

Astrid Van Oyen

Archaeological Studies

23

Amsterdam

How Things Make History

THE ROMAN EMPIRE
AND ITS TERRA
SIGILLATA POTTERY



AMSTERDAM UNIVERSITY PRESS

How Things Make History

Other titles in the AAS series:

1. N. Roymans (ed.): *From the Sword to the Plough. Three Studies on the Earliest Romanisation of Northern Gaul*
Open Access edition: <http://dare.uva.nl/record/19675>
2. T. Derks: *Gods, Temples and Ritual Practices. The Transformation of Religious Ideas and Values in Roman Gaul*
Open Access edition: <http://dare.uva.nl/aup/en/record/172370>
3. A. Verhoeven: *Middeleeuws gebruiksraadwerk in Nederland (8e – 13e eeuw)*
Open Access edition: <http://dare.uva.nl/aup/en/record/172373>
4. F. Theuvs / N. Roymans (eds): *Land and Ancestors. Cultural Dynamics in the Urnfield Period and the Middle Ages in the Southern Netherlands*
Open Access edition: <http://dare.uva.nl/aup/en/record/172372>
5. J. Bazelmans: *By Weapons made Worthy. Lords, Retainers and their Relationship in Beowulf*
Open Access edition: <http://dare.uva.nl/aup/en/record/172337>
6. R. Corbey / W. Roebroeks (eds): *Studying Human Origins. Disciplinary History and Epistemology*
Open Access edition: <http://dare.uva.nl/aup/en/record/172272>
7. M. Diepeveen-Jansen: *People, Ideas and Goods. New Perspectives on 'Celtic barbarians' in Western and Central Europe (500-250 BC)*
Open Access edition: <http://dare.uva.nl/aup/en/record/172273>
8. G. J. van Wijngaarden: *Use and Appreciation of Mycenaean Pottery in the Levant, Cyprus and Italy (ca. 1600-1200 BC). The Significance of Context*
Open Access edition: <http://dare.uva.nl/aup/en/record/172274>
9. F. A. Gerritsen: *Local Identities. Landscape and community in the late prehistoric Meuse-Demer-Scheldt region*
Open Access edition: <http://dare.uva.nl/aup/en/record/172820>
10. N. Roymans: *Ethnic Identity and Imperial Power. The Batavians in the Early Roman Empire*
Open Access edition: <http://dare.uva.nl/aup/en/record/172930>
11. J. A. W. Nicolay: *Armed Batavians. Use and significance of weaponry and horse gear from non-military contexts in the Rhine delta (50 BC to AD 450)*
Open Access edition: <http://dare.uva.nl/aup/nl/record/397232>
12. M. Groot: *Animals in ritual and economy in a Roman frontier community. Excavations in Tiel-Passewaaij*
Open Access edition: <http://dare.uva.nl/aup/en/record/301888>
13. T. Derks / N. Roymans (eds): *Ethnic Constructs in Antiquity. The role of power and tradition*
Open Access edition: <http://dare.uva.nl/aup/en/record/301890>
14. T. D. Stek: *Cult places and cultural change in Republican Italy. A contextual approach to religious aspects of rural society after the Roman conquest*
ISBN 978 90 8964 177 9
15. P. A. J. Attema / G. -J. L. M. Burgers / P. M. van Leusen: *Regional Pathways to Complexity. Settlement and land-use dynamics in early Italy from the bronze age to the republican period*
ISBN 978 90 8964 276 9
16. E. M. Moormann: *Divine Interiors. Mural paintings in Greek and Roman sanctuaries*
ISBN 978 90 8964 261 5
17. N. Roymans / T. Derks (eds): *Villa Landscapes in the Roman North. Economy, Culture and Lifestyles*
ISBN 978 90 8964 348 3
18. N. Roymans / G. Creemers / S. Scheers: *Late Iron Age Gold Hoards from the Low Countries and the Caesarian Conquest of Northern Gaul*
ISBN 978 90 8964 349 0
19. D. S. Habermehl: *Settling in a Changing World. Villa development in the northern provinces of the Roman Empire.*
ISBN 978 90 8964 506 7
20. D. G. Yntema: *The Archaeology of South-East Italy in the first millennium BC. Greek and native societies of Apulia and Lucania between the 10th and the 1st century BC*
ISBN 978 90 8964 579 1
21. Manuel Fernández-Götz: *Identity and Power. The Transformation of Iron Age Societies in Northeast Gaul*
ISBN 978 90 8964 597 5
22. N. Roymans / T. Derks and H. Hiddink (eds): *The Roman Villa of Hoogeloon and the Archaeology of the Periphery*
ISBN 978 90 8964 836 5

How Things Make History

THE ROMAN EMPIRE AND ITS TERRA SIGILLATA POTTERY

ASTRID VAN OYEN

AMSTERDAM UNIVERSITY PRESS



ISO 9706

This book meets the requirements of ISO 9706: 1994, Information and documentation – Paper for documents – Requirements for permanence.

Cover illustrations:

Above: Terra sigillata bowl (form Drag. 37) with moulded decoration and intra-decorative stamp by Paternus (Lezoux, second half 2nd century AD). Photo by Richard Delage.

Below: Italian terra sigillata (Marzuolo, AD 50-70). Photo by Emanuele Vaccaro © Roman Peasant Project.

Cover design: Kok Korpershoek, Amsterdam

Lay-out: Bert Brouwenstijn, Almere

ISBN 978 94 6298 054 9

e-ISBN 978 90 4852 993 3

NUR 682

© A. Van Oyen / Amsterdam University Press B.V., Amsterdam

All rights reserved. Without limiting the rights under copyright reserved above, no part of this book may be reproduced, stored in or introduced into a retrieval system, or transmitted, in any form or by any means (electronic, mechanical, photocopying, recording, or otherwise), without the written permission of both the copyright owner and the editors of this book.

CONTENTS

PREFACE	IX
I ON AVOIDING RETROSPECTION	I
1.1 Many shades of material agency	1
1.2 Preliminary thoughts on terra sigillata and quarks	3
1.3 Writing non-retrospective histories	7
2 BRIGHT RED SHINY POTS: IS THERE MORE TO TERRA SIGILLATA?	II
2.1 A survival guide to terra sigillata (and to this book)	II
2.2 Terra sigillata as it is known through current practices of study	16
2.2.1 A standard definition of terra sigillata	16
2.1.2 Reinserting practices in definitions	17
2.3 Terra sigillata as it was known in the history of its scholarship	20
2.3.1 Sigillata as an aesthetic judgement (late 18 th –19 th centuries)	21
2.3.2 Sigillata as correlated traits (late 19 th –early 20 th centuries)	24
2.3.3 Sigillata as a dating tool (20 th century)	26
2.3.4 Sigillata as the product of workshops (mid 20 th century)	28
2.3.5 Sigillata has not always been the same thing!	30
2.4 Whither sigillata?	31
3 PRACTICE BEFORE TYPE: SIGILLATA PRODUCTION AT LEZOUX (1ST–2ND CENTURIES AD)	33
3.1 Prequel: black-gloss wares and pre-sigillata	33
3.2 Revisiting the starting point	35
3.3 Micaceous lezoux ware or mode A sigillata?	36
3.3.1 Situating Lezoux	37
3.3.2 Ceramic production predating the Roman period	38
3.3.3 Workshops	39
3.3.4 Technological choices	39
3.3.5 Distribution	42
3.3.6 An anchored knowledge system	43
3.4 Sigillata production at Lezoux	44
3.4.1 Differences in practice	44
3.4.2 Experimentation	47
3.4.3 Standardisation and competition	50
3.4.4 Distribution	51
3.4.5 Creation and consequences of a ‘category’	54
3.5 No more ready-made types	57
4 POINTS OF REDEFINITION: DISTRIBUTION, FIRING LISTS, AND KILN LOADS (1ST CENTURY AD)	59
4.1 Trajectories and redefinition in economic narratives	59
4.2 Firing lists: pinning down a package of traits	62
4.2.1 State of research	62

4.2.2	Negotiating definitions and roles	64
4.2.3	Prescribing parameters	65
4.2.4	Distributing agency	67
4.2.5	A patchwork of practices	69
4.2.6	From category to commodity	70
4.3	Sigillata on the move: changing parameters and the kiln load model	70
4.3.1	Intermezzo: sigillata production organisation	71
4.3.2	Port-la-Nautique: regular turnover	72
4.3.3	Cala Culip iv: recent replenishment	75
4.3.4	The Colchester Shops: repercussions for dating	81
4.3.5	The Pompeii crate: norm or anomaly?	86
4.3.6	Redefinition and economic narratives	89
4.4	A category's trajectory of exchange	91
5	THE QUESTION OF STABILITY: SIGILLATA AND 'RHENISH' WARES BETWEEN LEZOUX AND TRIER (2ND-3RD CENTURIES AD)	93
5.1	Boundary work: sigillata and 'Rhenish' wares at Lezoux	94
5.1.1	Production of fine wares at Lezoux, mid 2nd century	94
5.1.2	Technological choices	95
5.1.3	Boundaries and 'Othering'	98
5.2	Rooted things: from Lezoux to Trier	99
5.2.1	Situating Trier	99
5.2.2	Workshops	100
5.2.3	Early Trier sigillata: on its own terms	101
5.2.4	Transposition of a 'category' and its 'Other'	102
5.2.5	Third century sigillata: a 'category' dissolved	103
5.2.6	Third century 'Rhenish' wares: varying technological choices	104
5.2.7	'Rooted' things	107
5.2.8	Distribution	109
5.2.9	Relations and roots	111
5.3	Thing-thing relations and historical change	112
6	BEFORE MEANING: REPRODUCTION AND CONSUMPTION OF TERRA SIGILLATA AND 'RHENISH' WARES IN ESSEX (2ND-3RD CENTURIES AD)	115
6.1	Conditions for (re)production	115
6.1.1	(Re)producing a category	115
6.1.2	(Re)producing a skilled production process	117
6.2	Niches in consumption	120
6.2.1	An Essex case study	120
6.2.2	'Rhenish' wares: creating ties	123
6.2.3	Sigillata: the joker	126
6.3	The making of an archaeological pattern	128

7	THINGS IN HISTORY/THINGS AS HISTORY	131
	APPENDIX I. STAMP ASSEMBLAGES	137
	REFERENCES	145
	INDEX	167

PREFACE

The material in this study was assembled during my PhD research at the University of Cambridge, which I completed in 2013. I entered the PhD with a clear sense that Actor-Network Theory (ANT), and the Science and Technology Studies (STS) to which it belonged, held the key to some central conceptual problems in Roman archaeology and, more broadly, archaeological theory. Riding a broader ‘relational’ wave in social theory, ANT could replace a long disciplinary legacy of thinking in terms of entities and boundaries (cultures, periods, sites, etc.) with a relation-based framework, starting from connections. Upon starting my PhD, I was lucky to become part of the Material Culture Lab in the Division of Archaeology, where I soon realized that ANT not only had something to tell archaeology about how to conceptualise the world, but could also make important contributions to the archaeological unit *par excellence*: material culture. As is the fate of any thorough empirical study, in the end the framework within which this study works is less strictly ANT-like in nature, and more eclectically inspired by, and responding to, needs and questions of the theoretical landscape of material culture studies at large.

Studies in STS typically rely on detailed descriptions in order to avoid simply inventing and reifying causal mechanisms such as ‘social’ processes. Mimicking such detailed descriptions required an archaeological data set with a very high resolution. This is where terra sigillata pottery came in: arguably Roman archaeology’s best-known class of material culture. In order to show how ‘things make history’, the study needed to work on a long temporal stretch and on a large spatial scale. Reliance on published material was therefore necessary. As a result, I needed to work with material processed according to standard techniques such as typologies, but without assuming some of the (what I will call ‘retrospective’) principles embedded in those techniques. Therefore, the more complementary contextual and scientific evidence, available, the better. The choice fell on Gaulish terra sigillata, which can be followed through most of its stages in its life-cycle: production sites are relatively well-investigated and published, albeit through rescue excavations; scientific analyses of clays and fabrics have been pioneered on Gaulish material; and its consumption in well-documented areas such as Britain significantly adds to our knowledge. Not just France but also Britain boasts a lively research community on Gaulish sigillata – a frequent find on British sites.

Terra sigillata is also a central piece of evidence in many thematic debates on the Roman empire. In particular the questions of economic integration and cultural change in the western provinces sooner or later revert to the pattern of terra sigillata pots to prove their case. Any study using this material, therefore, has a high relevance for those debates at the heart of Roman archaeology and history.

Given its genesis, it is the ambition of this study to cater for these three audiences: material culture theory, sigillata studies, and Roman archaeology more generally. But depending on her interests, the reader may wish to adjust her strategy for reading this book. It is counterintuitive for an author to encourage future readers *not* to read a book cover to cover. But mindful of actual time constraints and research practice, I prefer to offer some guidance on how to make the most of such inevitable partial reading. In many ways, the different chapters can be approached as self-contained studies of separate themes: historiography in Chapter 2, production and standardisation in Chapters 3 and 5, production organisation and distribution in Chapter 4, and consumption in Chapter 6. Readers will find new findings on these themes in the relevant chapters. Others with an interest in the conceptual approach taken, however, should follow the argument as it develops through the different chapters, by focusing on the summary discussion at the end of each subsection, and on the final concluding section in each chapter. This will give a sense of the theoretical hurdles taken, and of the pay-off of the general approach for other studies on material culture. For those of you who are new to terra sigillata, I recommend reading through the ‘survival guide’ at the start of Chapter 2, which summarizes key knowledge that will be taken for granted in the following analyses. Finally, whatever you want to get out of this book, I would strongly urge you to work your way through the introduction and the short, concluding chapter. These get at the heart of this study and will help you make the most of your reading experience.

