¹⁴ Butcher 1988, 25 f.

¹⁵ Mitchell 1993, 134.

¹⁶ Gren 1941.

¹⁷ Salmeri 2005, 196–197.

¹⁸ Amandry et al. 2015, 118–154; Butcher 1988, 47–50.

¹⁹ Kraay 1953.

²⁰ Amandry, Burnett et al. 1999, 92.

²¹ Winniczuk 2017, 79; Salmeri 2005, 196.

²² Amandry et al. 1999, 87–91.

²³ Woytek 2011, 123.

²⁴ Amandry et al. 1999, 101–103.

²⁵ Amandry et al. 1999, 103–105.

²⁶ Amandry et al. 1999, 106–109.

²⁷ Carradice – Cowell 1987; Amandry, Burnett et al. 1999, 87–91; Burnett 1999.

²⁸ Cahn 1984.

²⁹ Amandry et al. 1999, 87.

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Table 1: by the author.

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Le trésor de Sbiba (Tunisie) : un autre témoignage du monnayage vandale en Afrique¹

Zakia Ben Hadj Naceur Loum

Résumé

Le trésor de Sbiba, l'antique Sufes (Tunisie), découvert en 1990, est un des dépôts les plus importants, quantitativement, enfouis en Tunisie et qui ont été intégralement restitués. Il se compose de 7140 monnaies dont la fourchette chronologique est comprise entre le règne de Constantin I^{er} et celui de Thrasamund (496–523). Les monnaies sont toutes en bronze à l'exception d'un seul exemplaire en argent (1/4 de silique) et dans un piètre état de conservation pour la plupart. C'est la raison pour laquelle j'ai fait transférer le trésor du musée de Sbeitla, où il était exposé, au Laboratoire Central de l'Institut National du Patrimoine afin d'assurer la restauration des monnaies. Cette investigation préliminaire relative au trésor de Sbiba est une introduction pour un futur projet d'étude du dépôt sur tous les plans : archéologique, historique, production et circulation monétaires ...

Abstract

The coin hoard from Sbiba (ancient Sufes) that was discovered in 1990 is one of the most quantitatively important deposits buried in Tunisia that has been fully restored. It consists of 7140 coins whose chronological range is between the reign of Constantine I and that of Thrasamund (496–523). The coins are all made of bronze except for a single silver coin (1/4 of silica), and for the most part is in a poor state of conservation. For these reasons I had the hoard transferred from the Sbeitla Museum, where it was exhibited, to the Central Laboratory of the Institut National du Patrimoine to ensure its restoration. This preliminary investigation concerning the hoard of Sbiba is an introduction to a future research project regarding the archaeological and historical aspects of the deposit, as well as aspects of its production and the circulation of its currency.

Le trésor de Sbiba : les circonstances de la découverte

A l'instar de beaucoup de vestiges archéologiques, la découverte du trésor de Sbiba fut fortuite. En effet, le 17 septembre 1990, au cours des travaux d'aménagement de la rue principale (jadis 7 novembre et actuellement baptisé avenue 14 janvier 2011) de la commune et plus précisément devant le siège de la mairie, 7068 pièces de monnaies en

bronze furent trouvées dans les remblais. Les pièces ont été déposées dans un premier temps dans les réserves de la mairie après avoir été pesées par les agents municipaux (10 kg). Puis, elles ont été déposées dans les réserves du site de Sbeïtla. Enfin, elles ont été acheminées vers le laboratoire de Carthage où ont été choisies quelques monnaies² à restaurer afin de pouvoir exposer le trésor au musée de Sbeïtla. On ne possède aucune information sur le vase qui avait contenu les monnaies, à part le témoignage de M. Fathi Béjaoui, qui nous confirme qu'il reste seulement un fragment de ce vase. C'est malheureusement là chose très fréquente en Afrique où l'étude des contenants des trésors a toujours été négligée.³ En effet, ils ne suscitent aucun intérêt ni de la part des archéologues, ni des céramologues et sont souvent détruits. Par ailleurs, même s'ils ont été conservés, ils sont souvent délaissés au moment de la publication ou de l'exposition dans le musée. Ainsi, à Sbiba, le vase n'est mentionné sur aucun des deux rapports,⁴ et ce n'est pas le seul dépôt à présenter cette anomalie ; le trésor d'El Jem, le plus grand trésor tunisien du point de vue du nombre (42 000 monnaies du III^e siècle), pose le même problème. M. Mabrouk Hamrouni, qui en a fait l'inventaire, note simplement à propos du contenant : « M. Golvin et moi-même nous avons consolidé la jarre qui contenait le trésor avec du plâtre. Après quoi il fut facile de la transporter au bureau de la maison de fouilles ... ». Actuellement et après une longue recherche, qui a duré 3 ans, dans les réserves du musée d'El Jem, j'ai retrouvé le vase grâce à l'aide de M. Hamrouni qui l'a repéré et m'a affirmé qu'il n'avait jamais changé de place.⁵

Dans l'état actuel de la documentation, je ne suis pas en mesure de décrire le contenant du trésor de Sbiba, néanmoins il est possible que j'aie les fragments restants du vase, ce qui permettra aux céramologues de l'intégrer dans les études d'ensemble des productions régionales. Dans ce cas précis, comme le trésor est étalé sur la période III^e siècle – première moitié du VI^e, il serait intéressant de savoir si le vase est contemporain de la première ou la dernière pièce.

Sbiba, l'Antique *Sufes* : le site de la trouvaille monétaire

Le site est baptisé Hr. Sbiba. C'est le site n° 116 de la feuille N° XXXVI El Ala de l'Atlas Archéologique de Tunisie (AAT2) et n° 089 de la Carte Archéologique feuille de Sbiba n° 069 au 1/50 000^e.⁶ Il s'agit du noyau urbain de Sbiba qui couvre environ 30 ha.⁷

Il est situé au milieu d'un couloir de passage forcé nord-sud connu à l'époque médiévale sous le nom de « *Fej Sbiba* »,⁸ à 40 km environ au sud-ouest de Maktaris, à 40 km environ au sud de *Thugga Therebintina*, à 30 km environ au sud de *Mididi*, à 40 km à vol d'oiseau environ à l'est de *Thala*, à 35 km au nord de *Sufetula*. Le site de *Sufes* est installé sur un plateau ondulé surplombant, à l'est, une vaste plaine arrosée par l'oued Sbiba. Ce cours d'eau passe au sud du site et joint l'Oued Rohia-El Htab à 5 km à l'est. Du côté occidental, le site est protégé par les montagnes de Tioucha au sud-ouest, Kef Soltan et Sidi Ali Ben Om Ezzine à l'ouest. Le site de Hr. Sbiba, proprement dit, est actuellement

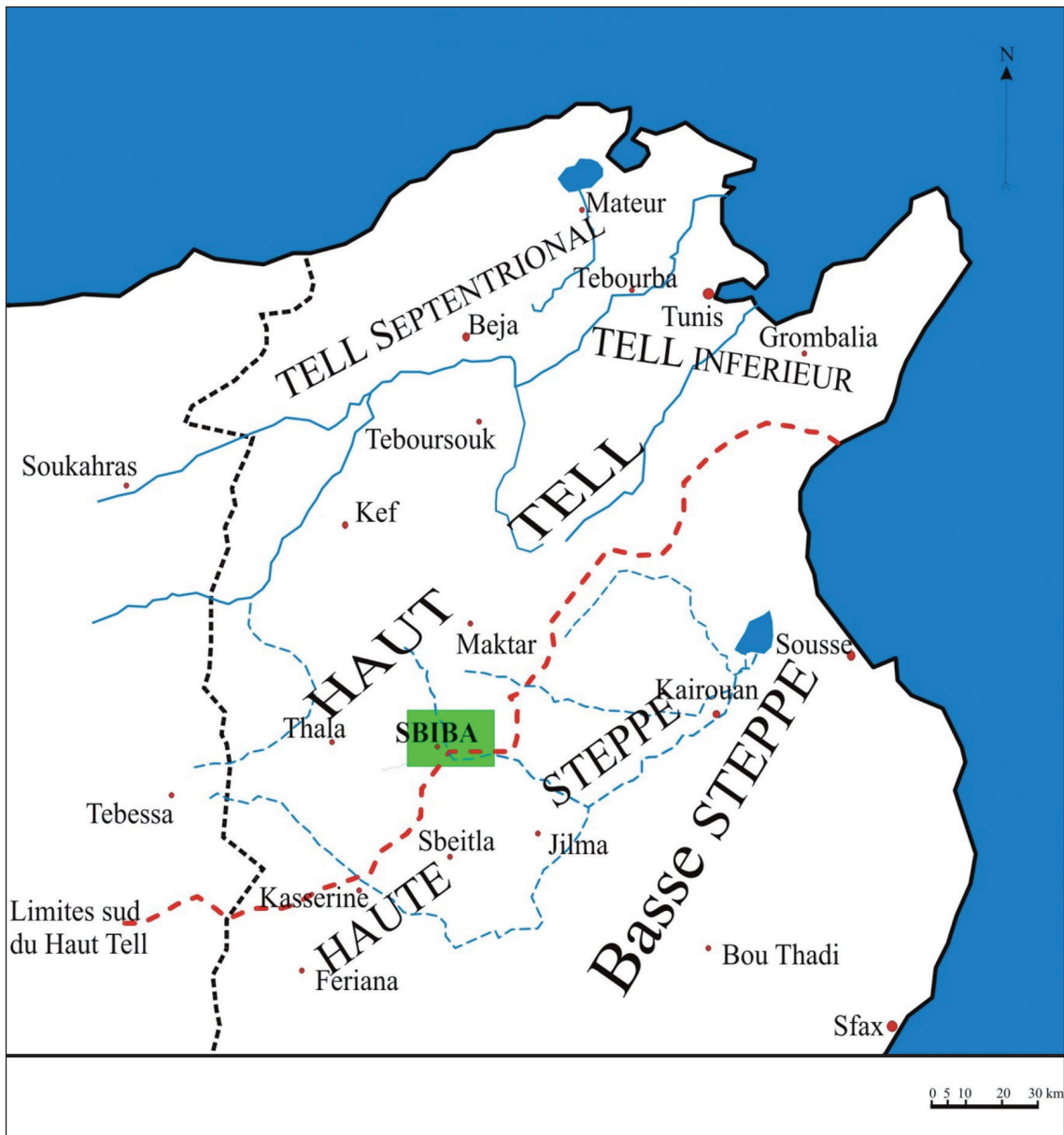


Fig. 1 : Carte de localisation du site de trouvaille.

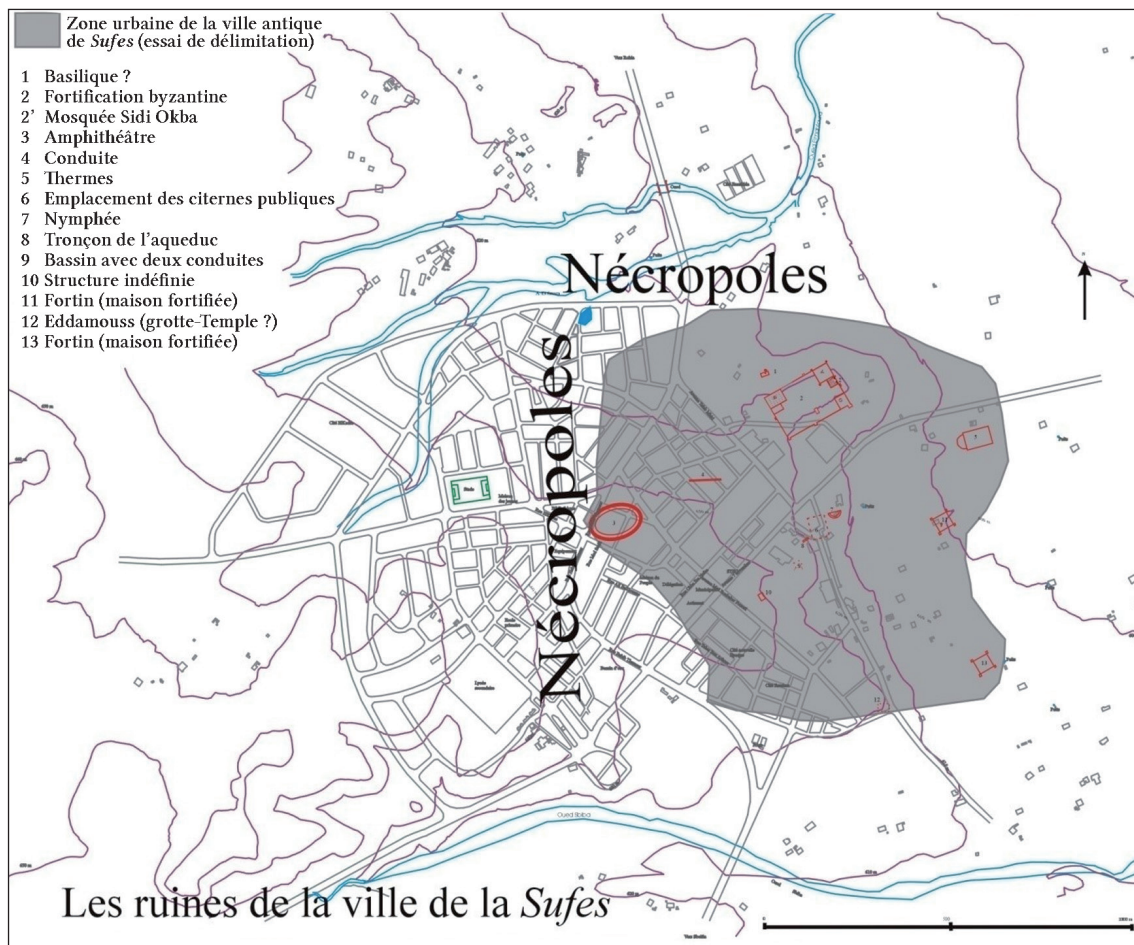


Fig. 2: N°.10 lieu supposé de la trouvaille ?



Fig. 3: Échantillon de monnaies exposé au musée de Sbeitla.

en très mauvais état de conservation. Car, en plus des spoliations et des destructions massives qu'il a subies, il souffre de l'extension urbaine qui devient de plus en plus envahissant et provoque de sérieux dégâts.

Plusieurs monuments mentionnés par les voyageurs et les explorateurs du XIX^e siècle tels les fortins, les basiliques, la forteresse byzantine ont disparu.⁹ L'*Atlas Archéologique de Tunisie* signale des thermes, un nymphée, deux basiliques chrétiennes, trois enceintes byzantines (voir fig. 2).

Le trésor de Sbiba : description

Découvert en 1990, le trésor n'a fait jusqu'ici l'objet d'aucun inventaire, même partiel. Mis à part les deux rapports qui relatent les circonstances de la découverte et la mise en valeur d'un échantillon de monnaies pour l'exposition au musée de Sbeitla, on n'en trouve que deux mentions : la première est dans la préface de Hédi Slim pour le livre *Les Flavii de Cillium, étude du mausolée de Kasserine*, collection de l'École française de Rome-169, 1990, p. VIII : « À toutes ces découvertes récentes vient s'ajouter celle faite il y a quelques semaines seulement d'un important trésor de plus de 7000 monnaies mis au jour lors de travaux d'urbanisme à Sbiba, l'ancienne Sufes, autre site important de la région. Datable, à première vue, de la fin du IV^e siècle et du début du V^e, il démontre l'existence de gens fortunés dans cette zone charnière de la steppe à la veille du choc produit par l'invasion vandale ». Mieux documenté, M. Grira décrit « en 1990, un deuxième trésor, découvert lors des travaux d'aménagement à l'intérieur de la ville de Sbiba contenant 7068 pièces en majorité en bronze qui remonte à la fin du IV^e-début V^e siècle (Valens, Valentinien, Théodose et Honorius). Actuellement ce trésor est exposé dans le musée de Sbeitla ». ¹⁰ Dans les circonstances actuelles, il faut préciser que le musée de Sbeitla est fermé depuis 2 ans (2010) pour la rénovation et la sécurisation totale de l'espace, et par conséquent tout le matériel qui était exposé est déposé dans les réserves. Vu son piètre, voire fruste état de conservation (des demi et des quarts de monnaies, à quoi s'ajoutent l'effritement de quelques unes), ¹¹ le trésor de Sbiba a été transféré au laboratoire central de l'INP pour être restauré.

Quels que soient les problèmes que pose la mauvaise conservation des monnaies (lecture difficile, impossibilité de reconstituer des séries complètes), le trésor demeure significatif et instructif dans la mesure où il nous informe sur le monnayage des achats quotidiens dans un contexte bien précis : celui de la fin de l'Empire romain et de l'invasion vandale.

La composition toute préliminaire du trésor est la suivante :¹³

De ce tableau récapitulatif ressortent les éléments suivants :

- L'aspect artificiel du tableau car les monnaies ont été regroupées chronologiquement en fonction de leurs types, comme s'il ne s'agissait que de frappes officielles. Or les



Fig. 4 : Échantillon des monnaies formant le trésor après la restauration.¹²

pièces d'imitation sont assez nombreuses, ce qui donne une place à l'arbitraire quand on considère le dépôt dans sa globalité

- Le premier groupe est caractérisé par la présence des monnaies du III^e siècle. Ces pièces radiées ont un diamètre d'environ 12 mm et un poids moyen de 0,80 g. Des pièces dont l'abondance des premières générations sur le sol d'Afrique n'est plus à démontrer ont survécu par l'intermédiaire de moulages réalisés sur les originaux encore assez nombreux en circulation, selon J.-P. Callu, entre 335 et 346 ; la similitude des modules semble ainsi avoir, aux yeux des utilisateurs, plus d'importance que le type lui-même.¹⁴ Dans le même groupe se placent les frappes posthumes de Claude II : DIVO CLAVDIO à l'aigle et à l'autel, et les frappes irrégulières de Tetricus père et fils¹⁵

Monnaies pré-constantiniennes : imitations radiées (270–fin du III^e siècle)

CONSTANTIN I (307–337)

CONSTANTIN II (337–340)

CONSTANCE II (337–361)

CONSTANS (337–350)

MAGNENCE ou DÉCENCE (350/1–353)

CONSTANCE GALLE (351/354)

JULIEN ([355]–360–363)

JOVIEN (363–364)

VALENTINIEN I (364–375)

VALENS (364–378)

PROCOPE (365–366)

GRATIEN (367–383)

VALENTINIEN II (375–392)

THÉODOSE (379–395)

ARCADIUS (383–408)

MAXIME (383–388)

FLAVIUS VICTOR (387–388)

EUGÈNE (392–394)

HONORIUS (393–423)

PRISCUS ATTALUS (409–411)

THÉODOSE II (402–450)

Anonymes protovandales (439–480)

Protovandales (484–496 ?)

Vandales (496–523)

Fig. 5: Ventilation des monnaies par règne.

Période	Type monétaire	%
348–364	FEL TEMP REPARATIO SPES REIPVBLICE VICTORIA CAESARIS VICTORIAE DD NN AVG ET CAES VOT/V VOT/V/MVLT/X	30
364–378	GLORIA ROMANORVM RESTITVTOR REIP RESTITVTOR REIPVBLICAE SECVRITAS REIPVBLICAE REPARATIO FEL TEMP	30
378–395	VICTORIA AVGGG VOT/XV/MVLT/XX VOT/XX/MVLT/XXX VOT/X/MVLT/XX VICTORIA AVGGG GLORIA REIPVBLICE SALVS REIPVBLICAE CONCORDIA AVGGG VOT/V SALVS REIPVBLICAE VICTORIA AVGG SPES ROMANORVM GLORIA ROMANORVM	10
395–408	GLORIA ROMANORVM CONCORDIA AVG CONCORDIA AVG CONCORDIA AVGGG VRBS ROMA FELIX SALVS REIPVBLICAE GLORIA ROMANORVM VIRTVS EXERCITI VICTORIA AVGGG	10
408–425	GLORIA ROMANORVM VICTORIA AVGG VICTORIA ROMANORVM GLORIA ROMANORVM SALVS REIPVBLICE GLORIA ROMANORVM	10
425–439	SALVS REIPVBLICAE SALVS REIPVBLICE VICTORIA AVGG VOT PVB VOT/XX Croix dans une couronne	5
439–480	Porte de camp Anonymes proto-vandales : Rosette D dans une couronne	3
484–496 ?	Protovandales : Croix dans une couronne	1
496–523	Vandales : Monnaies attribuées à Thrasamund	0,01

Fig. 6 : Types monétaires présents dans le trésor.

- Le deuxième groupe est celui des monnaies du IV^e siècle, dont le type *Fel temp reparatio* au cavalier (Aes 3) forme un lot relativement important. La période valentinienne (364–378) est représentée par des monnaies aux types GLORIA ROMANORVM (empereur et captif à droite) et SECVRITAS REIPVBLICAE (victoire marchant à gauche). Les années 378 à 408 sont illustrées par de nombreux types, dont les VOTA de Gratien, Valentinien II, Théodose I et Arcadius, les SALVS REIPVBLICAE (victoire et captif), et les VICTORIA AVG/GG (deux victoires). À partir de 408 et jusqu'à 455, s'imposent les types VICTORIA AVG/GG d'Honorius et SALVS REIPVBLICE (victoire et captif) de Théodose II et de Johannes.
- Le troisième groupe est constitué des monnaies anonymes protovandales. Il s'agit des types africains les plus fréquents : avers au buste diadémé à droite et revers variés, croix, D, ou rosette à 8 branches, croix dans une couronne. Cl. Brenot et C. Morisson pensent qu'il faut situer ces frappes vers 455–480.¹⁶

La rareté du matériel du V^e siècle est difficile à interpréter, néanmoins deux éléments peuvent être pris en considération : une situation politique difficile caractérisée par la désorganisation administrative, l'insécurité due aux révoltes et aux invasions, qui ont probablement ralenti l'approvisionnement de l'Afrique, dépourvue d'atelier en numéraire ; d'autre part une diminution probable du volume de frappes en Occident où les ateliers, à la faible exception de Rome, ont quasiment cessé leur activité. Rome n'émet pratiquement plus entre 395 et 450, Arles faiblement jusqu'en 425, Aquilée et Siscia de même jusqu'à 423¹⁷

- Le quatrième et dernier groupe est composé des monnaies vandales. Néanmoins vu l'état fruste des monnaies, qui ne sont pas encore toutes restaurées, il s'avère impossible d'identifier avec précision tous les types représentant la période concernée, sauf pour une monnaie de Thrasamund (496–523). Il s'agit d'un quart de silique :

C'est pourquoi nous pensons que l'enfouissement doit être placé dans les années 523 et 533 au plus tard. Cette période est celle de l'émission des monnaies royales vandales qui commence sous Gunthamund (484–496) et s'achève avec les émissions du dernier souverain, Gélimer (530–533). Chaque roi frappe une série complète de dénominations, depuis la pièce de 50 deniers en argent et ses subdivisions de 25 ou plus rarement de 12 deniers, jusqu'à l'Ae 4.¹⁹

Par ailleurs, les données fournies par plusieurs trésors comparables, découverts en Afrique, notamment en Maurétanie césarienne²⁰, nous donnent plus d'éléments pour le situer dans le temps : faut-il dans ce cas dater son abandon après 23/425 ? A priori oui, car on trouve presque la même composition que celle du trésor du Hamma.²¹ C. Morisson propose 533 au plus tard comme date de l'enfouissement de ce trésor.²²

Le trésor de Sbiba permet de préciser l'évolution de ce monnayage tantôt de nécessité tantôt autonome (vandale). Il s'insère dans le premier groupe, constitué des trésors mixtes comprenant des monnaies signées et des monnaies anonymes.²³ Le principal intérêt de cette trouvaille, et il est l'important de le souligner, est l'absence de monnaies byzantines. Ce qui nous laisse déduire qu'il s'agirait d'une immense réserve de



Fig. 7 : Quart de silique de Thrasamund.

monnaies qui n'aurait plus été alimentée après la reconquête justinienne et l'ouverture d'une officine byzantine à Carthage. Que s'est-il passé après 533 ? Un retrait massif de numéraire ancien suite à un décri semble peu probable. Car, les bronzes romains, vandales et byzantins n'ont jamais cessé de circuler en parallèle.²⁴

Notes

¹ Je remercie M. F. Béjaoui, découvreur de la cachette, d'avoir accepté de me confier le trésor de Sbibia pour étude. J'adresse mes remerciements à Mohamed Ben Nejma, chercheur à l'INP et conservateur du site et musée de Sbeïtla, qui s'est déplacé avec moi dans des conditions difficiles (protestations, sit-in ...) afin de me montrer le trésor et faire le comptage, avant de le transférer au laboratoire central de l'INP à Ksar Saïd pour restauration.

² 7 monnaies qui s'échelonnent ainsi : 2 de Constance II, dont 1 AE 3 du type *FelTempReparatio* -, 1 Ae 4 du type *SpesRepublice* (355-361) ; 2 de Valentinien I, dont 1 Ae 3 du type *SecuritasPublicae*, 1 Ae 3 du type *Gloria romanorum* (367-375) ; 1 Ae 4 de Valentinien II, du type *Vot/XX/Mult/XXX* (375-392) ; 2 de Théodose I dont 1 Ae 4 du type *Vot/X/Mult/XX* (381-382) et 1 Ae 4 du type *Victoria augg* (389-392).

³ C'est la même chose en France où le problème a été déjà posé dans les années 80 par P. Jean Trombetta et al. 1985, 73.

⁴ Deux rapports conservés aux archives de l'INP.

⁵ Je remercie vivement M. Mabrouk Hamrouni, qui a accepté que nous nous rencontrions (juin 2012) et qui m'a montré le contenant difficile à identifier car il ne portait aucune indication.

⁶ Etablie par M. Grira et publiée par INP en 2003.

⁷ Estimation de M. Grira qui a prospecté la zone.

⁸ El Istibsar, 129.

⁹ L'exemple des thermes, un nymphée, deux basiliques chrétiennes, trois enceintes byzantines signalés par l'*Atlas Archéologique de Tunisie*, feuille El Ala, n° XXXVI, site n° 116.

¹⁰ M. Grira, Sufes (Sbiba) et sa région dans l'Antiquité (thèse de doctorat Tunis 2008) 18.

¹¹ Cet état de conservation a donné un écart de 72 monnaies entre le premier comptage effectué en septembre 1990 (7068 monnaies) et le second, effectué le mardi 24 avril 2012 (7140 pièces : beaucoup de fragments ont été comptés comme des monnaies entières).

¹² La restauration du trésor est toujours en cours dans le laboratoire central de l'INP et, selon les techniciens, elle doit s'achever fin 2018.

¹³ Malheureusement la restauration du trésor n'a pas été faite jusqu'à ce jour ci. Ce qui porte préjudice à la lecture des monnaies et à leur catalogage.

¹⁴ Brenot – Morrisson 1983, 194.

¹⁵ Chameroy 2010, 342. 347.

¹⁶ Brenot – Morrisson 1983, 200.

¹⁷ *Ibid*, 196.

¹⁸ Il s'agit probablement d'une variante. Car avec revers XXV dans une couronne (sans les lettres DN), on ne connaît dans les répertoires que des monnaies d'Hildéric, alors que Thrasamund on lui attribue plutôt des revers DN XXV. Voir Morrisson 2003, 71. 472–473.

¹⁹ Morrisson 2003, 70.

²⁰ Deloum 1990, 967–968 ; voir aussi Brenot 2012, 577–578.

²¹ Il s'agit d'un trésor qui a été trouvé à Hamma Bouziane, 10 km au nord de Constantine. Il est composé de 1668 pièces. Ce sont pour la plupart des « monnaies vandales en mélange avec des monnaies romaines ». Sur 1668 exemplaires 123 ont fait l'objet d'une étude. A travers cette étude, on a pu situer le trésor dans le temps : Les monnaies vont de Constant Ier (337–350) à Thrasamund (496–523). Voir, Troussel, 1950,176 ; Brenot – Morrisson 1983, 197.

²² Morrisson 1983, 244.

²³ Le second groupe est constitué de trésors comprenant uniquement des monnaies anonymes ou des imitations : Deloum 1986, 313.

²⁴ Les monnaies issues de la prospection et des fouilles illustrent bien ce type de circulation. Voir Loum, « L'apport de l'étude des monnaies de surface à l'histoire économique des sites antiques de la Tunisie centrale », à paraître.

Crédits d'images

Figs. 1. 2 : D'après Grira 2008. – Figs. 3–7 : de l'auteur.

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City Supplies, Currency and Payments along the Pontic Coast of the Roman Provinces Moesia Inferior and Thracia

Hristo Preshlenov

This survey¹ is focused on the general trends of the Roman economy along the south-western Black Sea coast. Here, the ancient Greek cities Apollonia, Odessus, Mesambria, Dionysopolis, Bizone, and Anchialus played a decisive role in the trade taking place along the coastal border zone, as well as its administration.

Political Background

Traditionally, the Pontic region was an open area for active contacts as an intermediate between the Balkan region and the eastern Mediterranean world. The oldest cities on the south-western Black Sea coast were founded by Hellenic immigrants of Milesian and Megarian origin in the late Archaic – early Classical Age. Searching for appropriate places for settlements during the second phase of the great Hellenic colonization, the settlers from Miletus, Megara, Byzantion, Kalhedon, and their successors looked for naturally defended geographical areas like peninsulas (Apollonia, Mesambria, and Anchialus), high plateaus rising over the sea coast (Dionysopolis, Bizone), and terraces (Odessus). All of these provided the best opportunities for visual communication and transports (fig. 1). This resulted in the integration of nature, town-planning, and geo-strategic advantages.² These cities came within the range of Rome's military-political and economic interests in the course of the Republican wars against Mithridates VI Eupator. The establishment of Roman power in these cities took place at the end of the 1st century BC, and the beginning of their integration into the Roman Empire's provincial administrative and economic system occurred under the Julio-Claudian and Flavian dynasties. Therefore, during the 2nd–3rd century AD they turned into self-governing municipalities under the military, political, juridical, administrative and financial control of the Roman administration and of the princeps.³

Economic life in the circum-Pontic region was concentrated traditionally in the coastal urban settlements. During the period of the Principate, the most significant of them, Odessus and Anchialus, strengthened their positions and like other administrative, financial, and harbour centres were fortified in the region of the Pontic coast of Moesia Inferior and Thrace (fig. 2). Odessus was on the road to Nicopolis ad Istrum – Melta, while Anchialus was linked to the same city by the alternative parallel transport corridor that ran through the pass of Diulino in the eastern part of the Stara Planina Mountain.⁴ Both cities revealed evidence of substantial economic development and the potential for assuring the transition and the temporary dislocation of the staff, the

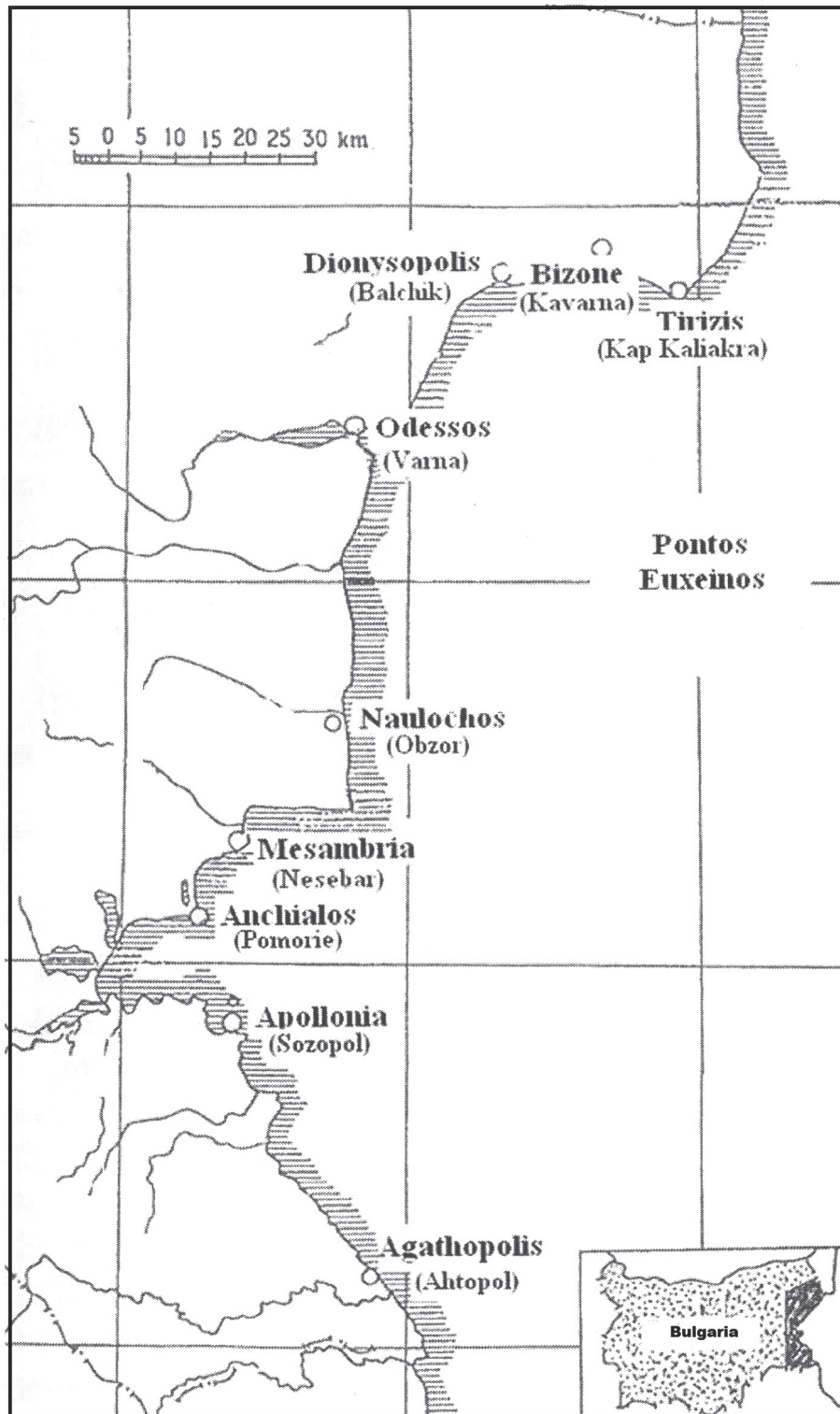


Fig. 1: The geographical location of the south-western Pontic Greek cities.