Finally, it remains for me to thank the many people and the institutions that helped me develop my thoughts and transform them into a monograph. Homerton College and the Faculty of Classics at Cambridge kindly contributed towards the publication costs for this book. My PhD research was funded by the Arts and Humanities Research Council [AH/I010955/1] and the Faculty of Classics, University of Cambridge. I am grateful for the opportunities they created and continue to create for me and other students. The manuscript was completed during a Junior Research Fellowship at Homerton College, University of Cambridge, where I have found a welcoming home. The Material Culture Lab, its directors, and its members have provided a stimulating and warm environment throughout the process. Three people in particular have been central to different stages of this book. Martin Millett, who supervised the PhD research that lay at the basis of this study, has offered invaluable support and encouragement from the very start. John Robb has kept me on my theoretical toes throughout. And Greg Woolf has been extremely helpful and supportive in seeing this book through to completion and publication. A series of intellectual sparring partners have influenced this work from a distance: Ben Cartwright, John Creese, Alicia Jiménez, Sheila Kohring, Carl Knappett, Martin Pitts, Jeltsje Stobbe, and Ros Quick. I am very grateful to everyone who has provided references, helped with illustrations, or read and commented on parts of this study: Raymond Brulet, Geoff Dannell, Richard Delage, Henry Hurst, Matthew Johnson, Alessandro Launaro, Gwladys Monteil, Robin Osborne, Michel Passelac, Jordi Principal, David Redhouse, Corinne Sanchez, Athéna Tsingarida, Fabienne Vilvorder, Carrie Vout, Stephen Wadeson, Andrew Wallace-Hadrill, Nick Wickenden, and Steve Willis. Finally, thanks to my parents and family, and especially to Jan, for allowing me to live my dreams.

1 On avoiding retrospection

I . I MANY SHADES OF MATERIAL AGENCY

As a discipline, archaeology constructs historical narratives based on things. Because archaeology tends to work with long stretches of time, those narratives are framed by big historical questions. Think ‘collapse of states’, ‘the rise of inequality’, or, another classic, ‘the formation of empires’. There is thus a long disciplinary legacy of using material culture as evidence for past trajectories, as history-teller. The last couple of decades saw the development and maturation of so-called material culture studies across the humanities and social sciences.¹ This label covers various approaches, but they all share the conviction that material culture does not just *tell* us about processes, events, and associations, it also actively *does* things. It enables, constrains, shapes, affects, acts, or forces. But different parameters have been suggested for describing and interpreting this ‘material agency’.

In an attempt to steer away from the then dominant aestheticizing discourse on art, Gell conceptualised art objects as a specific man-made technology seeking to provoke certain effects.² As such, the commonsensical relation ‘human (acts upon) > (passive) object’ was transformed into a model of ‘human (imbuing art with agency) > object (exerting agency) > human (acted upon by the art)’. While an intentional human agent is still needed to start any causal chain, this model paradoxically ascribes the most human-like agency to objects among current material culture theory: ‘we approach art objects (and members of a larger class of indexes of agency) as if they had ‘physiognomies’ like people’, and consequently the ‘*index is itself seen as the outcome, and/or the instrument of, social agency*’.³ Gell illustrates this with the famous example of his Toyota car, to which he attributes a human-like personality in the daily practice of using it, a phenomenon easily recognized by anyone who has ever reverted to speaking to a device that fails to work (“come on, car...”).

Human agency is the yardstick as well in Miller’s model of materiality, which creates interpretive space for objects in as far as these are socially sanctioned by humans.⁴ Building on a long and broad tradition of dialectical thought, both materialist (Marxist) and idealist (Hegelian), Miller’s interest is in the process by which people’s actions in the world, which are predicated by ideas and norms (comparable to Bourdieu’s *habitus*⁵), present those ideas back to the acting people through objectification. Material culture is then predominantly a tool facilitating self-consciousness among its producers and users, and, although it can subsequently ‘develop its own autonomous interests’, these are left tantalizingly vague.⁶ Were the effects of objects a proof of a causally preceding human agency for Gell, they are something of a precondition for the latter according to Miller.

As long as material culture theory maintains as its benchmark an implicit yet rarely defined human-like agency encompassing, to varying degrees, intentionality, reflexivity, and goal-orientedness⁷, it is

¹ Hicks/Beaudry 2010 and Tilley *et al.* 2006 with a focus on archaeology and anthropology. Brown 2001 for literary studies.

² Gell 1998. See Chua/Elliott 2013 for Gell’s legacy.

³ Gell 1998, 15 (original emphasis). Bennett 2010, 25 and Chapter 8 on anthropomorphizing.

⁴ Miller 1985, 2005, 2010.

⁵ Bourdieu 1977.

⁶ Miller 2010, 59.

⁷ For the first wave of agency in archaeology, see Dobres/Robb 2000, 2005; Dornan 2002; Robb 2010.

bound either to restrict this to humans properly speaking (as does Miller's dialectic approach) or to portray its ascription to things as a mere lapse of the human mind (as when Gell attributes personality to his Toyota car). Other (again implicit) conceptualizations of agency, instead, forward other qualities, notably relationality, situatedness, and historicity.

Aside from his take on artworks' 'secondary agency', Gell also developed the concept of style as an interartefactual domain, playing out in relations between things whose ordering governs how stylistic change can occur.⁸ The generative principles of objects' transformation lie in object-object relations, which fold human actions in. Relationality – or, more precisely, directedness – is key to various iterations of phenomenology as well.⁹ Heidegger's *Dasein* ('being in the world') is always already directed to something, and mediated by perception (with an emphasis on bodily perception in Merleau-Ponty's work). While situated, embodied, and relational, the agency of phenomenology is founded on processes of knowing and perceiving and hence restricted to human agents. Recent studies, however, have found leeway in both the phenomenological project strictly speaking and in studies of cognition more broadly to include an agency of 'doing', and have ended up with composite human-thing 'meshworks'¹⁰ or 'material engagements'¹¹.

'Doing' more overtly becomes the criterion for agency in Actor-Network Theory (hereafter ANT), whose analytical program consists of a 'flat ontology': a refusal to ascribe differential roles *a priori* to humans, things, animals, dreams, etc.¹² Agency resides in traceable effects on any course of action, and is distributed across heterogeneous networks or human-thing assemblages. Here we find the most explicit statement of a situated, relational, and historical agency, not restricted to any type of ontological carrier (e.g. human or thing). It is important to flag from the very start that ANT's flat ontology should be taken as a method, not as a description of the real nature of the world.¹³ The latter still has ontological differences, with humans for instance having (situated and materially mediated) faculties of intentionality and reflexivity. In a purely philosophical ontological sense then, ANT's project is not incompatible with for instance phenomenological narratives.¹⁴ But it claims that such ontological differences do not make for a helpful analytical starting point, and do not fully account for historical processes as explanatory frameworks: 'attribution to one actor of the role of prime mover in no way weakens the necessity of a *composition* of forces to explain the action'.¹⁵ I would argue, then, that ANT is both less radical and more productive than often claimed, and, that, by creating analytical space for 'things making history', it contributes to our explanatory accounts of that history.

Material agency has been so hotly debated, then, that there must be something about it – by spawning that many studies, including in archaeology¹⁶, it has proven its agency, at least by the criteria of ANT! For archaeology in particular it holds the promise of a closer correspondence between our analytical and interpretive units. Things are not just history-tellers – pieces of evidence that can tell us about the past;

⁸ Gell 1998, 215.

⁹ Thomas 2006 for an overview.

¹⁰ Ingold 2000, 2008.

¹¹ Malafouris 2008, 2013.

¹² Shanks 2007; Webmoor 2007; Webmoor/Witmore 2008; Witmore 2007. Discussion in Van Oyen 2014.

¹³ See Latour 1999; Latour/Harman/Erdélyi 2011, 59 (*contra* Harman 2009); Radder 1992. This is in contrast to the more rigid traditional philosophical use of ontology. Discussion of studies in the recent 'ontological turn', which hesitate between these positions, exceeds the scope of this book (e.g. Descola 2005; González-Ruibal/Her-

nando/Politis 2011; Gosden 2008; Henare/Holbraad/Wastell 2007; Holbraad 2007, 2009; Viveiros de Castro 1998; critique by Heywood 2012).

¹⁴ Or with Robb's (2004) model of the 'extended artefact', distinguishing between a conscious agency (agency of 'why') and an effective agency (agency of 'how').

¹⁵ Latour 1994, 35 (original emphasis).

¹⁶ The list is sheer endless, with key examples including Boivin 2010; DeMarrais/Gosden/Renfrew 2004; Hicks/Beaudry 2010; Jones 2007; Knappett 2005; Knappett/Malafouris 2008; Malafouris 2013; Meskell 2004.

they are also history-makers – they actively shaped that past. But while the theoretical building blocks for material agency are in place – ‘things do things’ – their projection onto long, broad, and windy historical trajectories has yet to be developed – how ‘things make history’.¹⁷

At best, frameworks of material agency provide insight into a specific, situated historical context. How did a specific mosaic enchant its viewer?¹⁸ How did grinding stones constrain the mobility of people?¹⁹ At worst, they fail to address historical process. Gell’s analyses are limited to the ‘ethnographic present’, as are, on the whole, Miller’s examples of materiality. Phenomenologically inspired studies are helpful – even necessary, I would argue – to think about the primary, localized interactions between humans and things: in the context of this book, more specifically the embodied knowledge and the material experience involved in the making of pots.²⁰ But they do not teach us much about the making of history on a big scale. ANT is the exception in being related to the *history* of science and technology. While its historical trajectories provide the most obvious source of inspiration for this study, their disciplinary focus on the ‘modern’²¹ period creates a problematic mirror image of deep history as less complex, less networked, less... ‘Vignettes’ illustrating the agency of things, then, still await integration with archaeology’s discipline-shaping big historical questions. This is the lacuna which this book seeks to fill. It will show material culture at work as history-maker, on a big scale, but with the localized tools of material culture studies.

I . 2 PRELIMINARY THOUGHTS ON TERRA SIGILLATA AND QUARKS

The item of material culture that will help me develop this project is so-called terra sigillata pottery, and the big scale historical trajectory is that of the western Roman provinces in the Roman imperial period (1st – 3rd centuries AD). How did such small things as terra sigillata pots act as history-maker for several thousands of square kilometres during several hundreds of years?

Terra sigillata is the most emblematic class of Roman material culture. The distinctly bright red shiny pots (Fig. 1.1) are omnipresent on Roman-period sites (late 1st century BC – 3rd century AD) across the western Roman empire. Moreover, a sigillata pot discovered at a site in North Spain can be literally indistinguishable from an example unearthed in, say, the east of Britain. These highly standardized pots travelled over long distances in a pre-industrial world in which communication was difficult.²² Their wide and dense spread has meant that these pots have been singled out relatively early in the history of Roman archaeology. As a result the field of sigillata studies now boasts an impressive back catalogue. The next chapter will further detail the history of sigillata scholarship, but it is worth pausing here to sketch the nature of current studies on these fine wares.

The recent volume *Seeing Red* is a convenient starting point for evaluating the state of the art of sigillata studies.²³ It collects a series of papers by international specialists working on sigillata produced in Gaul that was triggered by the publication of a multi-volume catalogue of potters’ stamps on sigillata vessels.²⁴ The contributions range rather neatly along four topics: typology and decoration; production

¹⁷ Boivin 2010, 138 for a ‘historical perspective’ on material agency.

¹⁸ Swift 2009, 101.

¹⁹ Hodder 2012, 196–199.

²⁰ In general, phenomenology is interested in ontological disclosure – describing how the world actually works – rather than in answering historical questions, and this puts limits to its usefulness for this book’s project. Ihde

1990 is a good example of this tendency.

²¹ Despite Latour’s (1993) influential deconstruction.

²² Duncan-Jones 1990.

²³ Fulford/Durham 2013.

²⁴ Hartley/Dickinson 2008–12.

²⁵ Also e.g. Ward 2010.

²⁶ Also e.g. Willis 2005, 2011.



Fig. 1.1. Terra sigillata bowl (form Drag. 37) with moulded decoration and intra-decorative stamp by Paternus (Lezoux, second half 2nd century AD). Photo by Richard Delage.

organisation; distribution and trade²⁵; and consumption patterns²⁶. More details concerning these themes will be introduced throughout this book if and as needed. For now, suffice it to note two characteristics of current sigillata studies. First, while this book could not be written without the detailed knowledge generated through them, most sigillata studies merely expand our knowledge rather than transforming it, especially by adding material from hitherto uncharted provinces and collections. This additive model uses data collection and analysis as its prime tool, and, sometimes, even as its main purpose. Secondly, and following on from this first point, the balance leans heavily towards quantitative, not qualitative analyses of the evidence. In quantitative studies the parameters – e.g. what is included in the analysis and what is not – need to be pinned down at the outset.²⁷ This aggravates the more general absence of reflection on what terra sigillata actually is, how it is and was defined, how it came into existence, or why its apparent homogeneity stands out – the fact that one pot is so strikingly similar to another. Generally speaking sigillata studies bypass these questions and delve straight into research at a lower level of analysis (e.g. how does consumption of sigillata shapes differ at military and civilian sites?; how do stamps relate to vessel form?; etc.). Overall the representative cross-section of current sigillata scholarship offered by the *Seeing Red* volume shows little engagement with bigger questions: chapters on distribution steer clear of long-standing debates on the nature and workings of the Roman economy; discussions of consumption patterns have little to say about issues of culture change, which have been hard to ignore in the provincial Roman archaeology of the last decades.

A disjuncture with broader thematic debates is characteristic of finds studies in Roman archaeology at large, although there are welcome signs of change.²⁸ The fact that finds specialist often operate in a commercial archaeological context no doubt has a role to play, as do standard issues of communication between specialisms. But there also seems to be a more deliberate profiling of Roman artefact studies as providing a ‘balance to the pictures of the ‘big stage’’.²⁹ This self-identifying of finds studies with a low (often ‘local’) interpretive scale can explain why the apparent homogeneity and standardisation of sigillata

²⁷ Van Oyen forthcoming on a similar issue in the context of network analysis.

²⁸ E.g. conference on ‘Rethinking artefacts: beyond representation’ held at the University of Cambridge, 28–29

May 2015.