Fig. 2: Odessus-Varna – historical topography. ■ city morphology (1984); --- coast line and harbour works (1879); -.- coast line and ▤▤▤ harbour works (1984); ... bathymetric data (1854); — (— — probable) fortified city space: (1) IV–I BC, (2) I–III(IV) AD, (3) (IV–)VI AD, (4) XI–XII AD, (5) XIII–XIX AD, (6) 1828, (7) 1834; ● researched city walls; (8) Apollo temple; (9) sanctuary of Heros Karabazmos; (10) Roman baths; (11) early Byzantine baths; (12) temple of Theos Megas; (13) early Christian basilica.

equipment, and the provisions of the Roman military units along the transport corridor Rhine – Danube – Black Sea – northern Asia Minor – Euphrates. This comprised part of the external boundary ring of the empire and supported it.

Infrastructure

Sea transport had a greater significance for the economy of the coastal towns. The traffic started or ended in their harbors, which were integral infra-structural places at the sea border of Moesia Inferior and Thrace. Fixed stocks of Roman type supported the landing of universal *naves actuariae*, rowing Roman ships of the type *liburna*, and sailing trade ships of the type *corbita* in the aquatorium of the bays of Anchialus and Odessus up to the end of the 3rd century AD.⁵ The nautical vessels that participated in the regional sea transport are also displayed on the reverse of the coins of Anchialus (fig. 3),⁶ on the walls of the public baths,⁷ and on *tabula ansata* of sarcophagi in Odessus (IGB I² 212 bis). Such illustrations are available in the vicinity of Odessus in the territory of a Thracian settlement. A sailor and an iron anchor have been cut *affresco* into the walls of the tomb chamber of a brick masonry ciborium vault in the sanctuary of Hero Proastios.⁸ Despite the presumable early Christian symbolism of these pictures, they realistically depict this type of vessel as well as the equipment that was used for coastal navigation in the region during the early imperial and late Roman periods.



Fig. 3: Bronze coin from Anchialus.

Mass Market

Archaeological evidence from the Roman and late Roman period reveals the great importance of the mass-produced ceramic, glass, and marble products imported by sea from the eastern Mediterranean and circum-Pontic region.

Wine, olive oil, processed fish, and probably other goods in ceramic amphorae arrived chiefly from the southern Black Sea, the Aegean, and areas of Asia Minor.

Amphorae Shelov of the A, B, and C type, with a long slender neck and made of pale red to pale brown clay, were imported from the end of 1st century BC to the 4th century AD. Their origins should be sought on the southern shores of the Black Sea (e.g. the region of Heraclea Pontica and Sinope). They were used mainly for wine in several chronologically distinguished variants.⁹ These are known from: the harbours of Bizone and Tirizis,¹⁰ Dionysopolis (Balchik-Museum), as grave goods in Kokodiva (a Thracian coastal settlement near Odessus)¹¹ and in Odessus,¹² from offshore contexts between Odessus and Mesambria,¹³ from the southern harbour of Mesambria,¹⁴ in the coastal region of Apollonia,¹⁵ and from the underwater excavations at Urdoviza.¹⁶

Amphorae of the Shelov D type is made from pale brown to pink brown (after baking) clay and has a short conical neck. They were used to transport wine from the southern Pontic region to the northern coastal region of Odessus,¹⁷ the southern one of Mesambria,¹⁸ and Anchialus.¹⁹

Amphorae of the Dressel 2–4 type, in provincial variants from the area of Heraclea Pontica and Sinope are known to the north – from Odessus, Bizone, Cape Kaliakra, and from the sea near Caron Limen.²⁰

Aegean wine was imported in the 3rd century AD and later in orange-red amphorae of the Kapitän II type: its body is in the shape of a wide upside-down cone and has handles that rise above the level of a heavily profiled rim.²¹ They are found all over the Bulgarian Black Sea coast: in Bizone,²² Odessus,²³ Mesambria,²⁴ Anchialus,²⁵ Apollonia²⁶ and Urdoviza.²⁷

Red amphorae of the Zeest 80 type, probably coming from area of Propontis has deep horizontal grooves below the rim and massive round grooved handles.²⁸ They are found in the western bay of Tirizis and the harbour of Bizone,²⁹ as well as in Roman grave № 10 in Kokodiva.³⁰ Wine, olive oil, and maybe fish products were transported in some of them.

Amphorae of the Dressel 24 type were discovered in Anchialus, in the storage space of a vineyard from the 2nd–3rd century AD. They were of the “familia” type with a funnel profiled rim, and were red to light brown.³¹ They were found next to the wine press. Next to wine, olive oil³² was transferred in these vessels, whose production was lately suggested in the eastern Mediterranean region.³³ In the same storage in Anchialus, rose- to red-brown amphorae of the Knossos 26/27 type, with overhanging everted rim (Bourgas Museum), were probably reused as well. This type, produced in the region of

Sinope,³⁴ was used to transport wine and olive oil also in the region of Bizone, Tirizis and Odessus in the 2nd–3rd century AD.³⁵

In this period, other types of red amphorae of the Zeest 72 type, which were manufactured in the production centres on the northern Black Sea coast (Panticapeum, Myrmekion), entered the south-western Pontic harbours. These orange-red amphorae had a cylindrical body and perhaps vessels with the same colour and oval-shaped body were used for salted fish. Examples of these are found in the harbours of Bizone and Apollonia.³⁶

Oval-shaped and dark orange Istro-Pontic amphorae of the Zeest 75 type were more common vessels, and examples are known from the harbour of Bizone,³⁷ offshore between Odessus and Mesambria,³⁸ Anchialus, as well as Apollonia.³⁹ Other than for transporting wine and olive oil, they were probably used for salt-cured products, herbs, and resins.

Lead-glazed pottery (e.g. stemmed cups and skyphoi), which was manufactured in western Asia Minor in the workshops of Smyrna, had relief decoration that originated from the Pergamon region.⁴⁰ Such vessels were imported to Odessus and Apollonia from the middle of the 1st century BC to the middle of the 1st century AD.⁴¹ East Roman red gloss vessels in the 1st–2nd century AD from Asia Minor also arrived,⁴² including the type “Çandarlı” from the region of Pergamon during the 3rd century AD.⁴³ The production of the latter was introduced in the middle of the 1st century AD also in Moesia Inferior and Thrace,⁴⁴ including Apollonia,⁴⁵ Anchialus,⁴⁶ and Odessus⁴⁷ on the south-western Black Sea coast.

Egyptian producers also were present in the imports of ceramic lamps in Odessus from the 1st century BC – the 2nd century AD, represented by a lamp-model for a mould,⁴⁸ and a rare terracotta-lamp of Izida and Chor.⁴⁹ The fashion of figural lamps comes also from Egypt (fig. 4).⁵⁰ In the second half of the period, Cnidian ceramic lamps of different types began to prevail in the markets of Odessus. Among them is a rare *Thymiateria* lamp, which had cultic and utility functions in some of the urban sanctuaries or in a home altar;⁵¹ it carried a dedication “To the gods take”, that was cut into its stand. From the end of the 2nd century AD Athenian producers like ΠΙΠΕΙΘΟΣ,⁵² ΕΥ(ΤΥΧΗΣ),⁵³ ΠΙΠΕΙΜΟΣ,⁵⁴ ivy leaf,⁵⁵ ΘΕΟΔΩΡΟΣ,⁵⁶ ΛΕ,⁵⁷ ΑΠΙ,⁵⁸ and ΠΛΑΤΩΝΟΣ gained popularity in Odessus.⁵⁹ Attic imports seldom entered the smaller coastal settlements, probably as reimported goods from the bigger harbour centres in the region like Odessus. In Bizone for example they are represented by one single item – an imitation of a Corinthian-type lamp with a trapezium-shaped nozzle.⁶⁰

Until the end of the Principate, vessels from the eastern Mediterranean, including Syrian, Cypriot, Egyptian, Phoenician glass bowls,⁶¹ cups,⁶² bottles,⁶³ jugs,⁶⁴ balsamaria,⁶⁵ amphoriscs,⁶⁶ anthropomorphous and cylindrical-conical vessels,⁶⁷ as well as flasks⁶⁸ were preferred as table vessels in Dionysopolis, Odessus, Mesambria, Anchialus and their *territoria*. Equally important were the liquid and powder substances transported within them, such as oil, wine, cosmetics, medical goods, and other items.



Fig. 4: Odessus: a figural ceramic lamp.

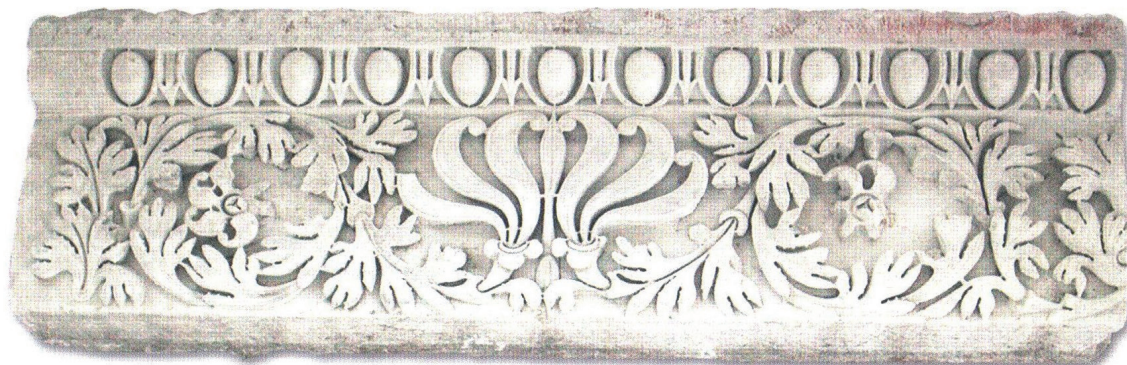


Fig. 5: Anchialus: an architrave frieze of Proconnessian marble.

Nicomedia's overseas agency was a preferred partner in the trade of marble from the middle of the 2nd century AD (fig. 5).⁶⁹ Odessus has evidence for marble fluted capitals,⁷⁰ Corinthian capitals,⁷¹ pilaster capitals,⁷² and prefabrications of garland sarcophagi.⁷³ They were produced in the quarries on the island of Proconessus, and their style followed the leading stone-cutting schools of Asia Minor.⁷⁴ The main group of sarcophagi that was manufactured from the middle of the 2nd to the middle of the 3rd century AD in Asia Minor is represented by column sarcophagi, probably from Dokimion in Phrygia.⁷⁵ During this period, Attic products were also imported to Odessus. Among them were sarcophagi with mythological decorations, such as Achilles and the Amazons, those of uncertain origin (?) and such with a kline-lid.⁷⁶ Some of the Proconnessian marble gravestones found in Odessus were produced in the workshops of Byzantion, Cyzikos, and Smyrna.⁷⁷

Taxations

Trade in its different aspects did not exhaust the possibilities for distribution and the re-distribution of the economic product. In the urban centres along the Bulgarian Black Sea coast in the Roman age these were accomplished also financially through direct and indirect taxation. Its imposition in favour of the Emperors' fiscal regulations and the municipal treasury is revealed indirectly by a number of tombstones from Odessus (IGB I² 134, 214, 216, 218) and Mesambria (IGB I² 346, 348, 349). They contain information on the imposed fines (from 100 to 10,000 denarii) for tomb profanation in these cities in the 2nd–3rd century AD.⁷⁸ Another category of taxes related to the turnover of commodities comes from a decree from the 3rd century AD from Mesambria that was issued by the *agoranomos* (IGB I² 317). They were required for the registration of foreign merchants according to the law and the habit of the poleis.⁷⁹

Other important urban income sources were endowments. These were made by wealthy citizens partially under social pressure, partially on a voluntary basis for dif-

ferent activities (e.g. *honor* and *munus publicum*) that required the expenses for public purposes. Through this burden, itself a kind of income taxation, different problems of a town could be solved, such as its development, food supply, religious practices, entertainment, and other social needs.⁸⁰ The structure, the extent and the character of this activity in Dionysopolis, Odessus, Mesambria, Anchialus, and Apollonia do not create the impression of wastefulness.⁸¹ It rather had utilitarian features and reveals the relatively limited economic performance of their wealthy citizens compared to the analogous practices in other Roman provinces in Asia Minor, North Africa, and Italy.⁸²

Coins

The coins of the coastal Pontic cities and their circulation in processes of commodity exchange and payments are a specific barometer for the region's military-political and economic situation.

In Antiquity, one used to undertake any activity only after winning a deity's benevolence. Traditionally, the reverse of the coins from Dionysopolis, Odessus, and Mesambria portray the divine protectors of vegetation, fecundity and commerce: Demeter, Triptolemos, Bonus Eventus, Dionysos, Hermes, Theos Megas, as well as their attributes like wheat-ears, grape clusters, caduceus. Next to them, as on the emissions from Anchialus, are images typical for a sea town such as Poseidon, Isis Fariah, Tyche on a *prora*, fishes, sailors, and dolphins.⁸³

When the mints of Dionysopolis, Odessus, Anchialus, Mesambria and Apollonia renewed their work, they adopted the standard of the regular Roman base-metal denominations (fig. 6). After the period of a "prestigious" minting under the first Antonines, characterized by a relatively balanced and uniform delivery of the mint's emissions, the value of the bronze coins shifted under Marcus Aurelius and Commodus. The inflation seems considerable, because under the Severans, the first nominal in Odessus lost more than the half of its weight, the second lost about 2/3, and the fourth lost almost a half of its weight.⁸⁴ Thus, the urban administration, similar to other Moesian and Thracian centres, reacted to the crisis at the same time as the wars with the Marcomanni, the invasions of the Costoboci, and the plague epidemics.⁸⁵ In the time of the Severans, the financing of defence and the monetary supply stimulated by the concentration of money markets in Moesia Inferior is reflected in the mints of the coastal cities. A new stage occurred of intensified minting, which was characterized by the mobilization and the simultaneous use of more nominals, prevailing greater ones.⁸⁶ After Caracalla's death, under the rule of Elagabalus and Gordian III, the urban minting, providing mainly the extraordinary expenses of the military units and the salaries of the soldiers like in other members of the monetary league, acquired the character of a "military" mint with a great capacity (fig. 7). It was oriented more towards greater denominations.⁸⁷

Emperor/City	Dionysopolis						Odessus						Anchialus							
	denominations																			
	5	4	3	2	1	1/2	10	5	4	3	2	1	1/2	10	5	4	3	2	1	1/2
Domitianus											1									
Trajanus									1		2	2	1							
Hadrianus									2		2	2	1							
Antoninus Pius				1(?)		1			2		1	2	3			4		10	3	4
Marcus Aurelius									1			2				1	5			
Commodus			1	2					2	4	2	1				6	5	6		
Sept. Severus	1	1		2					16	5	9	2				84	8	11	13	
Elagabalus									16	1	1	1								
Sev Alexander	1	1	1		2															
Maximinus I															3	23	12	6	5	
Gordianus III	20	1					4	80	3	3	2			7	18	37	5	5	4	

Fig. 6: The south-western Pontic coins – denominations.

Next to the needs of the regional market,⁸⁸ these emissions supplemented, first of all, the amount of coin in circulation in the border province of Moesia Inferior. The participation of these and other provincial urban emissions in the payments for the Lower Danube limes is registered in the coin hoards hidden in the forties of the 3rd century AD in the territories around the strategic road connecting Odessus-Marcianopolis-Nicopolis ad Istrum-Melta (fig. 8).⁸⁹ The coins of coastal cities (Anchialus, Odessus, and of Mesambria in the forties of the 3rd century AD) have a relatively high concentration in the urban territories of Odessus and Marcianopolis. With the increasing distance from

City/Period	Coin types - total and average annual number																	
	till 192 AD		193-217 AD		217 AD		218-222 AD		222-235 AD		235-238 AD		238-244 AD		244-249 AD			
Dionysopolis	3	0,06	4	0,17					5	0,38			21	3,50				
Odessus	34	0,30	32	1,33			23	5,75					92	15,33				
Anchialus	44	0,82	115	6,39							49	16,33	76	12,66				
Mesambria	1	0,01	5	0,21									17	2,83	34	6,80		
Apollonia	8	0,07	10	0,42	1	1							1	0,17				

Fig. 7: The south-western Pontic coinage – intensity.

City Location	Dionysopolis		Odessus		Mesambria		Anchialus		Apollonia		Totality		
	Finds	Coins	Finds	Coins	Finds	Coins	Finds	Coins	Finds	Coins	Finds	Coins	SW Pontic coins
reg. Lovech (Melta)	1	+	1	2	1	1	4	31	1	1	4	614+	35+
reg. Tarnovo (Nic. ad Istrum)	3	4	3	5	1	1	6	13	-	-	6	379+	23
reg. Razgrad (Abritus)	-	-	2	9	2	3	1	4	-	-	2	94+	16
reg. Targovishte (Marcianopolis)	2	7	3	19	1	6	4	59	-	-	5	888+	91
reg. Shumen (Marcianopolis)	6	23+	6	62+	5	67	6	74	-	-	7	1969+	226+
reg. Varna (Odessus)	5	17	5	63	7	42	7	34	-	-	7	512+	156
Totality	17	51	20	160	17	120	28	215	1	1	31	4456+	547+

Fig. 8: The south-western Pontic coins in Moesia Inferior – concentration.

the minting centre, within the territory of Nicopolis ad Istrum to civitas Usdicensis and Melta, the number of the hoards and of the coins within them gradually decreases.

Conclusion

The Greek poleis of the coastal south-western Pontic area emerged as a result of the exogenous urbanization made by Greek colonization. They also developed from the internal strengthening of the urban municipalities in the territory of ethnically organized Thracian tribes. The urbanization of the region, its administrative, juridical, functional, and architectural “construction”, as well as the development of cities that dominated their own hinterland was a process that lasted till the end of the Principate. In the early Roman imperial period, they joined in the *Pax Augusta* at the external border between the *Imperium Romanum* and *Pax Nomadica*. In its genesis, the Black Sea coastal line acted as an existing “natural” border. The traditionally well-functioning harbour systems allowed for a high degree of traffic within the trans-border stream of goods and people to the west-Pontic border zone. This was linked geographically and climatically with the sea. Together with the southern and parallel land routes, the sea routes formed dynamic transport corridors. They built the infrastructure and at the same time, predetermined the economic specialization of the region. Its multi-ethnic social and cultural entity was concentrated predominantly in the settlements situated at the crossroads and in the surrounding territories. In this crossroad zone, the integral processes continued up to the end of the Principate.

Notes

- ¹ Earlier versions in Прешленов 1990; Preshlenov 2008.
- ² Preshlenov 2009, 125–129.
- ³ Preshlenov 2018, 526–534.
- ⁴ Preshlenov 2012, 48–50.
- ⁵ Прешленов 2007, 39; Порожанов 2000, 95. 97; Bounegru 2008, 277–282.
- ⁶ Strack 1912, Nr. 429, 490, 540, 593, 682, 682a.
- ⁷ Preshlenov 2012a, 157; 170 fig. 9.
- ⁸ Прешленов 2007, 36 f.
- ⁹ Dobрева 2017, 105. 247 f. 249–255; 250 fig. 164, 2; 251 figs. 166, 2. 5; 255 fig. 168.
- ¹⁰ Кузманов – Салкин 1992, 35 f. Кат. 27–36; Dyczek 2001, 202 f. 214 f. 219 f. fig. 118.
- ¹¹ Минчев 1985, 12; Табл. III, 3; Varna-Museum, Nr. II 5981. II 5827.
- ¹² Тончева 1961, 33; 45 Табл. IV, 21. 22; Dyczek 2001, 215; Varna-Museum, no. II 62. II 3881. IV 1459.
- ¹³ Varna-Museum, no. II 1413.
- ¹⁴ Nesebar-Museum, no. 2111. 1505. 1680. 1724.
- ¹⁵ Sozopol-Museum, no. 206. 242. 413. 449.
- ¹⁶ Велков, Димитров, Найденова 1987, 287 f.; field no. 86/7.
- ¹⁷ Varna-Museum; Dyczek 2001, 221–223; fig. 142, a; Dobрева, 2017, 257.
- ¹⁸ Nesebar-Museum, no. 1713.
- ¹⁹ Лазаров 1987, 283 f.
- ²⁰ Dobрева 2017, 241–244; Dobрева 2018, 310. 313; Dyczek 2001, 52–54. 58 f. 61. 63; fig. 14.
- ²¹ Dyczek 2001, 138. 141. 143 f.; fig. 70; Dobрева 2017, 237–240.
- ²² Кузманов – Салкин 1992, 39; Кат. 47. 48.
- ²³ Кузманов 1985, 17; Кат. 76a; Varna-Museum, no. II 4507.
- ²⁴ Nesebar-Museum, no. 1677.
- ²⁵ Bourgas-Museum, no. 2427.
- ²⁶ Dyczek 2001, 141.
- ²⁷ Велков et al. 1987, 287 f.; field no. 86/5.
- ²⁸ Dobрева 2017, 281–283; figs. 204, 1–3.
- ²⁹ Кузманов – Салкин 1992, 37 f. Кат. 41–43; Dyczek 2001, 153 f. 157. 159; figs. 80. 85. 86.
- ³⁰ Varna-Museum, no. II 5991; on the cemetery, see Минчев 1985, 12 f.
- ³¹ Bourgas-Museum; for the archaeological context, see Стоянов 1980, 106; Стоянов 1984, 68.
- ³² Dyczek 2001, 174. 182 f. 192; fig. 97, a.
- ³³ Dobрева 2017, 154. 224. 230. 235; fig. 146, 5.
- ³⁴ Dobрева 2018, 310 f.
- ³⁵ Кузманов, Салкин 1992, 38. 53; Кат. 44. 45; Dyczek 2001, 250–252 fig. 168; Dobрева 2017, 154. 261–265; 265 Fig. 180. 4. 5; 181. 4. 5; Dobрева 2018, 312 figs. 2. 314.
- ³⁶ Кузманов – Салкин 1992, 36 f. 53; Кат. 38; Dyczek 2001, 228 f. 231. 233. 239 f. 242 figs. 148. 159; Dobрева 2017, 275–277 fig. 194.
- ³⁷ Кузманов – Салкин 1992, 37. 53 Кат. 39; Dyczek 2001, 233 f. 236; fig. 153.

- ³⁸ Varna-Museum, Nr. II 5127.
- ³⁹ Dobрева 2017, 278–281 figs. 200, 201, 3.
- ⁴⁰ Gysel 1977, 108. 122f. figs. 32, 33; Kabakchieva 2018, 582.
- ⁴¹ Тончева 1961, 33f.; Обр. 24, 25; Kabakchieva 2018, 582. 582 figs. 2, 3; 583 figs. 4, 5; Varna-Museum, no. II 4760. II 3232.
- ⁴² Varna-Museum, no. II 5949.
- ⁴³ Минчев 1982, 18 no. 1 Табл. I, 1.
- ⁴⁴ Кабакчиева 1987, 487. 489f. fig. 7.
- ⁴⁵ Иванов 1963, 268; Кат. 796, 797; Табл. 136.
- ⁴⁶ Балабанов 1979, 27; Обр. 5 в.
- ⁴⁷ Varna-Museum, no. II 3909.
- ⁴⁸ Минчев 1983, 7; Табл. I, 2.
- ⁴⁹ Минчев 1979, 44f.; Кузманов – Минчев 2018, no. 491; Табл. 34, 491, а. в.
- ⁵⁰ Кузманов – Минчев 2018, no. 485–487; Табл. 34, 485–487.
- ⁵¹ Минчев 1993, 37–39. 41, 43 Табл. I, 1, 2.
- ⁵² Кузманов – Минчев 2018, no. 341; Табл. 24, 341.
- ⁵³ Кузманов 1992, 30 no. 184; Кузманов – Минчев 2018, no. 333; Табл. 24, 333.
- ⁵⁴ Кузманов 1992, 29 no. 174; Кузманов – Минчев 2018, no. 327, 328 Табл. 23, 327, 328; no. 335 Табл. 24, 335, а. б.
- ⁵⁵ Кузманов 1992, 30 no. 186; Ѓиќикова 1979, 436; Кузманов – Минчев 2018, no. 332 Табл. 24, 332; Nr. 345, 346 Табл. 25, 345, 346.
- ⁵⁶ Ѓиќикова 1979, 437; Кузманов – Минчев 2018, no. 325 Табл. 23, 325.
- ⁵⁷ Кузманов – Минчев 2018, no. 338 Табл. 92, 338.
- ⁵⁸ Кузманов – Минчев 2018, no. 359; Табл. 26, 359.
- ⁵⁹ Кузманов – Минчев 2018, no. 360, 362; Табл. XXVI, 360, 362.
- ⁶⁰ Кузманов – Салкин 1981, 57f. Кат. 59, 62, 63 Табл. 5, 59.
- ⁶¹ Минчев 1984, no. 10 Табл. 2, 10; no. 12 Табл. 4, 12; no. 13 Табл. 4, 13; no. 14 Табл. 4, 14; no. 18 Табл. 5, 18; no. 19 Табл. 5, 19.
- ⁶² Минчев 1988, no. 12 Табл. 3, 12; no. 28 Табл. 5, 28.
- ⁶³ Минчев 1990, no. 7; Табл. 1, 7; no. 12 Табл. 4, 12; no. 13 Табл. 2, 13; no. 21 Табл. 3, 21; no. 22.
- ⁶⁴ Минчев 1989, no. 5 Обр. 1, 5; no. 13 Обр. 4, 13; no. 14; Minchev 2007, 338.
- ⁶⁵ Minchev 2007, 338 fig. 10.
- ⁶⁶ Балабанов 1979, 30 Обр. 13.
- ⁶⁷ Минчев 1981, 66; nos. 19, 22, 71, 72.
- ⁶⁸ Minchev 2007, 338 fig. 9.
- ⁶⁹ Ward-Perkins 1980, 25–27, 41, 48, 61.
- ⁷⁰ Ward-Perkins 1980, 56 no. 16; Pl. 19, b.
- ⁷¹ Ward-Perkins 1980, 53 no. 5; Pl. 15, a; Димитров 2005, 273, 275, 296f. nos. 16, 17.
- ⁷² Ward-Perkins 1980, 55 no. 14 Pl. 18, b; Димитров 2006, 177–179, 202f. no. 2; 185f. 206f. no. 7; 192f. 209f. no. 11.
- ⁷³ Koch 1982, 337f. 490; Гетов 1978, 18 Обр. 1.

- ⁷⁴ Ward-Perkins 1980, 51. 62–64; Димитров 2005, 275 f. 280 f.
⁷⁵ Koch 1982, 503. 505. 509; fig. 18.
⁷⁶ Koch 1982, 336. 384. 456–459.
⁷⁷ Minchev 2007, 341; Conrad 2004 57–63.
⁷⁸ Прешленов 1992, 147.
⁷⁹ Preshlenov 2012 b, 497 f.
⁸⁰ Finley 1973, 151–154; Jones 1940, 175 f.; Quaß 1993, 270–273. 341 f. 371.
⁸¹ Прешленов 2009, 276–281.
⁸² Duncan-Jones 1982, 84.
⁸³ Прешленов 2003, 206–208 Табл. 1.
⁸⁴ Preshlenov 2007, 113. 116 fig. 3.
⁸⁵ Прешленов 2003 а, 118.
⁸⁶ Preshlenov 2004, 158 Tab. 1; 159 Tab. 2; Preshlenov 2007, 113 f. 115 fig. 2.
⁸⁷ Preshlenov 2010, 322 f.
⁸⁸ Preshlenov 2012, 160–162. 173 fig. 17; 174 fig. 18.
⁸⁹ Preshlenov 2004, 162. 164. 168; 163 fig. 1; 165 Tab. 4; 166 Tab. 5; Tab. 3.

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Monnaie et marchandise : la consommation dans les *villae* romaines de la Lusitanie

Noé Conejo

Dans notre projet de recherche doctoral, nous avons étudié les monnaies trouvées dans les *villae* de la Lusitanie. On a observé une relation très intéressante entre le volume de monnaie découvert et le niveau de consommation dans ces centres ruraux. Nous avons choisi les *villae* de Quinta das Longas (Elvas, Alentejo), Milreu (Faro, Algarve) y Rabaçal (Panela, Coimbra, Beira). On a documenté stratigraphiquement un haut volume d'approvisionnement monétaire dans ces sites archéologiques. Nous avons étudié ensemble la monnaie trouvée et d'autres matériaux archéologiques (la céramique, les verres, les mosaïques ou les changements architecturaux).

Situation géographique

La Lusitanie était la province romaine située à l'extrémité occidentale de l'Empire. Cette vaste circonscription occupait les actuelles provinces espagnoles de Badajoz, Cáceres, Salamanque et Avila et le centre et le sud du Portugal. La création par Auguste de cette nouvelle province favorisait un changement significatif dans ces territoires : la construction de nouvelles villes et de voies de communication de même que l'exploitation des aires rurales.¹

L'occupation des territoires des nouvelles cités au moyen de la centuriation générait les premières propriétés rurales romaines lusitaniennes.² La possession de la terre et son exploitation était la base économique des aristocraties romaines qui construisaient les premières *villae* dans le territoire de la Lusitanie.³ Cette dynamique était similaire dans le reste de la péninsule Ibérique. Après la proclamation du droit latin de Vespasien, le nombre de ces propriétés rurales augmenta considérablement.⁴

La *villa* dans la Lusitanie

La *villa* était un domaine foncier qui comportait des bâtiments d'exploitation et d'habitation.⁵ Les bâtiments étaient liés à un terrain, appelé *fundus*, d'étendue variable et dont la production était orientée vers la subsistance et la vente de l'excédent. Cet ensemble d'éléments (les bâtiments et le *fundus*) était géré par un propriétaire qui résidait habituellement dans la cité et qui utilisait cette possession rurale pour le repos et l'obtention de bénéfices.⁶

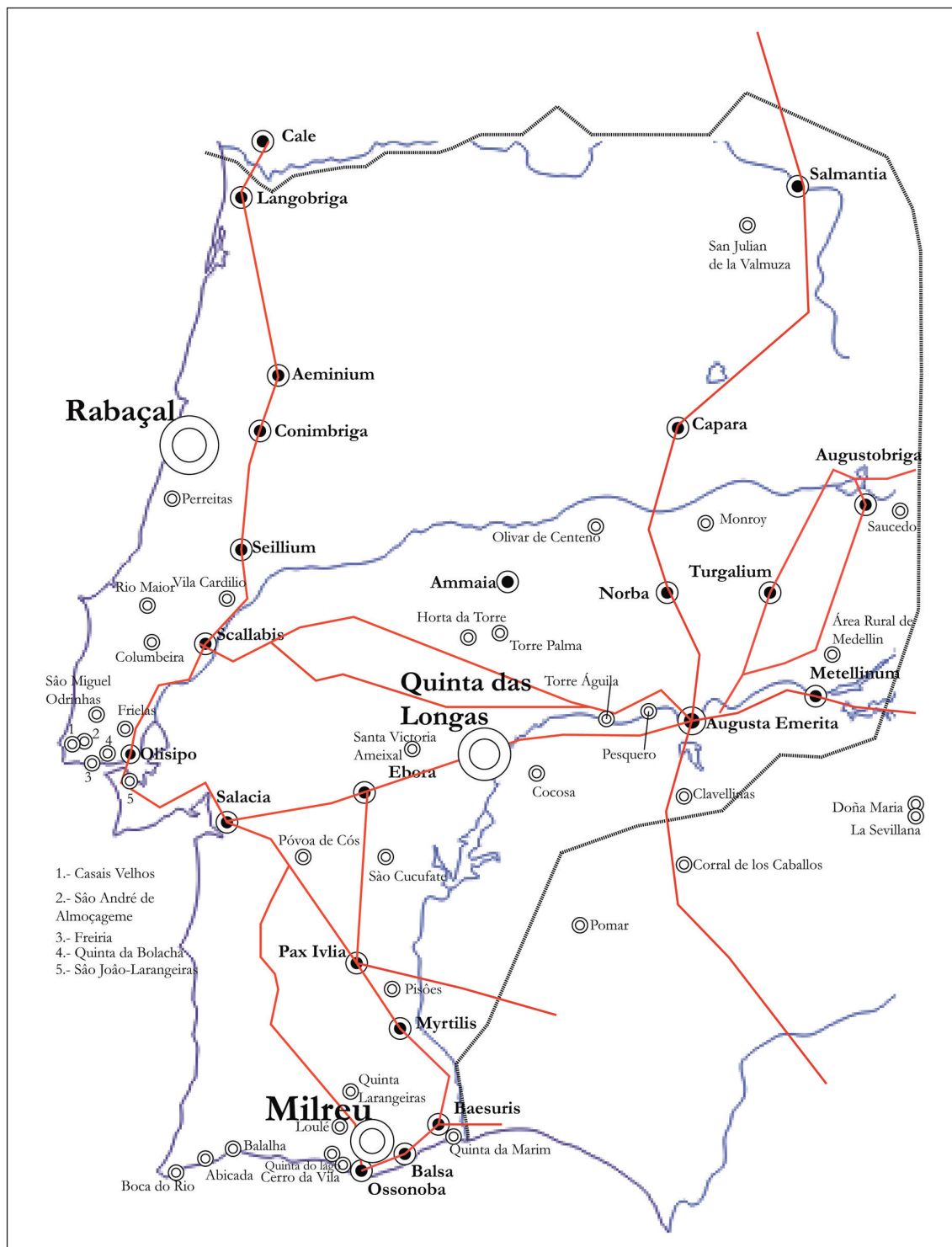


Fig. 1 : Carte de la Lusitanie romaine avec les voies, les villes et les *villae* les plus importantes. En grand, le nom des villae nommées dans le texte.

Le moment de la plus grande splendeur de ces propriétés rurales en Hispanie et en Lusitanie se situe dans les dernières années du III^e siècle et la première moitié du IV^e. Il s'agissait d'une conjoncture dont les protagonistes étaient les nouveaux propriétaires enrichis, beaucoup d'eux grâce aux différentes politiques monétaires du moment.⁷

Ces nouveaux riches décidaient d'investir leurs capitaux dans leurs propriétés rurales (en les redécorant par exemple) ou dans l'acquisition de *villae* plus grandes.⁸ Les *villae* sont à partir de ce moment un lieu de divertissement et d'*otium* ;⁹ des centres où le propriétaire pouvait démontrer son pouvoir économique et sa position sociale grâce à la consommation de marchandises somptuaires et à la demande de décorations abondantes et extravagantes.

Quelques problèmes de méthode

De nombreuses *villae* situées dans le territoire lusitanien ont été fouillées durant la deuxième moitié du XX^e siècle.¹⁰ Les archéologues qui ont étudié ces *villae* se consacraient fondamentalement à la documentation des éléments architectoniques et des aspects décoratifs mais ils ne faisaient pas de registre exhaustif du reste des matériaux. Le résultat était un inventaire d'une grande quantité d'objets et de pièces sans contexte archéologique. Les monnaies trouvées dans ces *villae* étaient documentées de la même façon, c'est-à-dire, il n'y avait pas de relation stratigraphique entre la monnaie, le reste des pièces et les éléments architecturaux. Cette pratique a généré un grand volume de monnaies conservées dans les musées provinciaux dont on connaît la provenance mais pas le contexte archéologique.