²⁹ Willis/Hingley 2007, 9. Also Woolf 2004 on the issue of specialisation in Roman archaeology.

pottery as such do not enter the picture. But sigillata is not only a prime area of specialisation within Roman finds studies, it is also a key piece of evidence for Roman provincial archaeology at large. More specifically, sigillata pottery's archaeological pattern of standardisation, long-distance trade, and omnipresence has triggered and supported particular kinds of big scale interpretive narratives about the western Roman world: narratives that, in contrast to sigillata studies, in one way or another have to deal with the question of homogeneity.

Sigillata pottery features as one of the key performance markers for charting the extent and growth of the Roman economy.³⁰ The starting point for such exercises tends to take the form of a distribution map on which sigillata pots are plotted as dots. The more dots, the more sigillata, the more vital the economic performance in that area. Alternatively, charts could be compiled to represent the densities on a distribution map in diachronic fashion. One bar on the chart being higher than the other, one could speak of economic growth. The reason why sigillata happily lends itself to the creation of such distribution maps and charts is precisely its link to homogeneity. The homogeneity of the analytical category – all sigillata pots look the same – is taken to imply interpretive homogeneity. Mass-production and standardisation are the starting points for examining economic growth.³¹ Standardisation is taken to facilitate segmenting of the *chaîne opératoire*, and hence increasing efficiency of the overall production process. But it is not opened up as a process: analysis assumes that historical aspects such as alignment of techniques and a generalized demand for products were already in place. Within this logic, it is good practice to include all these pots in the same graph or on the same map and to assume commensurability of the resulting economic trends. Following such an argument, the spread of the same-looking sigillata pots indexes the development of economic integration of the Roman empire.

Cultural narratives about the western Roman empire too rely heavily on terra sigillata pottery. Similar distribution maps are drawn up to show the spread of Roman dining habits, values, and sign systems.³² Here too, sigillata's analytical homogeneity seems to warrant a jump to interpretive homogeneity. If the same pots are found in places as widely apart as Spain and Britain, then this is taken to attest to a shared buying into what these pots represented – whether this was cultural Roman-ness or social opportunism. But if standardisation's economic effects are taken for granted (increased efficiency, mass-production, economic growth), its cultural consequences remain contested. Recent studies challenge the fact that shared material culture means shared values.³³ To do so, they need to decouple a material culture that looks 'Roman' from its associated meanings, which could be multiple and ambiguous (not only 'Roman'). This move has proven successful in disentangling local differences, especially in consumption, but effectively denies the material standardisation of terra sigillata any historical effect whatsoever. The analytical picture of terra sigillata as a widely spread and homogeneous material category therefore becomes the elephant in the room; what narratives focus on is its different meaning in different contexts.

As an object of study, sigillata can also be said to act as glue holding together the discipline of Roman archaeology. The introduction to the *Seeing Red* volume begins as follows: 'Along with coins, samian or *terra sigillata* is easily recognisable and is a celebrated identifier of the materiality of the former Roman Empire.'³⁴ Students of the Roman world come to understand themselves as Roman archaeologists at least in part through getting to grips with this type of pottery. Sigillata is presented as a homogeneous category throughout student training. For example, if there is not a specially labelled 'sigillata' tray on excavations, then at least it will be common sense that any finds tray of a Roman period context will contain sigillata. Sigillata being highly recognizable and widespread, it provides an easy conduit for disciplinary identification. Roman archaeology as a discipline can be defined as studying the period during which sigillata

³⁰ See Harris 1993; Saller 2002; Scheidel 2009; Wilson 2009.

³¹ Wilson 2008.

³² Examples include Millett 1990, 56, 124; Wallace-Hadrill

2008; Woolf 1998, 181–193.

³³ Mattingly 2004; J. Webster 2001. Pitts 2007b for critique of the use of 'identity' as a label for these differences.

³⁴ Fulford 2013, 1.

pots circulated, and the geographical area in which sigillata pots are found. As such, sigillata delimits the disciplinary imagination of Roman archaeology.

These short descriptions of economic, cultural, and disciplinary narratives that build on sigillata of course fail to do justice to the complexity of the actual debates. What they seek to achieve is to lay bare a recurrent strategy to make use of sigillata pottery, as history-teller, as material evidence telling us about history. Time and again, the starting point is that of terra sigillata pots that look the same and the research question revolves around assigning an economic or cultural meaning to the archaeological pattern of homogeneity and omnipresence.³⁵ This is in part a product of Roman archaeology's hitherto limited engagement with material culture theory. The best of traditional artefact studies are organised by *a priori* functional categories, such as 'heating', 'writing', 'transport', 'eating', etc.³⁶ Within that format, material culture can only ever be a 'tool for...(heating, writing, etc.)'; a passive instrument responding to human needs, but without agency of its own.

Nevertheless, material agency is slowly but surely getting on the agenda of Roman artefact studies³⁷, and a series of recent contributions to Roman archaeology draw explicitly on the key literature of material culture theory introduced above. Gell's notions of secondary agency and of the enchantment effected by intricate technologies has proven fertile ground for studies on Roman visual culture, as in Swift's analysis of the deliberately unsettling effect of patterns on mosaics.³⁸ In a suggestive contribution, Gosden alludes to the potential use of Gell's more general concept of style to decipher a logic in the transformations of Roman material culture in Britain.³⁹ Inspired in turn by Miller's discussion of objectification, Gardner has long been interested in how people's identities and self-understanding are constructed in relation to their material world⁴⁰, an agenda also pursued by Eckardt.⁴¹

These studies cautiously start exploring the possibility that things cannot only tell us about what happened in the past but also helped shape the course of history, with reference to Roman material. But just like much of archaeology in general, Roman material culture studies has still to come to terms with this dual role of material culture, as both evidence (history-teller) and agent (history-maker). This struggle is symptomatic of what I call a 'retrospective' use of material culture in archaeology: it tries to explain an analytical pattern (e.g. the homogeneity of terra sigillata pots and their distribution) by only taking into account the *result* (pots that look the same and were spread widely). Consequently, terra sigillata – and with it other archaeological material culture – is given meaning post-hoc, as inevitability, as something that is always already there and defined. This book is different in that it tries to account for that same result by indeed taking it as the conclusion of a complex and contingent historical trajectory. The assertion that 'all sigillata pots look the same' will not be the starting point of this research; it will instead emerge at the end.

Critique on the retrospective approach was pioneered in Science and Technology Studies by Andrew Pickering.⁴² In *Constructing Quarks*, Pickering traces the process by which quarks became described and accepted in physics as the tiniest building blocks of our universe. Scientists themselves tend to relate their disciplinary history in retrospective terms. Discussing the debates regarding quarks' existence, they describe a gradual 'discovery' of something real that was already out there, but that awaited fine-tuning of physics' methods and theories to be rendered visible and incontestable. Much like historical accounts based on standardized terra sigillata, quarks are always already there, as standardized and real entities, in scientists' reading of their own disciplinary history. In contrast to this retrospective approach, Pickering

³⁵ Cf. Thrift 1996.

³⁶ E.g. contributions in Aldhouse Green/Webster 2002 and Allason-Jones 2011. Cool 2006 on eating and drinking; Crummy/Eckardt 2004 on toilet instruments; Eckardt 2002 on lightning equipment; Swift 2014 on spoons.

³⁷ E.g. recent call by Versluys 2014, 54.

³⁸ Swift 2009, 101. Tanner 2013 uses Gell in a study on hellenistic sculpture.

³⁹ Gosden 2005.

⁴⁰ Gardner 2003, 2007.

⁴¹ Eckardt 2014.

⁴² Pickering 1984.

describes the process through which quarks were constructed and became standardized and generally accepted entities. This process hinged on such contingencies as who studied at which institute, which papers were presented at what conferences, when and where academics chose to spend their research leave, and what equipment was available for experiments. Most importantly, Pickering shows how scientific judgment was needed to decide whether the existence of quarks would be accepted – judgment that was negotiated and anchored in practice, not measured against a universal standard. Quarks were not discovered to be out there, but were *made* and *decided* into existence.

The difference between the scientists' accounts of quarks and the non-retrospective alternative developed by Pickering may appear subtle. Nevertheless, it is a difference with fundamental consequences for historical interpretation, of quarks as much as of sigillata. Once restored to its status as historical conclusion, sigillata's homogeneity will be able to do more interpretive work than it was hitherto allowed. It will become not just a function of its role as history-teller, but it will say something about its nature as history-maker. Let me elaborate. The dots on a distribution map of sigillata pottery, for instance, are taken to represent an analytically neutral starting point. But by framing these pots as analytically neutral, they are cut off from historical processes. As a consequence, external actors are needed to integrate sigillata pots with historical action – these actors can be the economy or culture in general terms, or, more specifically, the army, traders, the elite, etc. 'It was the army that brought sigillata even to far away corners of the empire.'⁴³ Or, instead, 'sigillata's archaeological pattern shows the extent of trade mechanisms (or elite demand, or [fill in actor of choice])'.⁴⁴ But what does sigillata's archaeological pattern say about sigillata itself? About its own historical role? Standard narratives use the homogeneity of terra sigillata as a starting point to say something about any or more of these actors, but they do not really say anything about terra sigillata itself.

I . 3 WRITING NON-RETROSPECTIVE HISTORIES

This book, instead, is very consciously about terra sigillata itself. It seeks to understand the historical process by which sigillata became a homogeneous and widely spread category of material culture. To avoid a retrospective account, a forward-looking approach, anchored in everyday practices is needed. This forward-looking, object-centred attitude is wonderfully illustrated by the New York poet Frank O'Hara in his poem 'Today' which captures the power of mundane, motley assortments of things ('kangaroos, sequins, chocolate sodas' and 'harmonicas, jujubes, aspirins') to support yet 'surprise' human life:

'(...) all
the stuff they've always talked about
still makes a poem a surprise!
These things are with us every day
even on beachheads and biers. They
do have meaning. They're strong as rocks.'⁴⁵

How to create conceptual space for material culture's capacity to 'surprise' in archaeology? An analysis of the everyday practices surrounding sigillata is the starting point: practices of study in the recent past and present, and practices of production, distribution, and use in the deeper past. Like poetry after O'Hara, archaeology is not unfamiliar with everyday practices, for which it can build on a wide gamut of well-established analytical tools. *Chaîne opératoire* approaches dissect the successive practices making up a tech-

⁴³ Middleton 1979, 1980, 1983; Wells 1992.

⁴⁵ O'Hara 1950, in Allen 2005, 6–7.

⁴⁴ Pucci 1983.

nological production sequence, from the selection of raw materials to the finished product.⁴⁶ Analytically, they effectively avoid a retrospective viewpoint, although a certain degree of teleology is inevitable with the finished product looming large at the end of the operational chain. In addition, a focus on bodily knowledge makes them easily compatible with models of relational agency, especially of phenomenological inspiration.⁴⁷ Human-thing relations are equally central to the model of behavioural chains, which couples the technological choices made in each stage of a *chaîne opératoire* with the contextual needs of producers and users via the concept of ‘performance characteristics’.⁴⁸ Generally speaking, contextual analyses of practices have been the bread and butter of archaeology ever since post-processualism, plotting relations between artefacts as found in context (e.g. at a particular site, of a specific date, in a particular position, alongside certain other objects).⁴⁹

Non-retrospective analytical templates are part and parcel of ethnographies of technological practices too. The ethnography of ceramic production has been a fruitful subfield of anthropology, with a focus not on a comparison of finished products, but on differences in organisation, skill and learning, and infrastructure across societies. Ethnographic information can take the place of contextual archaeological data in completing a *chaîne opératoire* model. The problem arises when an attempt is made to link the observations resulting from these analytical techniques – *chaîne opératoire*, contextual analysis, etc. – to some sort of historical explanation. An important strand of the ethnography of technological activity, especially in Africa, adopts a highly symbolic framework, linking tools and practices to high-level symbolic metaphors (e.g. kilns as wombs; the transformative process of pottery production as reiterating human biographies and fertility).⁵⁰ The other dominant explanatory trope is socio-economic in nature, and seeks to link phenomena such as specialisation and standardisation⁵¹ to different levels of organisation and investment.⁵² This socio-economic strand is directly reminiscent of Peacock’s attempts at identifying the different ‘modes of production’ of Roman ceramics⁵³, and of the more blatantly economic interpretations of sigillata standardisation discussed above.⁵⁴

These explanatory frameworks are problematic in two ways. First, despite their contextual starting point at an analytical level, they refer to cross-cultural generalities that have little to say about what makes a particular contextual set of relations significant in its specific context. This creates the impression that the ultimate causal movers are high-scale generalizations such as the symbolism of fertility or the efficiency of production. Secondly, and related to the first problem, both the symbolical and the socio-economic reading of ethnographic – and by extension archaeological – observations come with little sense of historical time-depth and historical trajectories.⁵⁵ How does one set of symbolic references transform into another? What is the difference between ‘efficiency’ in Roman times and ‘efficiency’ in, say, Chinese porcelain production?

Calls for a more historical reading of *chaînes opératoires* and of phenomena such as standardisation are being heard, both in anthropology and archaeology.⁵⁶ The preceding summary discussions, however, show that a non-retrospective analytical approach alone will not do. It needs to be coupled with a change in

⁴⁶ Dietler/Herbich 1998; Dobres 2000, 2010; Dobres/Hofman 1994; Edmonds 1990; Lechtman 1999; Lemonnier 1986 and 1993, 26; Schlanger 1994; van der Leeuw 1984.

⁴⁷ Loney 2007; Mauss 1979 on *techniques du corps*; Minar/Crown 2001 on bodily learning.

⁴⁸ Skibo/Schiffer 2008.

⁴⁹ Hodder/Hutson 2003, 170–187.

⁵⁰ A small sample of representative works include Berns 1993; Gosselain 1999, 2011; Sillar 1996. Chapter 4.2 offers a slightly different perspective on the relation between production and ritual.

⁵¹ Which do not always go hand in hand, see Chapter 4.

⁵² E.g. Costin 1991; Costin/Hagstrum 1995.

⁵³ Peacock 1982.

⁵⁴ E.g. Wilson 2008.