Néanmoins, dans les dernières décennies d'autres *villae* ont été fouillées avec une méthodologie exhaustive. La monnaie a été parfaitement documentée ici en relation avec le registre archéologique. Ce fait a permis une analyse stratigraphique des monnaies trouvées et une contextualisation claire entre celles-ci et le reste de matériaux. La comparaison entre les deux types d'information nous permet une lecture générale de l'usage de la monnaie dans la ruralité lusitanienne. En outre, cette contextualisation nous offre un autre type de données : la localisation des pertes monétaires dans la planimétrie de la fouille. Cette activité est très intéressante du point de vue spatial. En effet, elle nous permet de connaître les lieux les plus utilisés dans les différents moments de la vie de la *villa*.

L'étude de cas

Nous avons choisi les *villae* de Quinta das Longas, Milreu et Rabaçal puisqu'elles présentent des caractéristiques similaires : les trois ont été méthodologiquement bien fouillées, elles sont d'une entité similaire, ont aussi fourni un nombre considérable de mon-

naies et le reste des matériaux archéologiques a été également étudié. Quinta das longas est située à coté d'Elvas et ce site se trouvait dans l'aire d'influence de l'ancienne ville d'*Augusta Emerita*.¹¹ La *villa* est très célèbre grâce au groupe sculptural découvert dans une des pièces.¹² La *villa* de Milreu est intéressante par les différentes phases constructives et la diversité des éléments décoratifs.¹³ Depuis très longtemps, on pensait que cette *villa* pouvait être une résidence estivale du gouverneur de la Lusitanie. Finalement, la villa de Rabaçal est unique dans la péninsule Ibérique grâce à son péristyle polygonal et la variété des mosaïques.¹⁴

Le registre monétaire obtenu dans les trois sites archéologiques est nombreux vu qu'on a documenté un approvisionnement permanent de pièces depuis le I^{er} siècle. Néanmoins, la plus grande partie de l'ensemble monétaire est observée dès le IV^e siècle. Cette surabondance de monnaie répond à deux causes évidentes : d'une part aux différentes périodes d'inflation qu'ont généré les politiques économiques des empereurs de ce siècle ; d'autre part aux nombreuses d'activités économiques et aux modifications architectoniques documentées dans ces sites.

La monnaie doit toujours être interprétée à partir d'une perspective archéologique. La découverte des pièces dans les contextes stratigraphiques bien définis nous aide à comprendre la durée de la circulation des monnaies. Dans ce cas, nous avons pu documenter des exemplaires d'imitation du type *Divo Claudio* (frappée après l'année 270) dans des contextes où on a trouvé des céramiques du IV^{ème} siècle ; de même pour les imitations et les monnaies en bronze des réformes de Constantin et de ses fils qui ont été trouvées dans des contextes du V^{ème} siècle (Dans un dépôt de déchets découvert dans Quinta das Longas¹⁵ et dans la ville de *Conimbriga*¹⁶)

Cette durabilité de l'usage de la monnaie peut être considérée en partant de deux perspectives : ou bien la circulation monétaire des aires rurales était attachée à la Loi de Gresham (La monnaie d'une valeur supérieure était réservée et thésaurisée et la monnaie d'une valeur faible était utilisée pour les petites transactions) o bien il s'agissait d'un rythme d'approvisionnement de monnaies lent, un fait qui favorise la continuité de pièces d'imitation o d'une valeur faible dans la circulation.

Toute la monnaie découverte dans les *villae* a été frappée en bronze. On n'a trouvé aucune monnaie en or ou en argent. Ce fait répondrait aux changements structuraux antérieurement décrits et aux postulats de la Loi de Gresham. L'absence de pièces en métaux nobles ne signifie pas que ces pièces n'aient pas été en circulation dans ces aires ; tout au contraire, elles étaient très utilisées dans la gestion économique des *villae*. Cette dynamique monétaire doit être interprétée à travers le concept de circulation monétaire réelle, c'est-à-dire, la monnaie est utilisée dans deux domaines : d'une part, les pièces en or et en argent pour les transactions les plus importantes et le paiement des impôts et des rentes ; d'autre part les pièces en bronze pour les activités quotidiennes. Par conséquent, les monnaies de plus de valeur étaient habituellement réservées (formation de petits trésors), tandis que les pièces en bronze couraient le risque de se perdre à cause de leur faible valeur et de leur dépréciation au cours des années.

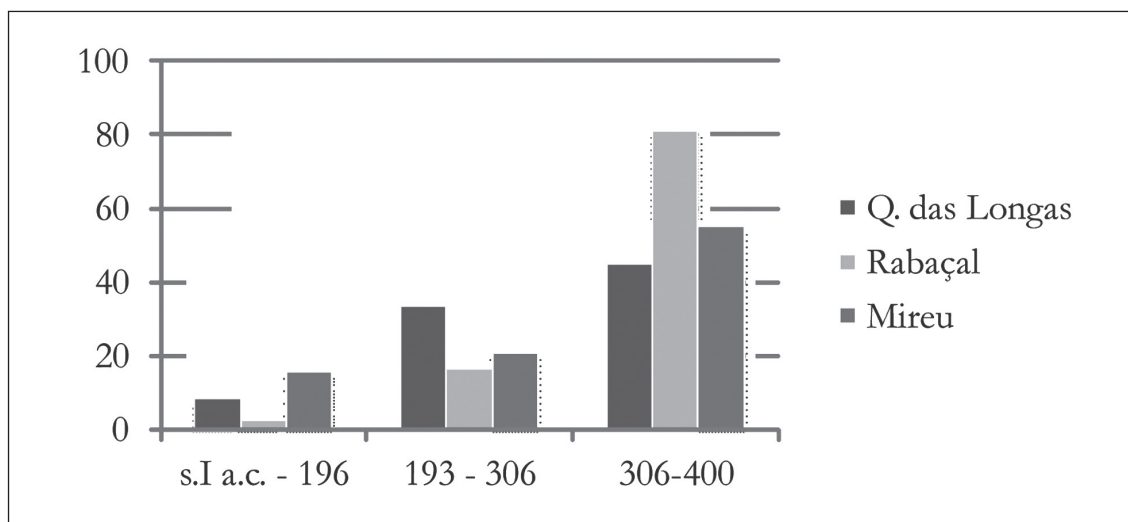


Fig. 2 : Volume par siècles de monnaie trouvée dans les trois *villae*.

Sites archéologiques	Haut Empire			193-306		IVe siècle	
	Total Moneda	Total	%	Total	%	Total	%
Contextes Urbains							
Conimbriga	6858	569	8,30	1753	25,56	4536	66,14
Contextos Ruraux							
Q. DAS LONGAS	60	5	8,33	20	33,33	27	45,00
RABAÇAL	324	8	2,49	53	16,35	263	81,17
MILREU	98	15	15,30	29	29,59	54	55,10

Fig. 3 : Table de données où on fait une comparaison entre les monnaies trouvées dans les *villae* et la ville de *Conimbriga*.

Ce comportement monétaire est également dû à la politique fiscale introduite dans l'Empire après la réforme de Dioclétien avec la création de l'impôt *iugatio - capitatio* et l'usage de l'*adaeratio* (conversion en espèces d'une quantité en nature). À partir de ce moment, la monnaie d'or sera la référence économique¹⁷ (comme elle l'est pour le calcul de la productivité du *fundus*).

L'abondance de monnaies d'imitation des types frappés en bronze a été interprétée comme une augmentation considérable de la circulation de la monnaie d'or.¹⁸ Cette montée répond à l'enrichissement des élites romaines, grâce à la réforme monétaire de Constantin. Des auteurs comme Banaji considèrent que ces élites avaient réuni de grandes quantités d'or¹⁹. De fait, elles se lancent dans l'embellissement de leurs *villae* ou la construction de nouvelles demeures ainsi que dans la consommation de marchan-

disées exotiques. On a documenté dans les *villae* de Quinta das Longas²⁰ et Mireu²¹ une grande quantité de céramiques importées de l’Afrique ou des amphores lusitaniennes, bétiques et africaines pour transporter le vin et le *garum*. Nous devons citer comme exemple le célèbre passage d’Olympiodorus de Thebas quand il parlait des rentes que les sénateurs romains recevaient en or et des fêtes qu’ils avaient organisées²². Même si les données contenues dans l’extrait doivent être examinées avec attention, la réalité devait être semblable.

Ces investissements de capitaux avaient une double intention : démontrer la capacité économique des nouveaux riches et obtenir une place parmi les élites du moment.

Effectivement, les *villae* sont transformées en lieux d’*otium* mais elles sont aussi des centres de promotion sociale où la hiérarchie des réseaux de clientèles est fixée. La consommation de l’huile d’olive et de vin originaires de la Méditerranée ou des céramiques élaborées dans des régions lointaines contribuent à marquer ce statut. De même pour la demande des groupes sculpturaux (Quinta das Longas et Milreu), des mosaïques (dans les trois *villae*) et des peintures de scènes mythologiques.

Le propriétaire rural n’est donc pas seulement un *dominus* avec une grande capacité économique mais une personne qui se soucie de l’art, qui aspire à une formation intellectuelle où sont présentes les inquiétudes de la moralité et la pensée philosophique.²³

Considérations finales

A. – Les campagnes lusitaniennes et les *villae* romaines étaient très bien monétarisées dès les premiers moments. La monnaie a joué un rôle très important dans le développement économique de ces sites. Celles-ci étaient utilisées pour l’acquisition de marchandises mais aussi pour la vente des excédents qui était une des bases de la richesse des *domini*.

B. – La monnaie était aussi un objet de prestige dans la ruralité puisque chaque classe sociale (c’est-à-dire, le propriétaire, les employés, les esclaves) utilisait une monnaie d’une valeur différente. En effet, la monnaie frappée en or ou en argent était réservée aux propriétaires des *villae*, tandis que les pièces en bronze étaient la monnaie des classes inférieures. Cette division sociale est d’abord identifiée grâce aux sources classiques comme le petit passage d’Olympiodorus de Thebas qui calculait le niveau de la richesse de la classe sénatoriale romaine en or ; et grâce aussi aux évidences de consommation de marchandises de luxe trouvées dans les *villae* analysées.

C. – La *villa* était un centre économique basé dans la production et l’exploitation de la terre ; mais en même temps un lieu de promotion sociale où les propriétaires voulaient montrer leur puissance économique, renforcer leurs statut social et trouver un lieu dans les élites de la province de la Lusitanie.

Notes

- ¹ Fabião 2015.
² Gorges – Rodríguez Martín 2000.
³ Edmondson 1992/1993.
⁴ Fabião 2017,14
⁵ Ferdière 1988, 158.
⁶ Ouzoulias 2010, 188
⁷ Banaji 2016, 66–70.
⁸ Gorges 2008, 38–40.
⁹ Carneiro 2014, 217 s.
¹⁰ Gorges 1979, Catalogue.
¹¹ Carvalho – Almeida 1999.
¹² Nogales et al. 2003, 116–120.
¹³ Teichner 1997.
¹⁴ Pessoa 1995.
¹⁵ Almeida – Carvalho 2005.
¹⁶ Pereira et al. 1974, 300–302.
¹⁷ Wickham 2016, 393.
¹⁸ Depeyrot 1987, 87.
¹⁹ Banaji 2016, 66–70.
²⁰ Carvalho – Almeida 1999, 375–379.
²¹ Teichner 1997.
²² Blockley 1983, 205 s.
²³ Carneiro 2014 ; 2016.

Credits d'images

Toutes les images de l'auteur.

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Accessing Italian Cast Coinage

Johannes Eberhardt

The Haeberlin Collection: One Hundred Years of Work in Progress

It was not only in central Italy that a shortage of silver and gold might have been the reason for choosing bronze as money, measure, and as a medium of wealth. Nevertheless, the appearance of bronze coinage in the area between Sicily and the Black Sea in the 5th century BC can surely be called a revolution: the emergence of regular token coinage or credit-money was a much more radical approach to monetization than former overvalued electrum and silver coinages. Several generations later we can observe a brief counterrevolution, when, under the growing dominance of the Roman Republic, some communities in central and southern Italy implemented a complex system of image-carrying *bronze bars* and *aes grave*. This coinage was – of course – used next to other forms of money: *ingots/aes rude* – as well as long-established Greek and Etruscan coin traditions. Several contributions of this volume show how important these changes actually were.

Studying cast coinage is a matter of urgency. These objects and the corresponding practices accompanied a city-state on its path to become a Hellenistic super-power. By that time, the usage of coined money had been a part of Italian history for centuries. Simultaneously, up to four metal alloys were struck to produce various handy and widely accepted items for transactions. Coined money had its place in retail, religion, economic mentalities, and to some extent also in communication.¹ Around 300 BC important cities such as Syracuse used gold, silver, electrum and bronze coins of several weight standards at the same time. One explanation for such a peak in diversity was the city's engagement, which ranged from northern Africa² to northern Italy.³ Monetary complexity was a tool of integration and also a source of profit.

Into this era of highly developed monetization falls the beginning of early Roman cast coinage.⁴ Coins were used in several ways, but namely as metal and money. In this respect, Italian cast coinage was “retro”. One major difference was the size of the highest denominations. Should cast coinage therefore be regarded as a peculiar and idiosyncratic or even a backward phenomenon amidst more developed practices and structures? Theodor Mommsen was not the first scholar who saw the importance of cast coinage in regard to political and economic history.⁵ This potential is still underestimated.⁶ To study cast coinage, historians⁷ still need to absorb and harmonize a multitude of studies⁸ from a variety of disciplines concerning various places and authorities. Recent research⁹ has shown how fruitful this work actually is.

The Münzkabinett, Staatliche Museen zu Berlin holds one of the most important collections of Italian cast coinage. In 1940, it acquired the Haeberlin Aes Grave Collection (3,502 objects), which also included manuscripts and personal documentation. This material is supplemented by the ‘Alte Sammlung’ (the old, existing, collection of

AES GRAVE
DAS SCHWERGELD ROMS
UND
MITTELITALIENS
EINSCHLISSLICH
DER IHM VORAUSGEHENDEN ROHBRONZEWÄHRUNG
VON
DR. JUR. E. J. HAEBERLIN.
ERSTER BAND
ENTHALTEND DIE MÜNZVERZEICHNISSE.
MIT EINEM ATLAS VON 103 TAFELN ABBILDUNGEN.



FRANKFURT A. M.
JOSEPH BAER & C^o
1910.

Fig. 1a: Haeberlin goes digital! (Title page of Haeberlin 1910, digitalized by Heidelberg University Library).

Münzkabinett
Staatliche Museen zu Berlin

Interaktiver Katalog des Münzkabinetts

START SUCHE KARTE

Vordersseite Titel Pro Seite 100

< 1 2 >

Aes Signatum 18202529	Aes Signatum 18202532	Ausculum 18256480	Ausculum 18256485	Ausculum 18256517
Hatria 18202541	Hatria 18203374	Hatria 18203375	Iguvium 18220490	Iguvium 18220491
Iguvium 18220509	Iguvium 18220516	Iguvium 18220519	Iguvium 18220521	Röm. Republik: Aes Grave 18202540
Röm. Republik: Aes Grave, Proraserie libral 18200987	Röm. Republik: Aes Grave, Proraserie libral 18200990	Röm. Republik: Aes Grave, Proraserie libral 18200929	Röm. Republik: Aes Grave, Proraserie libral 18200930	Röm. Republik: Aes Grave, Proraserie libral 18200932
Röm. Republik: Aes Grave, Proraserie libral 18200933	Röm. Republik: Aes Grave, Proraserie libral 18200934	Röm. Republik: Aes Grave, Proraserie libral 18200935	Röm. Republik: Aes Grave, Proraserie libral 18200937	Röm. Republik: Aes Grave, Proraserie libral 18200938

Fig. 1b: Haeberlin goes digital! (Interactive catalogue, Münzkabinett, Staatliche Museen zu Berlin).

the cabinet) of *aes grave*, collected over centuries. Ernst Justus Haebler (1847–1925) not only planned to publish a catalogue (fig. 1), but also a detailed study of metrology, as well as the economic, historical, and cultural implications of Italian cast coinage. But his work was never completed. Rudy Thomsen's¹⁰ three volumes partly filled this gap.¹¹ Additionally, many other contributions followed. However, the Haebler Collection has awaited further investigation for more than 100 years.¹²

The aim of this article is to show that an object-centered methodology, online publishing, as well as a revision of all preserved coins is a desideratum.

Every Object Matters

In her dissertation, Marleen Termeer was able to convincingly analyze network structures¹³ as well as the iconography of Roman Republican colonial coinages. Her work underlines that cast coinage contributes valuable information towards an understanding of Roman expansion. Marleen Termeer's study demonstrated that this needs to be accomplished by reviewing the entire monetary system as well as all available parallel evidence.

All of this work is based on chronology. After long and complex debates, it is now considered very likely that most of the Italian cast coinage appeared under Roman control.¹⁴ Thus, the growth of Roman power was not the end of local coin production: in many ways it was its beginning. Looking at these developments in context with the changes in the Hellenistic east, we need hardly be surprised, given that monetization generally increased. Various denominations reached areas that were formerly untouched by coined gold, silver, and bronze. It was also in these decades that some Celtic populations started to mint their own coinage. Like the Italians, many other populations were inspired by established discourses of coin iconography.

From this perspective, the ancient world was shrinking. Since there are more than 17 known mints that produced cast coinage,¹⁵ historians have a precious group of sources. Analyzing areas of cast coinage and silver-based currency contributes to understanding networks from various perspectives. Cast coinage connected cities with their hinterland. Even if the military events of the 3rd century BC are a plausible background for the monetization of Italy, the role of Rome's military engagements should not be overestimated.¹⁶ Most of Rome's expenses were not paid with coined money.¹⁷ On the other hand, apart from *ramo secco*, image-carrying *bronze bars* of a large size only were emitted in Rome.¹⁸ *Aes grave* can therefore be seen as a form of a highly *cooperative coinage*¹⁹ that shaped networks.

It is likely to assume that individual and more complex local decisions lay behind these functions.²⁰ Roman interests were negotiated via cast coinage. The iconographic discourse reflects *paideia*. Knowledge has various media. Could cast coinage be read as a

form of coined history: a bronze echo of collective memory? The title ‘Accessing Italian Cast Coinage’ has two dimensions.

Aes grave was also creative coinage. For a while it was perhaps more trustworthy than some of the debased silver or electrum coinages of the 3rd century. It certainly was more universal when compared to currencies based on two- or three-alloys. Understanding cast coinage’s metrology would shed more light on these crucial questions concerning its currency functions. Cast coinage was not lucrative enough to warrant faking. But was it convenient? The *As* or *nummus* could be pretty heavy, weighing several hundred grams. The idea that cast coinage was not an ideal object of daily trade is therefore not surprising.²¹ But these denominations were not small change either.²² If three *Asses* equaled one Silver-*nomos* or Didrachm, everyday trade would not have been too hard to handle. Local economies were used to exchange via heavy bronze pieces.²³ Despite the availability of cast coinage they did not stop using *aes rude*.²⁴ Moreover, *aes grave* was built on small denominations.

The existence of quarter *unciae* shows that one *As* (48 *quartunciae* equals 1 *As*) was a lot of money. Extraordinarily large transactions could have been made with precious metal – be it coined or otherwise. Researchers are confronted with a parallel system, in which the power of cast coinage was innovative. With cast coinage, Rome, its colonies, and some of its allies found an entry into monetization. Regardless of whether this was a conscious strategy or not, the practice was successful. Haeblerlin’s corpus listed over 13,000 objects in 1910. Assuming it is likely that melting down cast coinage was more profitable than melting down struck bronze coinage, a disproportionately large part might have been lost. To use cast coinage presented an economic advantage for a time. Thus, the realization of the Roman Republican expansion and its survival against powerful Hellenistic opponents also has to be explained by analyzing cast coinage.

Cast coinage and its contexts carry individual as well as structural implications, and therefore every object matters. Scholarship, however, is presented with some significant problems.

Like Clockwork

The main challenges of research on Italian cast coinage are best highlighted through a fitting example. The following coin²⁵ is just such a precious piece of evidence (fig. 2).

The obverse of the *As* shows a bearded male head with traces of a diadem, turned to the left (perhaps a *genius* – maybe the *genius* of the local lake). The left field reads “TN”. The reverse shows a bird of prey, perhaps a sea eagle, standing to the left and with its head reversed. Its claws hold a fish and the letter “R” placed in front of its head reveals the city of the coin’s production: Reate/Rieti.



Fig. 2: Reate, As, 314,92 g, 78–82 mm. Haeberlin 1910, 149 no. 1 pl. 93,6; Rutter 2001, 44 no. 250 (275–225). Münzkabinett Berlin, SMB, SPK, 18263396.

“What was it for? Why was it adopted? Why was it adopted at that particular time? What, if anything, does it tell us of Rome’s economic, political or cultural development?”²⁶

Over 30 years ago, Andrew Burnett asked some simple questions about *aes grave* which still point out the general lack of evidence. The *As* of Reate was found in Poggio Catino. Its context contributes to the knowledge of the limited main circulation area of *aes grave*.

What was it for? Coins from Reate remain exceedingly rare and the only known denomination is what Haeberlin called an *As*. The weight standard and metrological questions remain uncertain as there are far too few documented examples. And even more questions remain unanswered: Was it an *As*? Was it a *nummus*? Are there other coin finds in this area that could possibly shed some light on coin circulation and use?

Why was it adopted? Why was it adopted at that particular time? It is plausible that this coin was cast when the city fell under Roman control in about 290 BC, or later. Keith Rutter and Italo Vecchi date it about 275–225 BC.²⁷ This leaves a 50-year time window, which covers more than two generations. Who could have been involved? Alberto Campana discusses the role of Manius Curius Dentatus, who was prominently involved in the wars that changed the political map around Reate. This would lead to a top-down perspective even neglecting complex structures of social negotiation processes. Evidence of the consul’s participation in the choices that underlie the monetization of Reate is hard to find. The letters “TN” may hint at a magistrate’s name, but responsible

for what? Managing the mint? Was he involved in the iconographic choices?²⁸ Up to this point, many questions have been raised by a coin that – since it bears letters – offers more information than many other examples.

What, if anything, does [cast coinage] tell[s] us of Rome's economic, political or cultural development? All coins carry historical implications. The eagle is one possible starting point. Similar iconography frequently appears around the whole Mediterranean basin.²⁹ On Italian cast coinage, eagles can be identified in at least three contexts.³⁰ Far away from Reate we come closer to shared iconography but not in terms of chronology: the Eagle of Akragas knew many styles and poses.³¹ But it was in the 5th century when it appeared in a design comparable to the eagle of Reate (fig. 3).

Can these parallels shed any light on the coinage of Reate? There are some coin finds of Akragas as far as the north of Italy.³² Perhaps a critical number of Classical coins still circulated in the 3rd century. Here, we might however observe a conscious or even elaborated archaism – or, perhaps better: classicism. We possibly observe a *translatio* of Classical images into vogues of Hellenistic Italy. If so – did the pictures of the coins stay in the minds of more than just a small group? Which (local?) myths and stories might the eagle have been carrying? Or was it a variation of more contemporary coin types? Should these phenomena be regarded as arbitrary and independent developments? Questions such as these can be raised about all of the coin types transmitted by Italian cast coinage.

Historiography has left traces of some authority's interest in the response to their coin types, although they are few. Graffiti, erasures, countermarks, pierced coins, signs



Fig. 3: Akragas, Onkia, 3,58 g, 12h. Westermark 2018, 284 no. 994,5 O3/R4, c. 415–406 BC (this object).

of usage – all these little differences hint at object-histories and embody resonances the coins provoked.

Many objects are damaged and included in pools of *aes rude*. This should be kept in mind while speaking about the meaning of iconography for religious and other cultural practices. The authors of the iconographic discourses cannot be asked. But the objects are still there and it is possible to reconstruct communicational and economic functions as well as historical responses. There are, however, limitations:

- a. Chronology and purpose:³³ The clockwork of chronology³⁴ is a fragile system. Precise dating often is proposal. Broad dating leads to general assumptions. Closely connected questions of metrology are still open to debate. It remains uncertain if military campaigns were the main reasons for emitting cast coinage.³⁵ Even in late antiquity, military payments were partly paid with goods and not only in coins.³⁶ The purposes of *aes grave* can be explained by needs and consumption and might have been diverse: military payments, penalty charges, festivals, games, magistrates' salaries, taxes, infrastructure, or lack of small change.³⁷
- b. The individual: All insights are connected to questions of dating and purpose. What can we deduce about the production process? Who were the parties involved? What kinds of individual choices were possible? How "local" were local decisions?³⁸
- c. Interpretation: Resonance and functions depend on chronologies and parallel evidence³⁹ and are therefore hardly traceable. This ambiguous coin discourse still is intriguing. Resonance ranges from ignorance, recognition, positive emotional response, or from a perception of art to religious practices, and even to philosophy.⁴⁰ Cast coinage reached Switzerland, northern Italy, Croatia, the Czech Republic,⁴¹ and Turkey.⁴² But what were its functions and how many people actually came into contact with these objects?⁴³

Summary

The study of cast coinage provides opportunities for generations of researchers to come. The monetization of Italy is an even broader field that cannot be seen in isolation from the history of the entire monetized world.⁴⁴ In a digital environment the accessibility of evidence grows. Publishing cast coinage online is a way to conserve, to tap into, and to protect cultural heritage.⁴⁵ Digitization does not stop with object epistemologies. It can also include parallel evidence of Italian and Hellenistic mentalities, ethos and philosophy.

Cast coinage is placed between Greek, Etruscan, Celtic and middle-Italic traditions. The economic and historical settings of cast coinage are seldom clear enough for interpretation.⁴⁶ The *As* of Reate illustrates that there is much more to analyze than synchronic perspectives. Cast coinage was a brazen mirror⁴⁷ and not exclusively an *interpretatio italica* of Classical or even Archaic pictorial traditions. Cast coinage produced hybridiza-

tions of identities. It is a key source for investigating monetization, as well as the beginning and the transition of one successful project to another. Cast coinage is paradigmatic.

The intentions of money makers cannot be analyzed, but functions, practices and resonance can. The brief case study of Reate shows that mimetic strategies need to be deconstructed. The typology of the eagle of Reate is almost the same as the Akragantine one – but not quite.⁴⁸ Generally, cast coinage makes use of *mimicry* – it is the difference that matters. There is cast idiosyncrasy: individual agency could materialize in coins. Idiosyncrasy did not blindly follow role models or even orders, but did not want to perform defiance (or even otherness) either.⁴⁹ From the economic point of view, cast coinage was pragmatic; in some ways it looked conservative but it was in fact progressive. Its manifold power of inclusion explains its success as well as its decline – and its end.⁵⁰

Can cooperative research lead to a finer typology? Several specimens of cast coinage still remain in the collections as well as deposits of *aes rude*. Must we expect new contextualized finds?⁵¹ Can we come closer to the process of production? Reflecting methods could perhaps partly fill the void of missing die studies. There are manipulations, such as graffiti and countermarks.⁵² They reveal historical resonances.⁵³ These objects can tell us a little more than others. Signs of use offer valuable information. Relative and absolute chronologies depend on it. The material has to be fully published to study it. To follow each object is a way to achieve a better position for asking questions about politics, power, and *The Culture of Cast Coinage*.

The starting point could be an online publication of the Haeberlin-Collection. The future of research on the monetization of Italy could be set on networking and an open stage. A platform based on all available collections is needed to find and research coins. Users should be able to add to the collection by entering their own (cast) coins into the web portal.⁵⁴

A *Corpus Nummorum Italicorum Online* would provide a place of exchange both of ideas and material. It would become a new central portal that over time would also be able to replace Haeberlin's corpus and move forward towards big data and citizen science.

Notes

¹ Concerning the development of cast coinage, Laum 1924 is still good to think with.

² Visonà 2016, 116. 118.

³ Gorini 1992; Arslan 2006.

⁴ Termeer 2015, 187.

⁵ Mommsen 1860, 170–211. 229–280; critical remarks: VII–VIII.

⁶ For example: Coffee 2017, 25–85; Kuttner 2004, 294–321. See further: Termeer 2015, 172. For heavy metal coinage as an important phenomenon within history of the monetization of the Italian peninsula, see: Cornell 1995, 61, 180f. 287f. 394–397. On iconography: Morello 2008; Hollstein 2011, 59–67. Thonemann

2015 impressively shows that coins are one key source for studying the history, politics and culture of the Hellenistic era.

⁷ Vecchi 1988, 49–53. Concerning the state of research, see: Rutter 2001. Important web-portal on the coinage of the Roman Republic based on the standard catalogue of Crawford 1974: <<http://numismatics.org/crro/>> (16th December 2019).

⁸ Burnett 2012, 297–314; Crawford 1985, 39–47; Burnett 1989, 33–64; Burnett 1977, 92–121; Wolters 1999, 10–13.

⁹ Kemmers – Murgan 2016, 277–290; concerning the project, see: <<https://www.uni-frankfurt.de/47223601/AMurgan>> (16th December 2019). Termeer 2015, 170–285.

¹⁰ Termeer 2015, 196 f.

¹¹ Thomsen 1957–1961.

¹² Haeblerlin 1910; Vecchi 2013. Concerning the state of research on the Haeblerlin collection, see: Weisser 2014, 279–305.

¹³ Termeer 2015, 171–178. 183–186.

¹⁴ Burnett 2012, 302–311; Termeer 2015, 222.

¹⁵ Vecchi 2013 lists 23 issuers: Rome, Tarquinii, Volterrae, Uncertain of Inland Etruria, Uncertain of Etruria or Umbria, Ameria, Iguvium, Tuder, Ariminum, Hatria, Firmum, The Vestini, Carsioli, Praeneste(?), Reate, Anonymous series, Issues not in recognizable series, Meles, Ausculum, Luceria, Venusia, Volcei, Uncertain of Samnium or Lucania.

¹⁶ Termeer 2015, 170–172. 178–182. 222. 225.

¹⁷ Burnett 1987, 13.

¹⁸ Termeer 2015, 185.

¹⁹ Mackil – van Alfen 2006.

²⁰ Termeer 2015, 178 f. 196.

²¹ Termeer 2015, 225.

²² Burnett 1987, 6.

²³ Burnett 1987, 3.

²⁴ Kemmers – Morgan 2016, 283–285.

²⁵ Campana 1994, 217 f.

²⁶ Burnett 1987, 2 f.

²⁷ Vecchi 2013, 61 f.

²⁸ Pallottino 1987, 73 f.

²⁹ Westermark 2018, 19–29.

³⁰ Termeer 2015, 196 n. 716. 199.

³¹ Vonderstein 2006, 173–180.

³² Gorini 1992, 97–99.

³³ Burnett 1987, 8 f.; Termeer 2015, 183. 220. 231. 236. 252. 264.

³⁴ Mittag 2015, 19.

³⁵ Termeer 2015, 261.

³⁶ Burnett 1987, 13; Wienand 2012, 43–86; Termeer 2015, 175.

- ³⁷ von Reden 2010, 26.
- ³⁸ Termeer 2015, 170. 192.
- ³⁹ Burnett 1987, 16.
- ⁴⁰ Termeer 2015, 171–182. 189f. 194f. 201–206. 232. 279.
- ⁴¹ Kolníková 2012, 63. 71 no. XII.1; 86 map.
- ⁴² Regling 1927, 183.
- ⁴³ Termeer 2015, 282–284.
- ⁴⁴ Termeer 2015, 183.
- ⁴⁵ Weisser 2014, 279–305.
- ⁴⁶ Burnett 1986, 67–75, esp. 74.
- ⁴⁷ Termeer 2015, 197–200. 226.
- ⁴⁸ For a fruitful implementation of this concept in post-colonial studies, see Bhabha 2000.
- ⁴⁹ For this concept, see: Davis – Lindenberger – Wildt 2008.
- ⁵⁰ Termeer 2015, 191.
- ⁵¹ Termeer 2015, 184. 213.
- ⁵² Haeblerlin 1910, 27 Nr. 108 pl. 12,1.
- ⁵³ Termeer 2015, 251. 262.
- ⁵⁴ The realization of this goal had already begun for Thracian, Troan, Moesian and Mysian coins: <<https://www.corpus-nummorum.eu/>> (16th December 2019).

Image Credits

Fig. 1a: Haeblerlin 1910; <<https://digi.ub.uni-heidelberg.de/diglit/haeblerlin1910text/0009/image>> (screenshot by the author). – Fig. 1b: <<https://ikmk.smb.museum>> (screenshot of an IKMK-search by the author). – Fig. 2: Münzkabinett der Staatlichen Museen zu Berlin, SMB, SPK, 18263396; Foto: Lutz-Jürgen Lübke, Lübke und Wiedemann 2017. – Fig. 3: American Numismatic Society (ANS) (original ca. 17 mm); Creative Commons <<http://numismatics.org/collection/1944.100.8243>>

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Common Concerns, Assimilated Cults: an Assimilation of Tanit with Ceres in Early Roman Melite

George Azzopardi

Abstract

The cult of Carthaginian Tanit enjoyed popularity on the island of Malta already before the latter was taken over by the Romans in ca. 218 BC. But two successive coin issues of Melite's early Roman occupation seem to indicate an assimilation of Carthaginian Tanit with Roman Ceres. This paper seeks to examine the process involved in this assimilation and to identify any possible driving forces or underlying motives.

Introduction

Revealing a new reality brought about by socio-political changes, the choice of imagery, symbols, and legends (on coins) often link a local community to their new external ruling community. Such choices also shed light on how the local community sought to project itself – particularly, vis-à-vis their rulers – within the new socio-political scenario.¹

With their imagery, symbols, and legends, coins were very apt for the diffusion of political messages and religious ideologies. At the same time, they provided a good medium for the expression of religious assimilations in response to new religious developments or changing political scenarios, often in combination with daily concerns. Religious assimilations, then, might have provided one of the best means to facilitate the co-existence of communities with different religious backgrounds.

Two particular coin issues from Melite in the 2nd century BC seem to betray a process of religious assimilation. Carthaginian Tanit, whose worship was long-established on the central Mediterranean island (fig. 1) was assimilated with Roman Ceres. The latter was associated with the new political establishment with whom the locals may have deemed it appropriate to maintain good relations and adjust their identity. It was also in the locals' interest, however, to secure the support of a divine protectress as long as she shared similar concerns.