⁵⁵ As far as the symbolical strand is concerned, this is a remnant of structuralist thought. The timelessness of economic models is probably due to a silent modernist legacy.

⁵⁶ E.g. Gosselain 1998; Dobres 2000 remains important, as does Miller 1985 on variability and the construction of categories in ceramic production and use.

interpretive strategies. Interpretive models typically selected to complement analyses of everyday practices tend to build on a long tradition of post-structuralist practice theories⁵⁷ (e.g. Bourdieu, Giddens, Foucault). While such theories do privilege practices over pre-defined categories *analytically*, when it comes to *interpretation* they invoke an additional explanatory level over and above these everyday practices (e.g. a different *habitus* of different ceramic producers or users).⁵⁸ As a result, explanations are often disjointed from the actual analyses of practices, and occupy either too high (e.g. the apparent cross-cultural symbolism of pottery production as human reproduction) or too low (e.g. not offering a way to step outside of context-specific meanings) a scale to be of much interest to a non-retrospective account of terra sigillata pottery. Either two terra sigillata pots are always already the same (at the high interpretive scale), or they are *a priori* fundamentally different⁵⁹ (at the low interpretive scale).

This book seeks to occupy an interpretive middle scale, between these two extremes. This middle scale, it is argued, makes for more interesting questions. What, if anything, is distinct about the ‘category-ness’ of terra sigillata pottery as compared to other Roman-period pottery? And how, if at all, is the apparent standardisation of terra sigillata pottery different to patterns of standardisation in other ceramics, be it Chinese porcelain or Nigerian water jars? While widely accepted as an analytical entry point, everyday practices tend to get filtered out of standard narratives, in the sense that they are not taken to contribute to sigillata’s historical trajectory. Sigillata is always already there, a fully defined and homogeneous category, and everyday practices are seen as needing to work with that given. Put differently, the archaeological pattern (the sigillata distribution map) precedes practice – again, both past practice of production and use, and present practice of study.

The alternative explored in this book is to put everyday practices surrounding sigillata at the forefront not only of analysis, but also of interpretation.⁶⁰ This takes the lead from recent work in Science and Technology Studies, of which ANT (introduced above) is a branch. A study by Annemarie Mol on the practices of diagnosis and treatment of the disease of atherosclerosis provides a vivid example.⁶¹ Mol shows how this apparently ‘single’ disease is defined very differently in different settings in the hospital. In a general practitioner’s consulting room, the disease manifests itself as ‘pain when walking a certain distance’. Under a microscope, identification of the disease is fixed as ‘x% blockage of the arteries’. These different definitions are not wholly due to a different *habitus* of ‘general practitioners’ versus ‘surgeons’ for instance. Instead, they are shaped by the material practices of the settings: the possibility to talk to and touch the patient in a consulting room; the presence of a microscope to visualize the interior of the arteries. A high scale interpretation simply assumes atherosclerosis is the same always and everywhere. On the contrary, on a low scale, these different articulations of atherosclerosis would be completely unrelated. Occupying a middle scale, instead, Mol’s study traces the work needed in making the different definitions of atherosclerosis relate. This interpretive work is done *in practice*, everyday, for instance in the everyday negotiations of deciding on a standard for diagnosis or on the best treatment.

The interpretive move exemplified by Mol’s study on atherosclerosis will be developed further throughout the case studies in this book (simply replace ‘atherosclerosis’ by ‘terra sigillata’). What matters at this stage is that it will create conceptual space for sigillata not only to be a *history-teller* – evidence for historical processes – but also a *history-maker* – itself shaping its historical trajectory. In short, this is because one stage of sigillata’s historical trajectory is no longer *a priori* linked to the next one by external causal forces (e.g. traders; identities; etc.), but is not bound to remain entirely separate from it either.

⁵⁷ Ortner 1984, 144 for the term; Bourdieu 1977; Giddens 1984.

⁵⁸ Latour 2005, 102, 169 for critique; Van Oyen 2015c for a more extended version of this theoretical argument.

⁵⁹ Cf. the tendency towards emphasizing ‘discrepancies’ in cultural narratives based on terra sigillata pottery, as

noted above.

⁶⁰ Cf. Yarrow 2006.

⁶¹ Mol 2002. Gibson’s (1979) concept of ‘affordances’ can usefully be tied into this, cf. Costall 2006; Knappett 2005; Van Oyen 2015b. See also Strathern 1991.

Sigillata as a history-maker will manifest itself in the connections between its different definitions in different stages, settings or contexts.

This book brings home a more general point for the use of pottery and, by extension, material culture, in historical narratives. The retrospective problem with the way sigillata is used to construe historical narratives can be extrapolated to other categories of material culture. As such, this book's response to this problem too has a more general archaeological bearing. The specificity of sigillata, however, lies where we started, with its homogeneity. Hence the trajectories followed in the subsequent chapters are specific to sigillata's agency, to its role as a history-maker.⁶²

In one sense, then, this work can be read as a prequel to other, more standard archaeological and historical studies building on terra sigillata, like those discussed earlier in this chapter. It seeks to describe the processes resulting in the archaeological pattern that forms the starting point of these studies: a pattern of terra sigillata pots looking the same from Spain to England. But by pushing the explanandum back one step, this book makes a more fundamental interpretive contribution to our understanding of the western Roman world. The aim is not just to shine a new light on terra sigillata (and material culture), but to write better history. Material culture will become a better history-teller once we recognize its role as history-maker. The next chapter will take on the challenge of writing a better history of sigillata studies by tracing the contingent processes resulting in the creation of sigillata as a homogeneous category of study in the present. The following chapters will do the same for sigillata's trajectory in the past: how was it constructed as a category in the Roman world and how did that shape its historical role? Finally, we will see how both strands are mutually reinforcing: terra sigillata's construction as a category in the past facilitated its construction as a category in modern analyses.

⁶² See Van Oyen 2015c for other historical trajectories.

2 Bright red shiny pots: is there more to terra sigillata?

How did the homogeneous archaeological pattern of terra sigillata emerge? One important facet of this question concerns how sigillata was and is constructed as a homogeneous category in practices of study. To explore this, I will first present the generally accepted definition of sigillata in (Roman) archaeological and specialist circles. We will then see what happens to sigillata when we change perspective from retrospection to a description of the everyday practices involved in its study. The last part of this chapter extends this change of perspective to a longer history of sigillata scholarship. But before embarking on this project, you can choose to read ‘a survival guide to terra sigillata’, telling you everything you need to know to make it to the end of this book without prior knowledge of Roman pottery.

2.1 A SURVIVAL GUIDE TO TERRA SIGILLATA (AND TO THIS BOOK)

What do you need to know about terra sigillata pottery to make it through this book without a nervous breakdown? Slightly at odds with the way the rest of the narrative is set out, this section will give you a specialist’s account of terra sigillata, not unlike how a scientist would explain what quarks are on a radio show for the general public.

Suppose you are excavating in the Mediterranean area and the stratigraphy reaches Roman-period levels. The shiny red potsherds in those levels will without a doubt be terra sigillata pottery (Fig. 1.1). They will stand out visually both from the soil matrix and from the rest of the pottery and finds. They will be easy to wash and will often have relatively sharper breaks than other pottery from the same context. Both students and pottery specialists will be generally more excited upon finding them than when retrieving other pottery: the former because of the visual appeal of the sherds; the latter because they will know these sherds will enable them to date the layer to within a decade.

Terra sigillata pots are often called ‘table wares’. This refers to the way they were used in the past: on Roman-period ‘tables’ (by way of speaking), for eating, drinking, and serving food. Their shapes fit these functions: cups, bowls, plates, and dishes. The actual correlation between these contemporary functional labels (e.g. what we think of as a ‘cup’) and the past use of specific terra sigillata forms is not always clear.⁶³ Experimental studies have shown that some ‘cup’ shapes were used for mixing rather than for drinking.⁶⁴ Moreover, just like we can use a mug today for drinking coffee but also for holding pens on one’s desk, a single form could have been used for different purposes in the past. But generally speaking, sigillata forms strongly lent themselves to drinking, eating, serving, and ‘light’ food preparation such as mixing. Sigillata shapes also come with a footring, which allows them to stand up straight on a table or surface, but makes it difficult to use the pots on a fire or other device for cooking (cooking vessels generally have flat bases).

In addition, sigillata pots were slipped: after being formed on the wheel, they were dipped in a very fine clay emulsion that attained glaze-like qualities during firing (a process called ‘sintering’). The sintered slip covered inside and outside of the vessels, and made them impermeable. In all likelihood this quality appealed to users, and made sigillata pots especially suitable for containing (semi-)liquids. At the same

⁶³ Cool 2006; Dannell 2006.

⁶⁴ Biddulph 2008.

time, it affected these pots' thermal reactions, and discouraged use of these pots in combination with heat (e.g. cooking). Technical performance characteristics therefore combine with the form repertoire to shape possible uses.

Given these uses, one would expect to find these pots in domestic contexts and rubbish dumps, as is indeed the case. But 'eating' and 'drinking' as activities were associated with many contexts in the Roman period, and, as a result, sigillata pottery is a regular find in funerary and ritual assemblages as well. The fact that sigillata pots were deemed suitable containers or representations for eating and drinking in such 'out of the ordinary' situations is probably not unrelated to its special, shiny red surface (because of the sintered slip).

Sigillata's 'shininess' has been read more specifically as alluding to more expensive metal vessels, the table ware of the well-to-do. A play with references to metal vessels was not unique to terra sigillata, however, and ranges it in a long Mediterranean tradition of ceramic table wares with features that were hard to produce in ceramics but were a natural consequence of the techniques of producing metal vessels: polished, burnished, or slipped surfaces; angular shapes; and sometimes even fake hobnails referring to metal counterparts – a phenomenon known as 'skeuomorphism' or imitation across media. For ancient Greek black- and red-figured vases, Vickers and Gill famously argued that not only their shapes but also their colour acted as a referent for metal vessels, with black standing for silver and red for gold.^{64a}

Before the development of terra sigillata at the very end of the Republic and its take-off in the early imperial period, the archetypical table wares of the Roman Mediterranean had a black appearance (so-called black-gloss wares).⁶⁵ It is not all that far-fetched then, to suggest a similar scheme of mimicry, whereby the black of black-gloss wares and the red of terra sigillata corresponded to (silver and gold?) metal vessels. A discursive relation towards metalware is also suggested by sigillata's decorative schemes. Terra sigillata pottery was decorated almost solely through moulding (Fig. 1.1). Ceramic moulds were impressed with combinations of individual (ceramic or wooden) dies (*poinçons*), representing figures, plants, or decorative elements (e.g. ovolo or bead-row; médaillons). The body of each decorated sigillata pot was then impressed in that mould while the clay was still wet; it would gradually shrink when drying which allowed the vessel to be removed from the mould; and could be finished off on the potter's wheel with the addition of foot and rim. As a continuation of the theme of mimicry and emulation, the moulded surfaces of terra sigillata pottery can be said to replicate the embossed metal vessels of the time (think of the British Museum's 1st century AD Warren Cup for an elaborate example of relief decoration in silverware). While the link with metal table ware was strong in the shapes, decoration, and finishing of early terra sigillata pottery⁶⁶, soon terra sigillata production became its own referent. The material links between both media loosened – whatever their initial meaning – and sigillata pots became less angular and the figures of their moulded decoration less akin to metal embossings.

As an aside, the technique of moulded decoration is what led 19th century scholars to the name of *terra sigillata*, a *faux* Latin term translating as 'stamped earth(enware)'.⁶⁷ The name was coined by scholars working on finds in Germany, France, and Britain, which, we now know, were produced in Italy and Gaul. Gaulish products had previously been called 'samian' based on a wrongheaded attribution in Pliny, whereas Italian vessels were named 'arretine' after the first well-known production site of Arezzo. Today the label 'terra sigillata' refers to both of these groups and has more international currency than the labels 'samian' and 'arretine' still sometimes used by UK-based scholars.

^{64a} Vickers/Gill 1994.

⁶⁵ See section 3.1.

⁶⁶ Oswald/Pryce 1920, 6; Roth-Rubi 1997 traces the decoration of Italian terra sigillata and Eastern sigillata

back to shared examples in silverware.

⁶⁷ See section 2.3.1 for a history of sigillata scholarship and its terminology.

By now it should be clear that what this book calls ‘terra sigillata’ is part of a longer and wider phenomenon of ‘red slip wares’. During the Hellenistic period, the table ware *koinè* of the Mediterranean – which had included Greek painted pottery, Republican black-gloss wares, etc. – gradually turned from a black to a red surface colour. The reasons for this change remain unclear – fashion? symbolism? technology? – and need not be dwelled upon here. It is worth pointing out though that the change was subtler than previously imagined, with for instance some early terra sigillata forms executed in both a black and a red variant.⁶⁸ Surface-filling relief decoration had already been used on black-gloss wares⁶⁹, but the decorative technique and program of terra sigillata is traditionally traced back to Megarian bowls. Strictly speaking ‘red wares’ and not ‘red gloss wares’ as they were not slipped, Megarian bowls were produced in Asia Minor from the 3rd century BC with elaborate relief scenes. Their shape is strikingly similar to the main cup shape of later Italian sigillata, the Drag. 11, but never has a footring, so that Megarian bowls had to be handheld at all times.