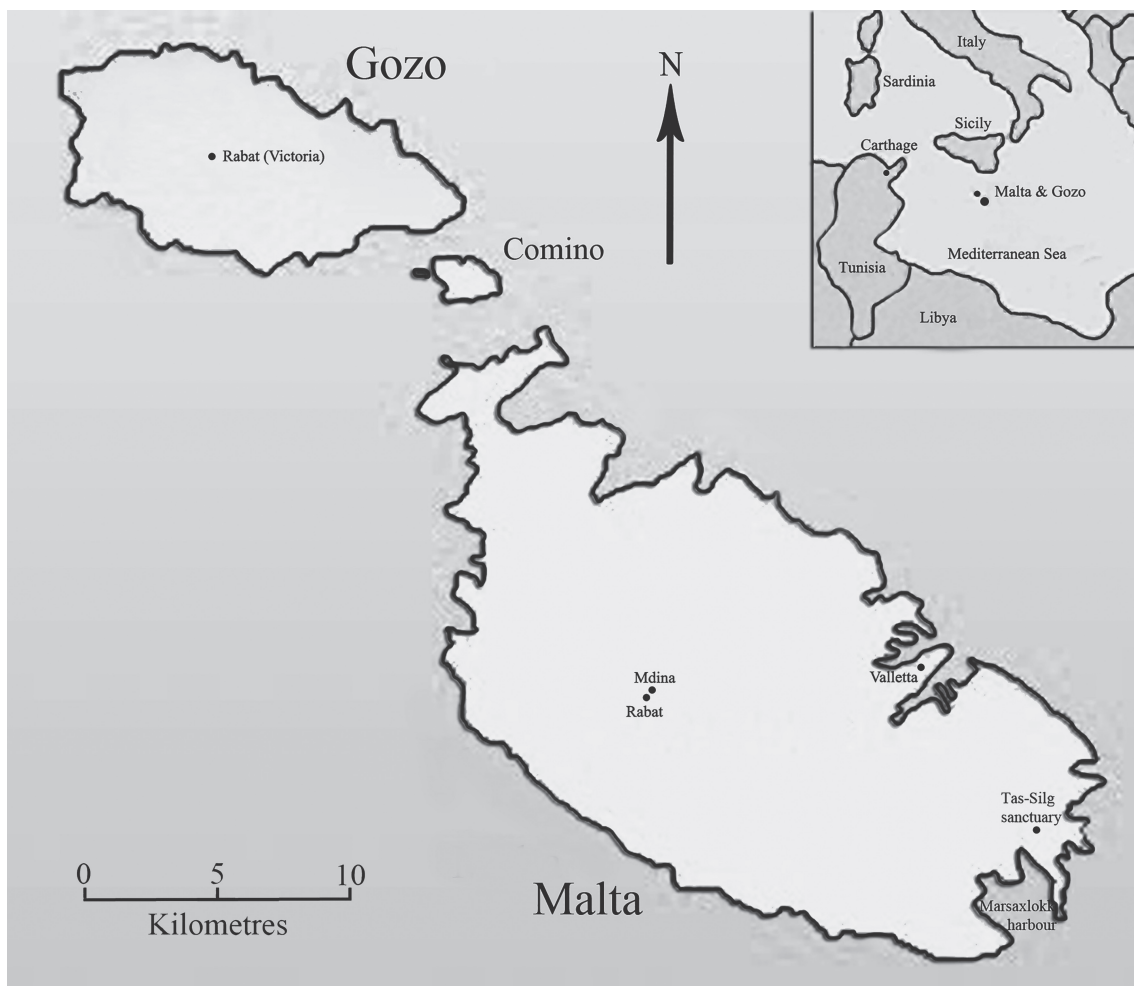


Fig. 1: Map showing the island of Malta (ancient Melite) and the adjacent island of Gozo (ancient Gaulos). The islands' location in the central Mediterranean is shown inset.

Tanit and Ceres

Several human concerns endured beyond temporal and spatial boundaries. One such human concern was related to fertility, particularly agricultural fertility, which ensured the biological survival of human societies.

Like her Phoenician equivalent, Astarte, Carthaginian Tanit was a mother goddess who was mainly associated with fertility. Her universal symbol consists of a triangle – possibly a representation of a pyramidal or conical betyl – anthropomorphised with the addition of a head and spread arms.²

On the other hand, Roman Ceres (along with her daughter Proserpina) was also worshipped mainly in association with fertility, particularly agricultural fertility. In particular, and as Augustine remarks in his *De Civitate Dei contra Paganos*, Ceres was identified

with the earth³ from which crops spring forth. She was also identified with the grain and the bread produced from it.⁴ Within her iconographic repertoire, wheat stalks are attributes related almost exclusively to Ceres (and to her Greek counterpart Demeter).

Since concerns of agricultural fertility fell within the domain of both Tanit and Ceres, the common concerns facilitated the accommodation of the related deities in response to the same concerns. As we shall see below, the two fertility deities enjoyed worship amongst the largely agricultural population of the Maltese islands, whose livelihood depended heavily on fertility: be it the fertility of land, of animals, or even human fertility.

The Cult of Tanit in Malta

Following their submission to Roman rule around 218 BC and their annexation to the (Roman) province of Sicily, the Maltese islands were initially allowed to mint their own coinage – referred to, in fact, as ‘Romano-Maltese coinage’ – as were other provincial *civitates*. These particular coin issues appeared by the late 3rd century BC. They circulated alongside Punic coins, which were still in circulation for a while after the Roman conquest of the islands and remained in circulation well into the 1st century BC. The majority of these coins display strong Punic influence in their portrayal of Phoenician/Punic deities, mostly Astarte (the Phoenician equivalent of Carthaginian Tanit) or Astarte-Tanit, as well as Punic legends. The latter only gradually turn to Greek and finally to Greek transliterated into Roman/Latin script towards the end of the 1st century BC.⁵

Apart from the evidence provided by some coin examples, the best evidence for the cult of Tanit in Malta comes from the multi-period sanctuary site at Tas-Silġ near the harbor of Marsaxlokk in the southern region of Malta. Dedications to Tanit (and to Hera) at Tas-Silġ always appear on pottery sherds. These Tanit dedications come from Areas 1, 2, 3, 4, and 5 of the sanctuary complex.⁶

The Cult of Ceres in the Maltese Islands

The cult of Ceres (as well as that of her daughter Proserpina) in the Maltese islands is clearly attested by epigraphic evidence. Ceres’ cult is evidenced in Gozo by means of a Roman inscription⁷ of the first half of the 1st century AD (AD 14–29); it commemorates a dedication to Iulia Augusta (the third wife of Augustus and mother of the second emperor Tiberius) identified with the goddess Ceres. It was not unusual for this imperial lady to be assimilated with Demeter/Ceres, especially during the reign of her son Tiberius.⁸

The inscription is carved on a pedestal-like stone with a double-holed socket on its top surface to hold a statue. The 17th century Maltese historian Abela reports that this inscribed stone was in the foundations of a private house in Gozo.⁹ The statue it held

evidently represented Iulia Augusta (identified with/deified as Ceres) and which, according to the inscription, was consecrated/dedicated by Lutatia, her priestess, together with her husband and children.

The statue might have been a surviving one presently kept in the Gozo Archaeology Museum along with the inscription. This statue bears evident stylistic and iconographic resemblances to surviving statues and statuettes of both Iulia Augusta/Livia herself,¹⁰ of Demeter/Ceres,¹¹ as well as to representations of Iulia Augusta/Livia identified with Ceres.¹² On stylistic grounds, our statue is also dated to the same period as the inscription that carries the dedication to Iulia Augusta in her identification with Ceres and onto which it (i.e. our statue) would have proportionally fitted perfectly.

The statue's original provenance is unknown but, by the time of Abela's writing, it was to be found in a niche near the Citadel's main gate, placed on top of another inscribed stone to which it could not have belonged.¹³ The statue seems to have been placed here in 1623 according to another inscription that commemorates the completion, in that year, of a new access road to the Citadel together with its embellishment with an ancient statue and ancient inscriptions.¹⁴

Such an identification of an imperial personage like Iulia Augusta with the goddess Ceres would seem to imply the exploitation of the popular worship that the cult of Ceres enjoyed amongst the largely agricultural population of the island of Gozo. As was often done, this exploitation must have been for political motives and propaganda of the imperial class, or for the personal benefits of the dedicator/s. Appealing to the sympathies of the people, the underlying religious ideology of this exercise must have left its impact on them precisely by exploiting the power exerted by the symbolism of Ceres on their daily life.¹⁵

Tanit and Ceres in Malta: an Assimilation Process

As said above, the Maltese islands were allowed to mint their own coinage during their early period under Roman rule. Two particular coin issues (fig. 2) of this period were struck towards the middle of the 2nd century BC, although one issue (a *semis* of ca. 125 BC) is slightly later than the other (a *semis* of ca. 160 BC). The reverse side of these two coins depicts a four-winged figure of Osiris in a kneeling position with a scepter in his right hand and a whip in his left hand. The obverse side depicts a female head profile looking left and wearing a typically Egyptian head-dress with what appears to be a somewhat schematized lotus flower/'crown' or, more likely, a Hemhem crown/triple Atef crown on top. It also carries the Greek legend ΜΕΛΙΤΑΙΩΝ ('of the Maltese'). The obverse of the slightly earlier issue (of ca. 160 BC) carries a Tanit standard or symbol (as described above) evidently mounted on a pole¹⁶ (as in fig. 3) located on the left side of the head profile. However, the obverse of the slightly later issue (of ca. 125 BC) carries a wheat stalk on the left side of the head profile.¹⁷



Fig. 2: The respective obverse sides of the two coin issues: that of a *semis* of ca. 160 BC on the left, and the other of a *semis* of ca. 125 BC on the right.

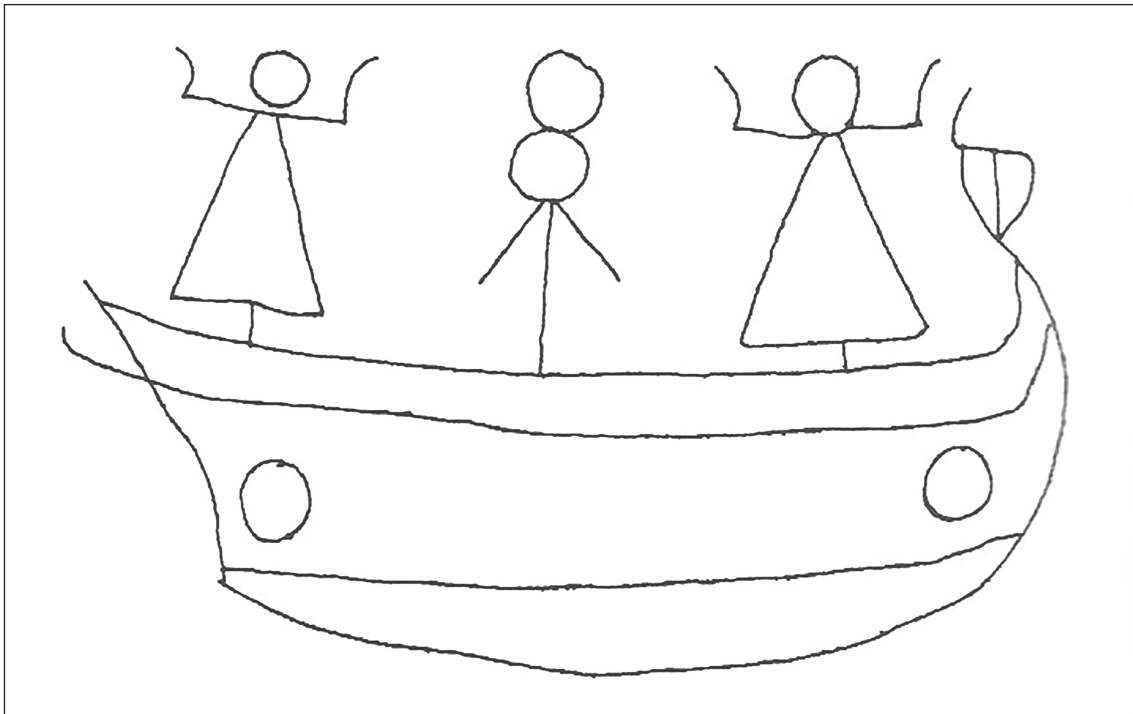


Fig. 3: Two standards/symbols of Tanit mounted on a pole and flanking a caduceus on a sea vessel as shown on a sacrificial stela from Carthage.

The Egyptianized head profile on the obverse of both coin issues seems to recall the goddess Isis, the female consort of Osiris, whose image appears on the reverse side. Isis' cult is also attested in Malta.¹⁸ The head profile on our coin issues could have been inspired by Isis' iconography like that from a limestone relief depicting Isis-Thermouthis,¹⁹ probably from Fayoum but now in the Egyptian Museum in Cairo, Egypt (see fig. 4).²⁰ A similar iconography comes from a bronze statuette of Isis nursing her son Horus while carrying a pair of horns atop her Egyptian head-dress and lotus 'crown' or Hemhem 'crown'. This statuette (with one of its horns broken off) is in the Ägyptisches Museum Bonn, Germany (see fig. 5).

But the Tanit symbol on the left side of the head profile on the earlier issue would undoubtedly identify the deity as Tanit who, nonetheless, seems here to be assimilated with the Egyptian goddess Isis whose iconography she adopts. As already noted above, the later issue carries the same head profile on its obverse but now the Tanit sign is replaced by a wheat stalk, that also is placed on the left side of the head profile. The represented deity also seems to maintain an assimilation with Isis, whose same iconography she likewise adopts.



Fig. 4: A limestone relief depicting Isis-Thermouthis as half-woman and half-snake. She is also characterized by a typically Egyptian head-dress and what appears to be a lotus flower/Hemhem 'crown' on top. Probably from Fayoum, the relief is now in the Egyptian Museum in Cairo.



Fig. 5: A bronze statuette of Isis nursing her son Horus. She carries a pair of horns (one of which is broken off) on top of a characteristically Egyptian head-dress and or Hemhem lotus 'crown'. This statuette is in the Ägyptisches Museum Bonn, Germany.

With the appearance of the second issue a few decades later, it is therefore evident that the accompanying symbol changed from one representing Tanit to one representing Ceres, despite keeping the same head profile. Thus, we seem to have a common but interchangeable image (i.e. the head profile) which, depending on the accompanying symbol, represents either Tanit (on the earlier issue), or Ceres (on the later issue). While retaining the same image, the change in representation from that of Tanit to that of Ceres is not expected to have been hindered by their respective assimilations with Isis. Demeter (the Greek counterpart of Ceres) and Isis were likewise also assimilated, particularly by the Greeks. However, like Tanit and Ceres, Isis was associated with fertility, particularly human fertility,²¹ and her cult was also popular in the Roman world. Thus, her assimilation with both goddesses might have proved quite natural. Indeed, the proposed assimilation process between Tanit and Ceres could have been facilitated not only by their common concern with fertility, but also by their respective and common assimilation with Isis.

The same image could, therefore, be retained while changing only its representation by changing its accompanying symbol. Thus, by retaining the same image (in both instances, recalling/assimilated with Isis), these two coin issues may suggest that Tanit

was assimilated with Ceres within a matter of a few decades. This was done through an assimilation process that seems to have involved the interchangeability of an image which changed its representation depending on the accompanying symbol.

Conclusion

This move may have reflected a refashioning or negotiation of Maltese identity to bring it into line with the new political reality, now that the Maltese were under Roman rule. It may have also been a 'political' move that involved shifting political allegiances now that Rome had defeated and destroyed Carthage in 146 BC, at the end of the Third Punic War.

From a religious point of view, such a move may have reflected a convenient reworking of Maltese religious affiliations within a compatible religious framework. This way, they still secured heavenly benefits of agricultural fertility from the divine protectress even if this happened under a different name. Thus, a cult connected to agricultural fertility could be maintained under a reworked religious form best suited to reflect both their concerns and the new political scenario.

Acknowledgements

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Notes

¹ Gordon 2018, 26 f.

² Moscati 1973, 178–180; Warmington 1969, 145 f.

³ Augustine, 4. 10.

⁴ Spaeth 1996, 16 f. 20 f. 24 f. 34–41.

⁵ Azzopardi 1993, 37–44; Coleiro 1971, 67.

⁶ MISSIONE 1963 (1964), 151.

⁷ CIL X, 7501.

⁸ Barrett 2002, 141 f. 145. 161. 209 f. 263. 277 f.; CIL XI, 3196. 281. figs. 22. 23; Spaeth 1994, 88 f. 92 f.; 1996, 47.

⁹ Abela 1647, 215.

¹⁰ See Bartman 1999, 48 fig. 45.

¹¹ See examples in LIMC IV/1, 851. 855. 898; IV/2, 566 no. 50. 570 no. 92. 602 nos. 73–75.

¹² See Barrett 2002, fig. 23; Bartman 1999, 107 fig. 85; Wood 1998, figs. 43. 44.

¹³ Abela 1647, 216 f.

¹⁴ Azzopardi 2008, 19 f.

¹⁵ See Spaeth 1996, 47. 101. 103. 119–123.

¹⁶ Sometimes, deities' standards/symbols (including that of Tanit) could be mounted on poles to receive worship, even aboard ships, like an example shown on a sacrificial stela from Carthage. See Brody 1998, 27. 31–33. 38. 70. 72. figs. 16. 18. 66.