The phenomenon of red slip wares kicked off properly with the ‘Eastern sigillata’ series.⁷⁰ Eastern Sigillata A, produced in Turkey from around 150 BC onwards, had the widest distribution, reaching as far as Italy and sites throughout the Western Mediterranean.⁷¹ This was a time of intense political and cultural interaction between Italy and the Eastern Mediterranean, and no doubt the knowledge of pottery traditions rode back and forth on waves of conquest and fashion.⁷² It is therefore no surprise that historical hypotheses on the origin of Italian terra sigillata production drew on links with the Eastern Mediterranean: Oxé suggested that slaves of M. Perennius Tigranus were given to Augustus after the fall of Alexandria⁷³, and Pedroni stresses the economic connections established by Pompey’s campaigns in the Eastern Mediterranean.⁷⁴ Despite being undeniably part of a Mediterranean-wide *koinè* of pottery traditions and fashions though, early Italian terra sigillata production was firmly anchored in the local knowledge of black-gloss ware production. Continuity in production sites and in some forms was (sometimes) paired with a new colour and/or new forms. Any fixed starting date of ‘proper’ Italian sigillata production will therefore be arbitrary, but 40–30 BC is often used as analytical threshold, albeit a conservative one that will no doubt need to be moved back in time. Italian sigillata production seems to have been primarily an urban phenomenon, with concentrations of workshops in Arezzo, Pisa, Pozzuoli, Cales, and probably, Rome, but the more research advances, the more the importance of rural production is brought to light.⁷⁵ In addition, the genitive construction of potters’ stamps suggests slave labour played a large role in production.⁷⁶

As Italy and Rome culturally re-invented themselves as the centre of the Mediterranean in the Augustan period, Italian terra sigillata production in turn influenced its Eastern counterparts. For Eastern Sigillata D the possibility of ‘subsidiary factories’ of Italian workshops has been raised⁷⁷, and by 20–15 BC Italian owners possibly set up ‘branch workshops’ in Lyon in Central Gaul with a view to tapping the northern military markets via the river Rhône⁷⁸. The reach of Italian terra sigillata, which started to be traded northwards, across the Alps, as well as throughout the Mediterranean, was such that it impacted on

⁶⁸ Ettlinger *et al.* 2000, 5 (Arezzo), 8 (Padana).

⁶⁹ The relief-decoration on black-gloss ware was made using cylinder-stamping as well as moulding.

⁷⁰ Hayes 1985.

⁷¹ Malfitana/Poblome/Lund 2005.

⁷² See Malfitana/Poblome/Lund 2005 for a ‘dialectic exchange’ surrounding Eastern Sigillata A, and Wallace-Hadrill 2008 for the broader phenomenon.

⁷³ Oxé 1933, 33.

⁷⁴ Pedroni 1995, whose argument only accounts for a small

number of producers attested by the early potters’ stamps.

⁷⁵ Van Oyen 2015d for discussion. Bergamini 2004; Cuomo di Caprio 2007; Ettlinger *et al.* 2000; Kenrick 1993, 1997; Menchelli 2005; Olcese 2004; Poblome *et al.* 2004; Pucci 1985, 1990; Vaccaro *et al.* forthcoming.

⁷⁶ Fülle 1997; Pucci 1973.

⁷⁷ Zabechlicky-Scheffenecker 1995.

⁷⁸ Desbat 2001; Desbat/Genin/Lasfargues 1996; Picon/Lasfargues 1974; Picon/Garmier 1974.

pottery traditions outside of the Mediterranean table ware *koinè*, which adopted sigillata's red colour and basic shape-types (e.g. plates in 'Gallo-Belgic' ware, produced in the northwest provinces from around 15 BC).⁷⁹

This book deals with the small subsection of the red gloss phenomenon that is of most historical relevance to the western Roman provinces: the Gaulish terra sigillata production. The possible Italian branch workshops in Lyon were shortlived, but momentum built in other Gaulish production sites where indigenous knowledge in ceramic production had met the technical innovations of terra sigillata production at the end of the 1st century BC. The site of La Graufesenque in South Gaul became the main supplier of red slipped wares to Gaul, Britain, the Rhineland, and northern Spain in the 1st century AD, only to be replaced a century later by Central Gaulish products, predominantly from the workshops at Lezoux.

Spain also witnessed the installation of local terra sigillata production in the first half of the 1st century AD, with Andújar and Tritium Magallum as major sites, but on the whole export was less wide reaching than was the case for Gaulish terra sigillata.⁸⁰ Neither the main Spanish production sites nor more local initiatives lasted much beyond the 2nd century AD. African red slip wares (ARS), produced in Northern Africa (especially the area of present-day Tunisia) from the 1st century AD onwards, fared better.⁸¹ ARS, with its distinctive thick, orange-red slip, had become the main table ware of the entire Mediterranean by the 3rd century AD at the latest, and continued to thrive well into Late Antiquity, up to the 7th century AD.

In Gaul, terra sigillata production fragmented into a series of smaller, more regionally grouped workshops with generally more modest output and distribution, in the Moselle in the 1st and 2nd centuries AD (e.g. Boucheporn; La Madeleine)⁸², and in East Gaul in the 2nd and 3rd centuries AD (e.g. Blickweiler; Rheinzabern; Trier)⁸³. By the late 3rd century, the terra sigillata technology properly speaking was considerably redefined in the western provinces, but its material memory lasted into the 5th century through the forms and appearance of local table ware traditions, such as Oxfordshire and Hadham red-slipped wares in Britain⁸⁴, and Argonne wares in Gaul⁸⁵.

Finally, some notes on the technology of Gaulish sigillata are in place. Analysis of technological choices is key to the argument of this book, so further specifications will follow in due course. For now it suffices to point out the basics. The first crucial step in sigillata production consisted of selecting the right clays. Gaulish sigillata production distinguished itself from previous traditions of ceramic technology by selecting only specific kinds of clays, generally clays with a high calcareous content.⁸⁶ It is as yet unclear whether these clays performed better or whether this choice was constrained by other parameters – this is a question explored in what follows. After its selection and mining, clay preparation further helped create the right plasticity. Terra sigillata clays were refined through levigation: the clay was sent through a series of overflowing basins, each of them retaining a part of the sunken, coarser matrix. Probably alternative or complementary preparation methods were in use as well, as levigation basins are not attested on all sites, but other infrastructure is (e.g. large paved areas).

Once the clay had attained the right composition, each vessel was formed individually on the fast-turning wheel. Moulds were used to model the body and decoration of decorated vessels, but plain wares – the majority of terra sigillata produced – were hand thrown. Nevertheless, measurement shows an extreme consistency in the resulting shapes and size modules of plain sigillata vessels⁸⁷, which suggests the use of templates and formers, probably in wood and rarely found in archaeological contexts.⁸⁸ After

⁷⁹ Ettlinger *et al.* 2000, 22–25.

⁸⁰ Mayet 1984.

⁸¹ Bonifay 2004; Hayes 1972, 1980.

⁸² Brulet/Vilvorder/Delage 2010, 134–152.

⁸³ Brulet/Vilvorder/Delage 2010, 168–201. Chapter 5 discusses terra sigillata produced at Trier.

⁸⁴ Tyers 1996.

⁸⁵ Brulet/Vilvorder/Delage 2010, 216–253.

⁸⁶ Picon 1973, 2002a.

⁸⁷ Monteil 2012.

⁸⁸ P. Webster 2001, 289–290.

forming, but when the clay was still wet, a stamp was impressed on the inner base of *some* vessels. In Gaulish production, these stamps record names, often combined with a formulaic abbreviation such as 'FEC[it]' (x 'made this') or 'OF[ficina]' ('the workshop' of x). In all likelihood the stamps fulfilled a role in the organisation of production, probably referring to workshop owners rather than the potters who actually formed the vessels, but their precise function remains unclear and probably changed considerably over time.⁸⁹ Next, pots were dipped upside-down (as occasional lighter patches and fingerprints near the base testify) in the slip, a fine clay emulsion that appears to have been prepared from separately mined clays. Subsequently pots were left to dry, and grit stuck to the footring of unused Gaulish terra sigillata pots suggests this was done on a sandy surface, to avoid vessels getting stuck.⁹⁰ The loss of water during drying meant a considerable shrinkage, which allowed decorated vessels to be removed from their moulds.

The production sequence then arrived at its moment of truth: firing. Along with the clay selection, firing is what made terra sigillata stand out in technological terms. In order to guarantee a bright red, shiny appearance, sigillata pots had to be fired in an oxidizing atmosphere, in which the pots did not enter into contact with fumes or gases containing CO₂. Normally, pottery kilns created a reducing atmosphere during the actual firing stage, in which fumes touched on the ceramics and speeded up the process. Kilns would then be opened or exposed to oxygen upon cooling, which, depending on the clays used, would allow pots to turn red. But this 'normal' redness was not guaranteed, nor was it as vibrant as terra sigillata red. Terra sigillata pots, instead, were *never* exposed to fumes, not even during the first stage of firing. Therefore special kilns had to be constructed, and in Gaul the solution was to build ceramic tubes (*tubuli* (Latin) or *tubulures* (French)) that led the hot gasses from the heat source through the firing chamber, heating the pots without touching them. These special measures meant that the loading and unloading of kilns – which effectively entailed rebuilding the inner core of the firing chamber – were delicate and time-consuming exercises. Various types of kiln spacers and ceramic supports were used to keep the piles of plates, cups, and other shapes straight and separate and to avoid fusing between individual vessels stacked, usually base-upwards, on top of one another.

Chemical processes occurred more slowly in an oxidizing firing atmosphere. Yet the slip had to become 'sintered', meaning some of its molecules fused so as to produce a glaze-like shiny and impermeable effect. As a result, firing needed to maintain higher and more consistent temperatures for longer periods of time than was the case in a reducing atmosphere. Terra sigillata kilns had to reach temperatures between 1050°C and 1100°C – much higher and more consistent than 'normal' kilns which generally attained around 800°C with irregular peaks up to 1000°C.⁹¹ The sigillata firing process needed to be carefully managed and relied not only on expert skills but also on high fuel input, mostly wood, although alternative sources cannot be ruled out.⁹²

Kilns of Gaulish sigillata production were not only of special construction; they could also be exceptionally large indeed. The *grand four* at La Graufesenque measured no less than 7x7 m in surface, with pots stacked several metres high. Production volumes were concomitantly massive, with estimates for the number of pots leaving La Graufesenque at the peak of its success amounting to 15 million per year.⁹³ The actual organisation of the workshops is food for debate.⁹⁴ Obvious differences with Italian sigillata production are the rural locations of Gaulish workshops, and the apparent lack of potters of servile status (although slaves could still perform subsidiary tasks such as marketing).

⁸⁹ See 4.3.1 for further discussion. Hartley/Dickinson 2008–12 catalogue stamps found in Gaul and Britain.

⁹⁰ P. Webster 2001, 294.

⁹¹ Picon 2002b.

⁹² Fernandes/Fernandes/de Casas 2005.

⁹³ Hartley 2005, 116. These estimates are based on the

firing lists, discussed in Chapter 4, which suggest that single kiln loads could contain up to 30,000 vessels.

⁹⁴ Dannell 2002; Fülle 2000a, 2000b; Strobel 1992; P. Webster 2001. See 4.3.1 for more extensive discussion of production organisation.

Having digested this traditional survival guide, even readers without prior knowledge of Roman archaeology should be able to follow the non-retrospective argument about terra sigillata pottery that starts here.

2.2 TERRA SIGILLATA AS IT IS KNOWN THROUGH CURRENT PRACTICES OF STUDY

2.2.1 A STANDARD DEFINITION OF TERRA SIGILLATA

Terra sigillata is a modern name archaeologists give to a type of pot dating to the Roman period. A dictionary definition on which all archaeologists would agree runs as follows. Terra sigillata is a type of bright red glossy Roman tableware, used for dining and serving purposes. It was produced in a limited number of centres roughly between the 1st century BC and the 3rd century AD (barring 'Eastern sigillata') and distributed all over the Roman empire.

Narrowing down the readership to Roman archaeologists, a dictionary might hint at sigillata's possible associations with a Roman cultural identity, with Roman foodways, with the Roman army, etc. Moreover, all Roman archaeologists know how to identify pot(sherd)s they find as sigillata. This is because a core package of fixed traits proves sufficiently comprehensive in day-to-day fieldwork practice to allow correct identification of sigillata: sherds with a bright red colour, shiny slip, a limited and standardized form repertoire, plain or carrying repetitive moulded decorations, and possibly fitted with an epigraphic name stamp.

These traits happen to be the first ones emphasized in the history of study of sigillata. But gradually cracks began to emerge in the comprehensiveness and accurateness of the above definition. For example, not all sigillata vessels were consistently stamped – most of the forms of Flavian date (last third of the 1st century AD) created at La Graufesenque for instance were not.⁹⁵ Similarly, few of the plain forms of the so-called Ateius deposits of Arezzo – generally considered as key assemblages for Italian sigillata – match up with what have been defined as the core Italian sigillata types in the latest typology.⁹⁶ Conversely, many pots *look like* sigillata ('imitation', 'derivatives'), but *are* they actually sigillata, and should archaeologists study them as such? Clearer boundaries were needed to define and identify what sigillata *really* is, to correct the ambiguities and biases inherent in apparently superficial and subjective criteria such as form or colour.

In order to construct such boundaries, sigillata specialists turned to technology. Anchored in material properties and measurable through scientific instruments, technology promised to lay down unbiased parameters for the definition and identification of sigillata.

In one of the most influential applications of the measuring potential of archaeometry to the study of sigillata, Picon detected two shifts in the type of clay in use at Lezoux (a major sigillata production centre in Central Gaul) for the production of sigillata: from non-calcareous to calcareous clays between the 1st and 2nd centuries AD (shift to 'real' sigillata), and back to clays with a less calcareous signature in the 4th century AD ('degradation' of the 'real' sigillata).⁹⁷ A similar exclusive use of calcareous clays was in turn confirmed for sigillata productions in the area of Rome⁹⁸, and at Arezzo⁹⁹, Lyon¹⁰⁰, and La

⁹⁵ Vernhet 1976.

⁹⁶ Ettlinger *et al.* 1990; Kenrick 1997.

⁹⁷ Picon 1973; Picon/Vertet 1970.

⁹⁸ Olcese 2004.

⁹⁹ Picon/Vertet 1970, 207–211. Information on the chemical compositions of Italian sigillata is scant (Picon 2006,

433–434; Ettlinger *et al.* 1990, 27–38). No such exclusive use of calcareous clays can be established for the Padana region (Lavizzari Pedrazzini 1972, 2004; Picon 2006, 433).

¹⁰⁰ Picon/Vichy/Meille 1971.

Graufesenque. This recurrent pattern confirmed the existence of a significant correlation between ‘real’ sigillata and calcareous fabrics.¹⁰¹

In the same seminal study Picon formalized the technical process of firing ceramics by differentiating between three types: mode A (reducing firing atmosphere and oxidizing cooling atmosphere), mode B (reducing firing and cooling atmosphere), and mode C (oxidizing firing and cooling atmosphere). A switch from mode A to mode C firing accompanied the shift to calcareous clays observed at Lezoux, and this association was extrapolated as another defining criterion of ‘real’ sigillata.

Grounding in technology thus assured that a new sigillata package could be proposed, the constituent traits of which implied each other in a causal, non-random manner, contrary to the superficial relations between form, colour, etc. previously relied on. For example, the use of calcareous clays logically entailed high firing temperatures: a sufficiently elevated temperature had to be reached so that the CaO would no longer react with water and cause the vessels to collapse as they swelled with humidity. And because chemical reactions tend to occur with a delay in oxidizing compared to reducing firing atmospheres¹⁰², higher fuel consumption was needed to assure longer firing. This in turn explains why sigillata was more expensive to make and buy than the average Roman pot.

The ephemeral and subjective criteria used before could now be objectively anchored in physical processes and retrieved via scientific analysis. For example, ‘shininess’ was actually shown to be the visual correlate of a chemical process of sintering of the slips. Sintering in turn stood in a non-random relation to the firing mode: sintering could happen in either a reducing or an oxidizing firing atmosphere, but the outcome would be respectively black or red shiny slips. As a consequence, colour (‘red’) was no longer a subjective criterion of identification, but had become part of a technological cascade of cause and effect.

These new non-random parameters could then be added up to create a comprehensive and essential package of traits that defined sigillata. In turn these parameters consolidated the more tentative and general definitions with which this chapter started out. The intuition that ‘all sigillata pots look the same’ could now be grounded in scientific properties, and the category of sigillata was scientifically proven to be homogenous and self-contained. Any potsherd could be shown to either fall squarely within this category, or entirely outside of it. In order to uphold this model, it has to be assumed that those cases where potsherds are not easily sorted within or outside of the sigillata category show the limitations of the tools of study, not a problem with the category itself. For instance, chemical analyses used to characterise clays only have a limited accuracy and can lead to ambivalent results. It is then maintained that the potsherds in and of themselves are not ambivalent (either they qualify as sigillata or they do not), the problem of ambivalence lies with our tools. Following this logic, refinement in tools of study is the only avenue for improving our knowledge about terra sigillata.

2.1.2 REINSERTING PRACTICES IN DEFINITIONS

It is in the nature of dictionary definitions to be established retrospectively, describing phenomena that are already known and defined. Moreover, different lemmas need to be clearly separate and cross-referenced in a non-random way. The previous section has shown how sigillata has been made to fit this dictionary model with the aid of scientific techniques. The change of perspective advocated by this book is to take dictionary definitions for what they are: only one kind of answer. It then becomes possible to acknowledge what falls through the cracks of the retrospective dictionary definition of sigillata.

First, the detail and measurability afforded by scientific techniques does not always help clarify sigillata’s dictionary definition. Sometimes, instead, it ends up making things fuzzier. For example, the scientific identification of the process of sintering seemed to put sigillata’s intuitive trait of ‘shininess’ on a more

¹⁰¹ Picon/Vichy 1974, 54.

solid basis. But sintering indexes a gradual process rather than an instant, binary chemical phase transition.¹⁰³ As a result, an arbitrary judgement has to be made where to place the threshold of a potsherd's degree of sintering for it to qualify as sigillata. In practice, this is very similar to the arbitrary judgement of just how shiny a sigillata sherd has to be.

Secondly, testing for scientific criteria is not always feasible in the context of archaeological fieldwork. Finds analysis still relies in large part on the 'superficial' criteria such as form, decoration and stamps. But their relation to the scientific parameters continues to be problematic. For example, archaeometry has shown that the later East Gaulish production centres of the 2nd and 3rd centuries AD no longer used strictly calcareous clays, despite producing pots that both looked like and chronologically followed on from calcareous sigillata. Are all traits in the dictionary definition of equal weight?

Instead of clarifying which pots count as sigillata and which ones do not, zooming in on scientific parameters seems to entail an ever more expanding and heterogeneous category of terra sigillata. Once this category 'bleeding' is acknowledged, it becomes difficult to halt. For example, production, distribution and consumption of the sigillata discussed in this research are limited to the western Roman provinces. In the eastern provinces, however, archaeologists identify a type of ceramics called Eastern sigillata. Others sometimes talk of red slip wares. And bright red pots dated to for instance the 4th century AD and excavated around the Mediterranean might well turn out to be African Red Slip Ware.¹⁰⁴ Just how far does the equation between 'bright red sintered potsherd' and 'sigillata' reach? Does this mean that there are different *kinds* of sigillata? If so, how do they fit together, if at all?

Paradoxically, scientific techniques were brought in to do a job diametrically opposed to the way in which they operate. They were expected to lay down once and for all the essential package of traits that unambiguously defined sigillata in the past and the logically correlated indices by which specialists could reveal that package in the present. Instead, what these techniques did was to introduce ever more variability, and multiple dimensions of difference. If a dictionary definition could be distilled from this, it came at the price of erasing a great deal of empirical complexity and richness.

How to avoid paying that price? The answer is by avoiding a reification of the retrospective approach. Whereas we started out by stating that sigillata is a modern label used by archaeologists, at the end of last section that label had seamlessly taken on the aura of a past reality. Instead of trying to unveil a sigillata that is already there (as dictionary definitions do), this book wants to follow sigillata in the process of being made, of becoming. This shifts focus from the question of '*what* is terra sigillata' to '*how* is it being studied, made, distributed, etc.'.

One way in which sigillata is being made is in its everyday practices of study. These practices tend to be regarded as mere epistemological bridges linking observations (e.g. 'red colour') to scientific facts (e.g. sintering, and hence 'sigillata'): the question of 'how' is entirely subservient to the question of 'what'. In this book, instead, the question of 'how' is fundamental to the question of 'what': to understand *what* something is and how it is defined, look at *how* it is being made, used, and circulated. So how is sigillata being studied today and how does this affect the way in which it is being defined?

We have seen how a dictionary approach creates a certain framework for studying sigillata. It posits sigillata as a category to which any single excavated sherd can either belong or not – and has either belonged throughout its life history or not. Consequently, it becomes a valid research design to study all sherds belonging to this category, leaving out those pots not conforming to the package of traits laid down in the dictionary. This is how specialisation is born. Within sigillata scholarship – as within Roman archaeology more generally¹⁰⁵ – specialisation is a pervasive trend. During excavation, sigillata tends to get separated from other finds. Allowing for a sufficient post-excavation budget, this sigillata assemblage

¹⁰² Picon 2002b.

2011; Hayes 1972, 1980.

¹⁰³ Picon 2006, 434–436, 2002b.

¹⁰⁵ Willis/Hingley 2007.

¹⁰⁴ The literature is ample, e.g. Cau/Reynolds/Bonifay

is then sent off to a specialist for more precise identification. Because of her implicitly acquired expertise, the specialist is able to access even more of a single sigillata sherd's defining package: its production site, its date, or even its mould-maker or potter. This is again done on the basis of criteria for in-/exclusion: 'snow storm' effect due to white particles in the fabric identifies a sherd as 'South Gaulish'; form Dragendorff 33 with double groove and rather straight walls means 'South Gaulish' and '1st century AD'.¹⁰⁶ This then leads to the publication of all sigillata finds from a single site, context or feature as a separate entry or class. Focusing on all specimens inside this class becomes a meaningful exercise because their internal homogeneity and their difference from other types of pottery is constitutive of their definition. Other factors allowing, meaningful comparisons can then be made between the 25 sigillata specimens found at site x and the 37 found at site y.

The drawers for Roman period sites in the sherd room of the Museum of Classical Archaeology at Cambridge (and of many other museums with it) separate out sigillata sherds from other ceramics from the same sites. Separate drawers contain plain, decorated, and stamped sigillata fragments respectively. This organisation in turn facilitates practicals on terra sigillata as a separate topic: the material is readily accessed. It becomes more difficult if teaching starts from assemblages: sherds from various drawers need to be looked up in the catalogue, retrieved, and, more problematically, put back in the right place.

But as the implicit visual standards maintained in identifying sigillata tend to be gradual rather than binary, different specialists will only rarely reach a 100% closure for the identification of a single specimen. In practice, arguments tend to be closed by reference to authority and experience. It is no exception to see practitioners bringing a box of unidentified potsherds to a conference for identification by more experienced colleagues. Furthermore, gauging from conferences and publications during the last decades, there seems to be little or no interaction between for example those specialists studying African Red Slip ware and those working on Gaulish production centres or British consumption sites. The dissection of terminological debates within the field of sigillata studies gives another glance at how variability is coped with (or not) in practice. Vigorous debates have been waged for instance over some products variously denoted as 'pre-sigillata', 'proto-sigillata', or 'imitation sigillata'.¹⁰⁷ Should these be studied by sigillata specialists? Finally, with regard to the production site of Lezoux for example, it is clear that during large parts of its history sigillata has been absent or very minor compared to the output of other ceramic products. Does this warrant Lezoux going down in the history books as a 'sigillata production centre'?

There is a mutual reinforcement between the dictionary definition of sigillata as a homogeneous and self-contained category and the practices by which it is studied. For example, a positive feedback loop connects the flattening out of controversies regarding which pots count as sigillata and which do not on the one hand and the affirmation of the authority of specialists on the other. The unspoken guideline 'in case of doubt, consult a specialist' maintains the 'in' and 'out' boundary circumscribing what makes up the sigillata category. Similarly, pervasive specialisation *a priori* negates the relevance of possible relations between sigillata and other finds classes. The practical burden of retrieving sherds from various drawers in a museum encourages lectures focusing on sigillata as a separate category. Specialists are not merely studying sigillata, but are creating sigillata and intervening in its conditions of existence. Moreover, the way they process sigillata in the present creates sigillata in the past as a homogeneous category, defined by a clear-cut package of traits.

This last point needs emphasis: the way in which sigillata is being studied actively shapes a research domain, the questions asked, and the ways in which data can be arranged. Consider for example the label 'arretine' sigillata still in use in the UK to refer to sigillata produced on the Italian peninsula.¹⁰⁸ No one would debate that this is a misnomer: while scholars initially found traces of sigillata production in Arezzo, many other centres have now been discovered in Italy. Nevertheless, the label still implicitly drives the

¹⁰⁶ See Webster 1996.

¹⁰⁷ Van Oyen 2013.

¹⁰⁸ Let alone the flagrant misnomer of 'samian ware' derived from Pliny and still used in the UK for Gaulish sigillata.

idea of Italian sigillata as an urban, centralized activity, which in turn steers research designs (e.g. little or no research in the ‘empty’ countryside¹⁰⁹), and models of past organisation (e.g. opposition to the multifocal and widespread production landscape of earlier so-called black gloss fine wares¹¹⁰).

Other, more detailed ethnographies of archaeological practice of this kind have been done before. Holtorf employed direct observation and interview in order to follow a single potsherd from its excavation to its storage in a museum.¹¹¹ Key was to render explicit the multiple practices that are implicated in deciding what this potsherd actually is. Both the physical characteristics of the sherd (e.g. size) and routines and ‘good practices’ (e.g. labelling) enable certain possibilities for what the sherd could be. For example, whether the sherd is identified as ancient or not depends on a long chain of actions from visual identification and experience by the digger (‘it does not look recent’) to correct labelling (in order not to be discarded) and laboratory analysis (when ‘ancient’ is narrowed down to ‘3rd century BC’).

There are two possible responses to this account. Either we try and maintain a stable essence of this potsherd which assures the link between the different stages in its life history. This is what so-called biographical approaches amount to¹¹²: a single thing with unaltered essence experiences different perturbations and acquires different meanings in different contexts. Let us assume the potsherd in question is a terra sigillata sherd. Then it may well have been defined subsequently as ‘Roman’, ‘2nd century AD’, and ‘AD 140–160 from the workshop of Cinnamus at Lezoux’, as it went through more fine-grained mazes of analysis, by increasingly specialized people, and taking into accounts more of its traits (e.g. ‘it is red and shiny’ to ‘its decorative scheme is characteristic of the Cinnamus workshop’). But following the biographical approach, it would always already have belonged to the homogeneous category of sigillata.

The alternative, explored in this book, is not to assume that this sherd has an essence that ranges it in the sigillata category at any stage of its biography. What if we accept that the potsherd does not have an essence over and above how it is articulated in a certain practice, in a certain stage of analysis? What if it really just *is* generically ‘not recent’ during excavation by a first year student and only *becomes* ‘AD 140–160 from the workshop of Cinnamus at Lezoux’ through analysis by a specialist? If we refrain from projecting backwards the result of a complex set of practices – ‘AD 140–160 from the workshop of Cinnamus at Lezoux’, and, more broadly, sigillata as a homogeneous category – we can finally grant defining leverage to those practices. Doing away with an essence means doing away with a priori continuity, and leads us to think much harder about the links, connections, and mediations between sigillata in different settings. It means that we can no longer assume commensurability between the 25 sigillata pots found at site x and the 37 found at site y; or between the bright red shiny pots retrieved by the Medici in Arezzo in the Renaissance, and the bright red shiny pots drawn by Dragendorff in the 19th century and since known as the sigillata typology. This commensurability will have to be re-described as the outcome of contingent historical processes.

2.3 TERRA SIGILLATA AS IT WAS KNOWN IN THE HISTORY OF ITS SCHOLARSHIP

The previous section explored how the dictionary definition of terra sigillata as we know it today is enabled and maintained through its practices of study. These practices have changed throughout the history of sigillata scholarship, as different settings, techniques and conventions emerged. The following section

¹⁰⁹ Despite discoveries of production on rural sites with mixed crafts and processing activities (e.g. Vaccaro *et al.* forthcoming on the Roman Peasant Project; Pucci 1990). Van Oyen 2015d on sigillata’s relation to city and countryside.