¹⁷ Azzopardi 1993, 39 f. Coleiro 1971, 68 f. 75 f. pl. 15 nos. 3. 4.

¹⁸ Bonanno – Cilia 2005, 36 f. 62. 86. 122 f. 163. 216. 225.

¹⁹ Isis-Thermouthis is a composite goddess on account of her association with Renenutet, the cobra goddess (linked also to fertility and harvest) (Shaw 2014, 154). In fact, she is represented on this relief as half-woman and half-snake.

²⁰ LIMC V/1, 779 no. 242b; V/2, 516 no. 242b.

²¹ Eiland 2004, 24.

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Art and Economy: Images on Roman Coins

Steven Hijmans

Much is being made, these days, of the important role of archaeology in the study of ancient economies. Archaeology's strength, it is felt, is its potential to produce large data sets, which by their very nature are less prone to human biases, both at the level of data generation and of data interpretation, and hence eminently suitable for statistical analysis. For other reasons as well, many now feel that archaeological "big data" offer the most reliable information for the study of ancient economic activities.¹ The skepticism towards archaeological sources still expressed by eminent historians like Moses Finley in the 1970s and 1980s is a thing of the past.²

This development is integral to the transformation Classical Archaeology has undergone over the past generation. Gone are the days when ancient art was a main focus of Classical archaeologists. Current material culture studies of the ancient world are driven to a significant (and increasing) degree by research agendas aimed at major social and economic questions, directly challenging the preeminence past generations accorded to the literary sources. In the writing of ancient history, archaeology is increasingly encroaching on terrain that was once the sole domain of text-based historians.

This is a welcome development, but as is almost inevitable with scholarly (r)evolutions of this type, embracing the new goes hand-in-hand with a perhaps overly zealous rejection of the old. This conference – the largest regular conference on Classical Archaeology in the world, held only once every 5 years – illustrates this clearly. "Art," so important in ancient Greece and Rome, is hard to find in the 1000+ presentations at this massive meeting, and when art does crop up it tends to be in terms of luxury goods, trade connections, prestige imports and self-representation, *vel sim*. Art reduced to economic commodity, with little or no attention for the visual as a forum of social or political expression and discourse. Even Art's most immediate entanglements with ancient economies, through images on coins, for example, are largely ignored. The main coin-related topics at this conference include reports on coin distributions, levels of monetarization, serial production processes, metrological studies of coin hoards, circulation, monetary policies, cities and coinage, money and merchandise: in fact, just about every aspect of ancient money except the images on coins.

This lack of attention for the visual elements of ancient societies is a problem, for "art", (i.e. visual representation through architecture, statues, reliefs, mosaics, (wall)-paintings, statuettes, appliques, lamps and other decorated pottery and metal-ware, cameos and engraved gems, coin imagery, etc.) is one of the major spheres of social interaction utilized by the Greeks and the Romans (and many others, of course) to negotiate the instantiation of key social and political ideals and ideologies. Ancient economies were not immune to those ideologies, of course. On the contrary, they were profoundly shaped by them, and played an active role in shaping them.

We can well illustrate this interface between economy, ideology, and art with the aid of Roman coins and a bit of “big data”. Roman coins were bearers of an unprecedented diversity of images, particularly on the reverse. This comes into clear focus when we look at Roman imperial coins minted during one short period of time – AD 268–276 – for which we have exceptionally detailed and comprehensive information thanks to the MER-RIC project.³ Its analysis of the imperial coinage of this nine-year period is based on a dataset of 104,000 extant Roman imperial coins dating to those years, which they classify in over 4540 distinct entries/unique types. These coins were produced by (only) 12 mints and were issued in 15 different denominations. They depict 71 different gods, heroes, personifications and people, 59 different objects and attributes, and 10 different animals, all in the span of a mere nine years.⁴

The production of such a rich visual variety of coins would be unthinkable if the images on the coins were meaningless. Clearly they were integral to the function of coinage in Roman society, and hence, studying coin images should be an integrated part of studying Roman coins as a whole. With two case studies I hope to show that this extends even to the study of coins as monetary instruments; in other words, that even purely economy-oriented studies that utilize coins cannot afford to ignore the imagery on them and their visual impact.⁵

Our first example concerns the first issues minted by Alexandria during the reign of Nero. In the third, fourth, fifth, and sixth years of his rule (AD 56/7–59/60) the city minted sets of ten tetradrachms annually, all with the same obverse bust of Nero and each with a different reverse. These are (in no particular order): Agrippina Minor, Claudia Octavia, Demos Romaion, Demeter, Dikaiosyne (fig. 1), Omonoia, Roma, Neos Agathos Daimon (fig. 2), Eirene, and Pronoia Neou Sebastou (fig. 3).⁶ Each coin is comprehensible individually, but their full meaning is achieved jointly. As a set they legitimize Nero’s accession to the throne and display the promise his reign holds. Only one coin of the series has fueled any real discussion, and this concerns the identity of the seated figure on the Pronoia Neou Sebastou coin (fig. 3). It hinges on the interpretation of the genitive *Neou Sebastou*. Does it indicate the possessor of the *pronoia* (foresight)? If so, the seated figure is Nero, the new Augustus whose *pronoia* is being celebrated. But *Neou Sebastou* can also be taken as the object of the *pronoia*, in which case the coin celebrates the (unspecified) *pronoia* for (rather than of) the new Augustus (i.e. the *pronoia* of Octavian-Augustus which had once again ensured a conflict-free transition of power to a new successor).⁷

The latter interpretation is preferable, because it allows the identification of the seated radiate figure as Augustus himself, rather than Nero. In Rome, the image type of a seated radiate figure next to an altar which can be identified as the *Ara Providentiae*, first appeared on early Tiberian coins (fig. 4). It depicts an actual statue of Augustus which was associated with that altar. This statue is also depicted on an elephant-drawn cart in funerary processions for deceased emperors (fig. 5). It thus perfectly embodies



Fig. 1: Alexandria, billon tetradrachm, rev.: Dikaiosyne; AD 56/7.



Fig. 2: Alexandria, billon tetradrachm, rev.: Neos Agathos Daimon; AD 56/7.



Fig. 3: Alexandria, billon tetradrachm, rev.: Pronoia Neou Sebastou; AD 56/7.



Fig. 4: Rome, ae. sestertius, rev.: Augustus (radiate statue of) by the Ara Providentiae;
AD 22.



Fig. 5: Rome, ae. sestertius, rev.: Radiate statue of Augustus in an elephant-drawn chariot;
AD 34-37.

the Augustan *Providentia* (*Pronoia* in Greek) for the seamless succession of emperors, without which, so the regime claimed, Rome would descend back into the chaotic power struggles and civil wars which had devastated the pre-Actian republic.⁸

The statue was one of an array of imperial ‘icons’ that could be deployed to represent or emphasize specific facets of the ruling ideology which underpinned the imperial claims to authority and legitimacy. Visually literate Roman citizens would “know” such images, or would recognize the need to know them in order to understand their specific function or meaning in a given context. Concerning this particular image, what a Roman in AD 56 would or could know, was that up till then the only seated radiate figure depicted on coins and in other official media, both in Rome and the provinces, was that of Augustus (fig. 4).⁹ The default identification of this seated figure, then, would have been Augustus, and more specifically Augustus at the Ara Providentiae. Needless to say, the *providentia* of Augustus would fit in very well in this series, which we could then verbally render as:

The **providentia** of Augustus has ensured that Rome has a **new Agathos daimon**,¹⁰ descended from Augustus through his mother **Agrippina**, husband of his predecessor’s daughter **Claudia Octavia**, supported by **Roma** and her people (**demos**), guarantor of **harmony, peace, justice**, and prosperity (**Demeter**).

The alternative suggestion, that the *pronoia neou Sebastou* coin of the series depicts an image of Nero radiate and seated, creates major (and unnecessary) problems. The coins give no iconographic hint suggesting that the seated radiate Augustus type now depicted Nero, and identifying him as Nero would result in an imbalance of the set. It would mean that two reverses would refer directly to Nero (the Neos Agathos Daimon and the Pronoia coins), and none to Augustus. In short, as there is no compelling reason not to identify the seated radiate figure as Augustus, and at least two good reasons not to identify him as Nero, his identity as Augustus should be beyond dispute.¹¹

Clearly this set of ten coins is programmatic.¹² It disseminates a message of political importance. There are two points to keep in mind here. The first is that the message is best understood when the ten coins are viewed together; the second is that we should not make the mistake of thinking that the coins were the only medium used to disseminate the desired message. Statues, reliefs, paintings, and other, more ephemeral ‘imagery’ – in speeches at important public events, for example – would generally have served as the more elaborate fora for the dissemination of the ideals and concepts involved. The coin issues played a supporting role, at best setting out the bare bones of the message(s), and intended primarily to trigger memories of occasions and places where the associated ideals were conveyed to the populace more elaborately.

All this has major implications for the economic aspects of this and similar coin issues. In the first place, it is worth noting that this series was minted in the local Alexandrian mint, not an imperial Roman one. That local mint did not issue any coins at all

during the first and second years of Nero's reign. In fact, it did not *need* to issue coins at all, as the economically necessary supply of coinage was furnished by the imperial mints. Local mints abounded in the Eastern half of the Empire, but with some exceptions they minted coins only sporadically, and in small numbers. In one hundred years of local coin production, the average annual output of the mint of Corinth, for example, was about the equivalent of what it would cost to finance one legion for one day.¹³ The Alexandrian local mint was an exceptionally active one, but even it could skip years of minting without, apparently, any disruption to the local economy.

This suggests that these 'provincial' coins were not primarily monetary in function. They were perhaps distributed at important celebratory events, or paid out to specific sectors of society on particular occasions. Initially, at least, the possession of such coins could serve as identity markers in terms of the 'haves' and the 'have nots', for example, as in who would have received the coin set and who not. We could go on, but the point is clear; in terms of both meaning and function of such sets of coins as the Alexandrian one discussed above, the economy does not provide the primary framework of reference, at least not at the moment of production and initial distribution. How that changed in the subsequent course of time is a different, equally knotty problem, which we do not need to discuss here.

We turn now to a different group of coins, minted under Aurelian (AD 270–275), all bearing some variant of the legend *Sol Dominus Imperii Romani*. These are imperial Roman coins that have been widely cited as key evidence for an Aurelian policy to elevate the sun god to the supreme deity of the Roman Empire.¹⁴ This is understood to have been a major religious reform with lasting effects. But the evidence for this reform



Fig. 6: Antioch, ar. antoninianus, rev.: Sol; AD 270–275.

is not nearly so clear-cut as it is made out to be. It is true that Aurelian issued a high number of coins depicting Sol, but the sun was by no means the only deity to appear on his coins. Iconographically, Aurelian's Sol was indistinguishable from the sun god on coins of his predecessors and successors (fig. 6).¹⁵ This is in sharp contrast to the iconography on the coins bearing the *Sol Dominus* legend. These are unique and enigmatic, to the point that in some cases we must wonder whether the image accompanying the legend is actually intended to depict Sol (figs. 7, 8). The bust in figure 7, for example, does not have any of the characteristics of busts of Sol whatsoever. It looks much more like an imperial portrait than an image of a deity, let alone the Sun god.

Besides these iconographical issues, another problem is the fact that these coins were minted for only a short period of time (April – November AD 274), and in one mint only. Some scholars maintain that this was the mint at Rome, but it is now fairly certain that it was, in fact, Serdica.¹⁶ It seems quite remarkable that an Aurelian religious revolution of the postulated magnitude, importance, and – it is widely claimed – enduring success, should be proclaimed on only a few coins minted at one mint only.

These problems alone should raise enough questions to cast doubt on the common interpretation of these coins. 'Big data' now adds a powerful additional argument. As mentioned above, the MER-RIC project identifies 4540 different coin-varieties for the nine years it covers (AD 268–276). Of these only seven are *Sol Dominus* types (0.15%) and the combined total number of coins belonging to the seven *Sol Dominus* issues is only twenty (0.092% of the 104,000-coin data set). In other words, the *Sol Dominus* coins minted for a few months in AD 274 in Serdica were exceedingly rare, and seen by only a minute portion of the Roman population. This confirms what the iconographic analysis



Fig. 7: Serdica, double aurelianus, Obv.: Male bust right, chlamys and cuirass, longish hair. SOL DOMINVS IMPERI ROMANI; AD 274 (April–November).



Fig. 8: Serdica, double aurelianus, Obv.: facing bust of Sol, radiate (seven rays), above the protomes of four horses, two jumping right, two left. SOL DOM IMP ROMANI; AD 274 (April–November).

of the coins had already indicated, that these coins cannot be interpreted as heralds of a major religious reform with lasting effects.

Why, then, were these rare coins with their anomalous iconographies minted in Serdica? There is no easy answer to this question, but it is impossible to maintain that they had a purely monetary, economic purpose. Both the text and image on the coins are far too striking and exceptional for that to be the case.

What these two examples show is that in the Roman Empire, both provincial and imperial coins could have very strong symbolic or ideological functions, conveyed primarily through the strikingly large array of images and image types depicted on their reverses. This means that there were powerful non-economic interests at play in the decision-making process leading up to each new issue of coins. These interests affected not only the design, but also the distribution and reception of newly minted coins. One could say that Roman coins were politically, economically, socially and culturally coded to varying degrees. All aspects of the coins – mint, denomination, distribution, imagery, etc. – contributed to this coding, with the role of images being particularly robust in comparison to other ancient (and modern) coinage systems.

To understand these coded Roman coins, we must examine all facets as interwoven and mutually dependent elements of their overall meanings and functions. That this includes images is a given, and in this coded context we must beware not to assume straightforward, self-evident, or unique meanings for the images under consideration. They form part of a visual semantic system that was itself heavily coded.¹⁷ This means that there is no quick fix for the interpretation of coin imagery. It can only be done as

part of a concerted drive to decode Roman art as a whole.¹⁸ As these examples have illustrated, big data approaches to the analysis of coin imagery have an important role to play. In the case of the Aurelian coinage, the MER-RIC project provided powerful evidence demonstrating the rarity of the Sol Dominus coins. Comparable information for the first Neronian issues in Alexandria is not available yet, but could easily be of similar value.

In conclusion, we can state that the two case studies presented here illustrate that one cannot divorce image analysis from the rest of the analysis of Roman coins. Only an integrated approach has the potential to identify their major cores of meaning. As Classical Archaeology turns away from the traditional, normative study of “high art” in the Greek and Roman worlds, we must take care not to eschew every form of Art history in modern Mediterranean archaeology. Losing sight of the major role images played in the ancient Greek and Roman world would be a great disservice to Mediterranean Archaeology, Classics, and modern scholarship as a whole.

Notes

¹ See, e.g., the Oxford Roman Economy Project [<http://www.romaneconomy.ox.ac.uk/>] (22 March 2019)]; Bowman Wilson (2009); D’Ercole (2017) gives a good overview of the shift towards archaeological data in the study of ancient economies since the 1960s.

² See D’Ercole 2017.

³ www.ric.mom.fr (4th April 2019).

⁴ Note that this study encompasses Roman imperial coins only, and excludes provincial coinage.

⁵ On the history, current state and future potential of numismatics as a discipline, cf. Haselgrove – Krmnicek 2012; Kemmers – Myrberg 2011. For an interesting perspective on coinage in Archaic Greece: Kurke 1999; Italy: Collins-Elliot 2018.

⁶ Martin 1982, 157–163; Bergmann 1998, pl. 32; RPC I, 5201–5210, etc.

⁷ Bergmann 1998, 159–163.

⁸ Bergmann 1998, 100. 106. 157–164 pl. 20, 3–4.

⁹ Hijmans, forthcoming, chapter 6; Bergmann 1998, 106 n. 654.

¹⁰ Short for Νέος ἀγαθός δαίμων τῆς οἰκουμένης; POxy 7, 1021, 8–10.

¹¹ Martin 1982, and to a lesser extent Bergmann 1998, use complex text-based arguments to identify the seated figure as Nero, giving too little weight to the visual history of the type.

¹² Bergmann 1998, 158 f.

¹³ M. Amandry, personal communication.

¹⁴ On the notion that Aurelian elevated the sun to Rome’s supreme deity, cf. Hijmans (in press), chapter ten (rejecting it). There is a long tradition of describing Aurelian’s devotion to Sol in highly christianizing terms. Halsberghe (1972, 148) claims that Aurelian was “brought up to revere the Sun god” and became “even more devout” in the course of his reign. Wallraff (2001, 28–37) speaks of an emerging “pagane Sonnenfrömmigkeit” in the second and third centuries, resulting in “eine neue Form der Sonnenreligiosität,

die dem Christentum als eigenständige Größe gegenübertrat". This new solar religion had many roots, but was supposedly a unified phenomenon. Note, however, that Wallraff (2001, 37–39) stresses that these religiously laden terms are problematic, and that any attempt to find central organizing principles or coherence in Roman solar religion fails. Cf. Bergmann 1998, 275 f.; Matern 2002, 43–45; Salzman 2017.

¹⁵ Hijmans forthcoming.

¹⁶ See most recently Wienand 2015.

¹⁷ Hölscher 2007.

¹⁸ Cf. Hijmans forthcoming, chapter 1.

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

In this collective volume, single contributions of sessions 4 and 5 deal with questions on the exploitation of resources such as metals and marble in the Roman imperial period and also on distribution, trade and networks in general in antiquity. Thematically, the studies range from trade and cultural contacts in the Iron Age and Archaic Mediterranean, Greek and Roman coinage, to Roman trade and transport systems.