¹¹⁰ Itself initially constrained by a ‘dictionary’ definition (Morel 1981; Principal 1998, 2006).

¹¹¹ Holtorf 2002.

¹¹² Appadurai 1986; Kopytoff 1986.

will present a historiographical review of sigillata studies.¹¹³ But it will not do so retrospectively; it will not tell a story of the progressive unveiling of sigillata as tools and techniques became more and more refined. Instead, it will zoom in on the practices and settings of study, and on how these set certain limits and parameters for how sigillata as an object of study was defined.¹¹⁴ The separation of different analytical stages through time is of course artificial. But for every moment discussed below, new actors appear on the stage and irreversible shifts occur in the definition of sigillata.

2.3.1 SIGILLATA AS AN AESTHETIC JUDGEMENT (LATE 18TH-19TH CENTURIES)

When did terra sigillata become an object of study? Ancient authors make references in passing, which have been invoked as historical sources throughout the history of scholarship on sigillata. Pliny the Elder (AD 23-79) wrote that '[t]he majority of mankind use earthenware vessels. Samian ware is recommended even at the present day for dinner services; this reputation is also kept up by Arretium in Italy (...) and exportation from the celebrated potteries goes on all over the world.'¹¹⁵ Isidore of Seville (ca. AD 560-636) added 'Arretine vases are so called from Arretium, a town in Italy where they are made, for they are red.'¹¹⁶ H.B. Walters, assistant in the Department of Greek and Roman Antiquities at the British Museum in the late 19th century, lists a series of more recent rediscoveries, from mentions as early as 1282, to the unearthing of some 'red ware' in 15th century Arezzo in the presence of Giovanni de Medici.¹¹⁷ At this early stage, the most striking features seem to have been the red colour, the presence of stamps, and a specific function (dinner services). Moreover, both the references by ancient authors and the fact that the first discoveries of such specific red pots occurred at Arezzo spurred a discourse on origin, with specific focus on a number of renowned production sites.

Let us fast-forward to the second half of the 18th century and to the phenomenon of antiquarianism, anchored within the rise of European nation states.¹¹⁸ An important device of elite discourse was the Grand Tour, during which members of the European elites concluded their education by venturing into the classical lands and experiencing their material remains.¹¹⁹ As they returned to their home countries with portable and fascinating objects, the latter became loaded, featuring as tangible markers of participation in what was believed to be an authentic past, which in turn legitimated present and future aspirations.

The preferred objects of display had to fit a set of requirements: first of all, the need for portability limited the possible choice; secondly, culturally specific values made for a general preference for traces of (what was thought of as) creativity and skilled virtuosity. Consequently, as to pottery, a predilection can be noted for hand-painted vases (now classified as 'classical Greek', but at the time thought to have been 'Italian'¹²⁰), resulting in a relative lack of attention for 'simple' red pots like sigillata. The repetitiveness of sigillata pots thwarted interest in all but the most elaborate specimens. Nevertheless, the visual immediacy of the shiny red slip, combined with some examples of decoration in line with a recently formalized classical canon¹²¹, made sigillata into a moderately sought after by-product of the Grand Tour, a second-rate alternative to Greek vases.

Generalization of the term *terra sigillata* had to wait until the second half of the 19th century. As an example of '*faux* Latin', *terra sigillata* meant 'sealed earth', referring to the stamped decoration. This rein-

¹¹³ A rare good in Roman finds studies: Willis/Hingley 2007, 7.

¹¹⁴ See Pickering 1984.

¹¹⁵ *Historia Naturalis* XXXV 160 ff.

¹¹⁶ *Etymologiae* XX 4, 3.

¹¹⁷ Walters 1908, xv; Déchelette 1904, 10; Fabroni 1841;

Menchelli 2005.

¹¹⁸ Sweet 2004.

¹¹⁹ Bignamini/Hornsby 2010; Hornsby 2000; Wilton/Bignamini 1996.

¹²⁰ Jenkins/Sloan 1996; Sparkes 1996.

¹²¹ As defined by J.J. Winckelmann 2006 [1764].

forces the observation that decorated pots were held as exemplary. It is unclear just where and when the name originated. In the UK, C.R. Smith commented in 1849 on the inappropriateness of the label ‘Samian’, since Pliny made no explicit mention of Samos as a production centre.¹²² Smith was the first to hypothesize a Gaulish origin of these Samian vessels, in contrast to those fragments with more ‘Greek style’ decoration that were traceable to Arezzo. He did, however, make no mention of terra sigillata. The latter term featured prominently in the German title of Dragendorff’s seminal paper almost half a century later (1895), and was taken up in the UK by Oswald and Pryce (1920).¹²³

The limited space allocated to sigillata in handbooks of the 19th century illustrates the subject’s secondary place in antiquarian practices. Marquardt’s *Römische Privatalthertümer* (1864) considered aspects of ‘*Produktion, Fabrikation, und Handel*’ in relation to Roman family life. References in Greek and Latin vocabulary formed the only basis for his classification of ceramic vessels by function.¹²⁴ While this speaks to a continued importance of function in how sigillata was defined at the time, it also indexes the prevalence of the written word in the 18th and 19th centuries.¹²⁵ The high esteem for the written word can be traced back to Christian philosophy, and has greatly influenced the legacy of Classics in which the ancient authors occupy an authoritative position. In this regard, another asset of sigillata was the presence of writing in the form of epigraphic name stamps. Shiny red colour and decoration come to the fore too in Marquardt’s work, who characterised sigillata as those ceramics which ‘*zeichnen sich aus durch corallenrothe Farbe, haben meistens Glasur und sind mit zierlichen Reliefs versehen*’.¹²⁶ Lastly, Marquardt relocated the polarization between the craftsmanship of Greek painted pottery and the repetitiveness of mass-produced Roman pottery within Roman ceramic categories themselves. He distinguished between fine wares (such as sigillata) made by individual potters and workshops, and coarse wares and building materials taken over by ‘capitalist’ production.¹²⁷ For Marquardt, sigillata stood as a creative counterpoint to contemporary capitalism and industrialization.

While Samuel Birch’s *History of Ancient Pottery* (1873) reserved the entire first volume and half of the second to painted (Greek) vases, Roman ceramics had to make do with some 250 pages.¹²⁸ Even more explicitly, Birch wrote that

‘Roman vases are far inferior in nearly all respects to Greek; the shapes are less artistic, and the decoration, though not without merits of its own, bears the same relation to that of Greek vases that all Roman art does to Greek art. (...) Roman vases, in a word, require only the skill of the potter for their completion, and the processes employed are largely mechanical, whereas Greek vases called in the aid of a higher branch of industry, and one which gave scope for great artistic achievements – namely, that of painting.’¹²⁹

As with Marquardt, a link between creativity and production organisation was assumed, and Birch’s opinion was that Roman ceramics were ‘produced by slaves and freedmen, whereas at Athens the potter usually held at least the position of a resident alien. These were content to produce useful, but not as a rule fine or beautiful, vases, for the most part only adapted to the necessities of life’.¹³⁰ Birch too put great emphasis on the written word, describing ‘the principal shapes of Roman vases, so far as they can be identified from literary or epigraphic evidence’, and emphasizing the stamps.¹³¹

Collection of local archaeological material through small-scale ‘excavations’ came in vogue as a cheaper, nation-centred alternative to the Grand Tour.¹³² Complete sigillata vessels from graves in the

¹²² Smith 1849, 1, 13. The terms ‘samian’ and ‘arretine’ are still used by scholars in the UK to denote respectively Gaulish and Italian sigillata, despite their long recognized historical inaccuracy.

¹²³ See section 2.3.2.

¹²⁴ Cf. Blümner 1875/87.

¹²⁵ Marquardt 1867, 242 ff.

¹²⁶ Marquardt 1867, 254.

¹²⁷ Marquardt 1867, 254.

¹²⁸ Birch 1873.

¹²⁹ Birch 1873, 430.

¹³⁰ Birch 1873, 434.

¹³¹ Birch 1873, 458, 475 ff.

¹³² Greene 1992, 17.

northern Roman provinces were incorporated in private collections. This led to a number of publications of collections across different – settled or settling – European nations.

For Italian scholars, sigillata's association with classical morality and local pride served the ethos surrounding the unification of Italy (1850s–1870s).¹³³ One of the pioneers was Angelo Fabroni, whose *Storia degli antichi vasi fittili aretini* (1841) focused on the sigillata collection of the *Museo pubblico di Arezzo*.¹³⁴ Like the general handbooks, Fabroni allocated considerable space to discussion of ancient literary sources, stamps and decoration.¹³⁵ Furthermore, the work repeatedly links aesthetic judgement to economic and political success: aesthetically pleasing pots index a thriving society.

The situation of Germany was akin to that of Italy, in that it was unified rather late, in 1871, and consciously had to craft a nationalist discourse. Antiquities aided this enterprise by creating a shared, national past. Germany too yielded a significant amount of sigillata, originating either from East Gaulish production sites, or from imports to the army forts on the northern frontier (*limes*). An early study of a production centre and its material was Joseph von Hefner's *Die römische Töpferei in Westerndorf* (1863).¹³⁶ This work tackled the usual concerns of the time: ancient literary sources, lists of pictorial elements, lists of forms, and accounts of stamps and names. However, von Hefner also included a passing note on chemical analyses¹³⁷, leading him to distinguish two groups, by analogy with the contemporary relation between stoneware and porcelain. Hence a new means of identifying 'real' sigillata was introduced: with the aid of compositional analysis sigillata could be singled out from those pots that looked the same but *were not* sigillata.¹³⁸ All the while the visual aspect remained pervasive and helped lay the foundations for the German tradition of art-historical study, complemented by excellent drawings. The artist Oskar Hölder for example produced drawings of all forms, figure-types and stamps attested at Rottweil.¹³⁹

In the UK, Charles Roach Smith's *On the red glazed pottery of the Romans, found in this country and on the Continent* (1849) tried to distance itself from previous antiquarian studies.¹⁴⁰ Whereas the latter were concerned with sourcing products and identifying pots 'with some special kinds mentioned by ancient authors', Smith set out to fully characterize this class of pottery by means of description and drawings.¹⁴¹ A similar tension with the practices of antiquarianism characterizes the preface to Smith's *Catalogue of the Museum of London Antiquities Collected by, and Property of, Charles Roach Smith* (1854). This served as an apology for his collection of antiquities during construction activities in the city of London and sheds light on the increasing tension between personal acquisitions for aesthetic pleasure and the establishment of museum collections for community education.¹⁴² Smith eventually sold his collection to the British Museum but had to lower his price because foreign acquisitions were held in higher esteem.¹⁴³

Nevertheless Smith's catalogue continued the aesthetic discourse of antiquarianism, as he praised the 'red-glazed pottery, commonly called Samian', 'distinguished by a superficial beautiful coralline red colour', 'the material on which the greatest taste in design and in ornamentation has been bestowed'.¹⁴⁴ Recurrent emphasis on stamps and decoration betrays the practice of collecting during casual observation of construction works, retrieving the most salient pieces.¹⁴⁵ But as with von Hefner, the antiquarian legacy was increasingly pressured by recognition of scientific causal relations. Smith observed for instance that '[t]he colouring matter is derived from the oxides of lead and iron'.¹⁴⁶ Finally, while Smith was one

¹³³ Davis 2000.

¹³⁴ Fabroni 1841. Numerous excavations took place around the end of the 19th century, e.g. by Gamurrini and Funghini.

¹³⁵ Fabroni 1841, 5–31, 32–58.

¹³⁶ von Hefner 1863.

¹³⁷ von Hefner 1863, 17. Cf. Dragendorff 1895 (next section).

¹³⁸ Cf. 2.2.1.

¹³⁹ Hölder 1889.

¹⁴⁰ Smith 1849.

¹⁴¹ Smith 1849, 1.

¹⁴² Smith 1854, vi–vii.

¹⁴³ Rhodes 2004, 67–68.

¹⁴⁴ Smith 1854, 24.

¹⁴⁵ Smith 1854, 41–47.

¹⁴⁶ Smith 1849, 2.

of the first to insist on including drawings of decoration and vessel form, any sigillata specialist today will note how very different his drawings look to the current standard typology. Even directly observed traits such as form and mechanisms such as drawing did not always create sigillata in the same way. As practices and standards changed, so too did sigillata.

In France too, sigillata production centres awakened the interest of antiquarians. Alfred Plicque, a local doctor, claimed to have unearthed 70 workshops and 160 kilns at Lezoux between 1879 and 1894.¹⁴⁷ The relatively modest structural remains encountered during more recent excavations at Lezoux, however, cast doubt on these numbers. After his death Plicque's collection became dispersed, and the majority ended up in the *Musée des Antiquités nationales* at St. Germain-en-Laye near Paris. Felix Oswald¹⁴⁸ acquired a subset of pots from Lezoux and Les Martres-de-Veyre.

To sum up, in the era of antiquarianism sigillata was defined along the axes of the Grand Tour (sigillata as a portable object from a Classical land), emerging nation states (sigillata as an anchor of a distant local past), industrialization (sigillata as a product of creativity and craftsmanship – or not), and the dominance of text (sigillata as carrier of writing). The practices of study relied heavily on visual identification and aesthetics (colour, shininess, form, stamps). Focus was on the study of whole pots within the setting of private collections rather than find contexts.

Despite the emphasis on the complete vessel as index of an individual potter's craftsmanship, increasing awareness of technological characteristics can be noted. Smith mentioned lead and iron oxides as responsible for the red colour, Fabroni discussed clay and slip properties, utensils, and firing procedures in general terms, whereas the second edition of Birch's work referred to chemical analyses undertaken in the course of Dragendorff's work.¹⁴⁹ This type of excursus, however, never ventured beyond curiosity and did not yet feed into the definition of sigillata.

In this period sigillata was not characterized as a standardized or internally homogeneous product class. On the contrary, scholars highlighted variation in form, decoration and function to signal creativity and virtuosity. While not defined as standardized, sigillata's visual repetitiveness was explicitly distanced from the individual virtuosity of (Greek) painted pottery and (Roman) statuary.

2.3.2 SIGILLATA AS CORRELATED TRAITS (LATE 19TH–EARLY 20TH CENTURIES)

A series of works published on the verge of the 20th century have come to be regarded as foundational for the study of terra sigillata. Whereas the emphasis was still on the antiquarian criteria of form, decoration, and whole vessels rather than fragmentary potsherds, sigillata studies moved away from aesthetic judgement. Rather than discussing the different attributes of sigillata separately, scholars understood that a meaningful correlation might exist between decoration, form, and stamps. This shift can be linked to the rise of prehistoric and culture-historical archaeology, brought to fruition later by scholars such as V. Gordon Childe who turned to assemblages as a means of defining a cultural group.¹⁵⁰ On the other hand the concern for typology and classification which loomed large in this time frame was inspired by an evolutionary paradigm, tracing the development of forms through time based on minor stylistic variations. When placing the following works in their respective contexts, it is important to keep in mind the limited state of fieldwork at the time.

Hans Dragendorff, for example, based his seminal sigillata typology (1895) solely on recorded specimens from cemeteries – often associated with coins – and on a number of historically dated sites. It is unclear whether his numbering of drawings was meant to be read as the formal 'typology' it was later taken to be. On the one hand, Dragendorff was clearly heir to the preceding art-historical tradition.

¹⁴⁷ Plicque 1887.

¹⁴⁹ See section 2.3.2.

¹⁴⁸ See section 2.3.3.

¹⁵⁰ Childe 1929; Trigger 1980.

For example, a posthumous publication focused solely on decorated Italian sigillata, listing characteristic figure-types for each identified workshop.¹⁵¹ On the other hand, evolutionary thought now replaced the previous moral association of aesthetic judgment. As such, the observation that Roman sigillata was produced in ‘*Fabriken, die einen an moderne Verhältnisse erinnernden Massenexport entwickeln*’, no longer carried a negative connotation, on the contrary. But sigillata scholarship never indulged in the same civilizing discourse as did the contemporary vigorous writings on Romanization.¹⁵² Pottery had to cede place to cities, buildings, and inscriptions as an empirical basis for Romanization studies, and ceramologists did not venture far into the lands of social and cultural analysis. Importantly, the entire Romanization debate has always been a UK-based phenomenon – partly because of its origin in Victorian ideology – whereas the study of sigillata engaged scholars all over Europe and the UK, taught in very distinct national traditions.

But despite continuing an art-historical thread, Dragendorff also innovated sigillata studies. First, his ambition was to operate on a larger geographical scale, in contrast to earlier studies limited to single find-spots.¹⁵³ Secondly, a more holistic approach replaced the separate headings of ‘form’, ‘decoration’, ‘stamps’ etc. of the antiquarian phase, as Dragendorff had witnessed the birth of the culture-historical paradigm in Germany.¹⁵⁴ Thirdly, some sense of technology can be discerned – albeit in the guise of curiosity: chemical analyses of five sherds were requested from a pharmaceutical institute.¹⁵⁵ This led to a technological reading of the shiny red colour, as caused by iron oxide and as indicating a specific clay selection rather than clay treatment. Iron oxide became a new defining aspect of sigillata, and potters were transformed from creative virtuosos (or their mirror image of passive, capitalist slaves) into knowledgeable technicians.

In France Joseph Déchelette published *Les vases céramiques ornés de la Gaule romaine* (1904), a study of decorated ceramics, including sigillata, from three provinces of Gallia. The definition of his subject on the basis of the presence of decoration followed a traditional line of inquiry. But the geographical scope of his work speaks to Dragendorff’s urge for expansive surveys of ceramic material. Déchelette’s study also heralded some of the innovations of the next phase. At the outset, he listed two main research questions: firstly, identification of production centres based on decorative schemes, and secondly, the chronology of vessels.¹⁵⁶ He also took up the evolutionary concept of *fossils directeurs*, with evolution measured on the basis of decoration, not vessel form.¹⁵⁷ Variability was understood temporally instead of spatially or socially. In his definition of sigillata as ‘*les vases à vernis rouge et les vases d’une couverte autre que le rouge, mais ressemblant aux précédents, soit par leurs formes, soit par leur technique*’¹⁵⁸, the criteria of colour, stamps, and decoration had given way to an emphasis on form and technology. Moreover, Déchelette added a number of forms to Dragendorff’s typology.

Meanwhile the foundations were laid for the rigorous cataloguing of stamps, one of the threads running through the entire history of sigillata scholarship. Ihm and Dressel each took charge of producing a volume of the *Corpus Inscriptionum Latinarum* listing stamps on Italian sigillata.¹⁵⁹

These foundational works heralded new ways of studying and defining sigillata. In Germany the dawn of culture-historical archaeology fed into the conceptualization of sigillata as an assemblage of individual traits that could be correlated with one another. Familiarity with affiliated disciplines such as geology led to the presumption that some traits were not immediately visible to the eye. The shiny red colour for example became the articulation of iron oxide instead of an index of the potter’s creativity. Moreover, the specific rendering of these traits could vary between different pots: Déchelette for example expanded

¹⁵¹ Dragendorff/Watzinger 1948.

235).

¹⁵² Haverfield 1905. See Hingley 2000; Van Oyen 2015a; Vasunia 2005 for the relation between Roman studies and the political context of the British Empire.

¹⁵⁵ Dragendorff 1895, 19–20.

¹⁵⁶ Déchelette 1904, III.

¹⁵⁷ Déchelette 1904, III.

¹⁵³ Dragendorff 1895, 22.

¹⁵⁸ Déchelette 1904, 19.

¹⁵⁴ Before Childe took it on board in the UK (Trigger 2006,

¹⁵⁹ Menchelli 2005.

the criterion of ‘colour’ beyond red. Also, some traits such as form or decoration were acknowledged to have varied through time.

Building on and reinforcing these parameters were the new practices of studying sigillata. General classifications became an appropriate tool for processing this newly defined sigillata. Sigillata had become a mass-produced class with similarities across production sites, and hence specimens from as many origins as possible needed to be classified together. Each form was identified first through a drawing, and later on with the corresponding number from the Dragendorff series. Later on these steps were filtered out, and nowadays the number is seen to logically refer to a prior reality of a certain well-defined form – a prime example of how a retrospective approach works. The praise for creativity was tempered, and technology came to be considered as the human mastery of nature, developed in a unilinear progression.¹⁶⁰ Moreover, the relation between sigillata and other finds such as coins was now defined by co-occurrence in find contexts instead of co-occurrence in collections.

2.3.3 SIGILLATA AS A DATING TOOL (20TH CENTURY)

The evolutionary principles introduced in the previous phase came to dominate Roman pottery studies in the early and mid 20th century and put chronology and dating centre stage. The World Wars had revealed a globally connected scene, an ethos that was reinforced by the evolutionary and Marxist principle that all societies went through a similar sequence of development. A series of site reports on historically dated sites enabled the integration of rigorous typological schemes in fairly precise chronological sequences. Especially the army forts along the *limes* in between Rhine and Lippe (e.g. Haltern, Oberaden) provided tight chronological control of typologies given their historically attested short-lived occupations. The excavations of these forts greatly expanded the empirical basis of sigillata studies, which for the first time turned to assemblages of broken potsherds instead of whole vessels. Much effort went into correlating different details of decorative schemes and figure-types, rim and base variations, and stamps, so as to arrive at a broader range of criteria for comparative dating. Curle, Walters, Ludowici, Loeschcke and Ritterling made additions to Dragendorff’s typological scheme. Whereas evolutionary principles distanced the past – and sigillata – and rendered it more ‘objective’, the subservient nature of sigillata scholarship to history lingered on in a twofold way: firstly, historical sources anchored typological chronologies; and secondly, the conceptualisation of sigillata sherds as a dating tool merely responded to the needs of ancient history.

In 1909 Georg Loeschcke – Dragendorff’s teacher – presented a study of all ceramic types found in the Roman fort at Haltern. He acknowledged the promise for establishing an absolute chronology given the short depositional range of the ceramics at Haltern, ‘höchstens 20 bis 25 Jahre’.¹⁶¹ Within an historical framework set by literary sources (on Varus and Germanicus) and stamps¹⁶², Loeschcke devised a new sigillata typology of four ‘services’ with distinctive rim morphology.¹⁶³ His work was further innovative by considering the entire ceramic assemblage from the site, including the wares other than sigillata, and by reference to the actual excavation.

Emile Ritterling, in turn, undertook excavations at the Roman fort at Hofheim between 1902 and 1903, and published the results in 1913. Here too, ancient sources set the research questions. Ritterling was particularly interested in the foundation date and duration of the fort in order to prove: ‘*das in dem Hofheimer Lager eine Befestigung augusteischer Zeit, sogar das vielgesuchte von Drusus angelegte „praesidium in*

¹⁶⁰ Pfaffenberger 1992.

¹⁶¹ Loeschcke 1909, 119.

¹⁶² Loeschcke 1909, 121–123, 167 ff.

¹⁶³ Loeschcke 1909, 136. Most sigillata at Haltern was of

Italian origin, and was later discussed in relation to the location of Ateius’ workshops: Bruni 1995; Picon/Garmier 1974; Desbat 2004; Desbat/Genin/Lasfargues 1996.

monte Tauno “*gefunden sei*”.¹⁶⁴ The majority of the work presented the archaeological finds in view of their potential as dating fossils, which led to a focus on the chronology of types and stamps for sigillata.¹⁶⁵

In 1914, Atkinson published 90 decorated sigillata vessels contained in a wooden box that was burnt during the historically attested destruction of Pompeii in AD 79. Atkinson’s account introduced a series of tools for dating sigillata assemblages: the ratio of forms Drag. 29 and Drag. 37, the decorative details by potter, the quality of the execution (‘carelessness in technique’, not as much as a judgment of value or identity, but as a chronological index), and elaborate drawings enabling comparison.¹⁶⁶

This use of historically dated sites was soon put into practice, for example by Ludowici who excavated at the East Gaulish production centre of Rheinzabern between 1901 and 1914. Ludowici epitomizes the transformation of sigillata and its scholarship: he started off as an industrialist enchanted by the ‘*schönen, roten Terra sigillata-Glasur*’¹⁶⁷, but gradually incorporated the prevailing chronological concern in his work, to arrive at a chronological sequence of the Rheinzabern potters. Meanwhile he devised a detailed scheme for referencing decorative figure-types, with general thematic categories (e.g. M = humans and gods) subdivided into numbered variations, linked to different potters’ repertoires.¹⁶⁸

Another example of the application of chronologically anchored typologies is J.P. Bushe-Fox’ use of sigillata in dating the early Roman occupation of northern Britain. He too relied on the ratio of forms Drag. 29 and 37 and the type and execution of decorative details.¹⁶⁹ Sigillata studies’ role was that of dating historical events:

‘Early historians tell nothing of the sites occupied by the Romans in their first campaigns against the northern tribes. No inscription of this period has been found in the north, and in most cases the coins are few and, by themselves, do not form sufficient evidence from which to draw definite conclusions. Great advances have been made, however, of late years in the dating of pottery; most of the northern sites that have been excavated have produced a fair amount of Terra Sigillata or Samian ware, and with the evidence afforded by this it has been possible to assign several sites to the time of Agricola, and others to a period that is certainly pre-Hadrianic.’¹⁷⁰

This led to a circular argument in which pots dated by means of historical evidence were then used to fill in the blanks in this historical evidence (in particular Tacitus’ *Agricola*). The uptake of sigillata’s dating potential in general archaeological practice is remarked on by Haverfield: ‘Potsherds, when we can date them, and we are slowly learning how to do this, are as valuable chronological material as even coins’.¹⁷¹ The same passage, however, has Haverfield lamenting ‘the brutal monochrome of Roman pottery gives us no such chronological clues as the varied colouring of modern porcelain.’ This illustrates how old specialist judgements lingered on in popular imagination.

Meanwhile general handbooks summarized these tools, especially Oswald and Pryce’s *An Introduction to the study of Terra Sigillata* (1920). Tellingly, the subtitle read *Treated from a Chronological Standpoint*, and in the preface too, special focus was ascribed to the chronological importance of forms and styles.¹⁷² The seventh chapter for example was entitled ‘Details of chronological significance’, discussing the frequency and style of decorative details in relation to forms, production centres, and, of course, date.¹⁷³ The overarching evolutionary rationale showed in a preoccupation with tracing origins of forms and decoration.

In Germany, Robert Knorr acknowledged the dating potential of sigillata sherds: ‘*Bei Geschichtsforschungen über Kultur, Handel, Verkehr und grosse Ereignisse des ersten Jahrhunderts haben sich kleine Sigillatascherben als zuverlässige und unzweideutige Zeitmarken der absoluten Chronologie erwiesen; ähnlich wie die Leitmuscheln und*

¹⁶⁴ Ritterling 1913, 2–3.

¹⁶⁵ Ritterling 1913, 67–76.

¹⁶⁶ Atkinson 1914, 29–32.

¹⁶⁷ Ricken/Thomas 2005, 4–5.

¹⁶⁸ Ricken/Fischer 1963.

¹⁶⁹ Bushe-Fox 1913.

¹⁷⁰ Bushe-Fox 1913, 295.

¹⁷¹ Haverfield 1911, xvii.

¹⁷² Oswald/Pryce 1920, vii.

¹⁷³ Oswald/Pryce 1920, 144–168.

*Fossilien der Geologen und Paläontologen die relative Chronologie geologischer Schichten klären.*¹⁷⁴ He was in particular concerned with producing accurate drawings for reference purposes, and believed that ‘*Sigillatagefässe muss man selbst sprechen lassen durch geordnet vorgelegte Abbildungen*’.¹⁷⁵ Here sigillata is seen to speak for itself: if represented in the right way, one could ‘read’ its chronological sequence. All the while, within the German art-historical tradition sigillata remained the pinnacle of ‘*gallo-römischen Kunsthandwerks*’.¹⁷⁶

Triggered by his acquisition of the Plicque collection¹⁷⁷, Oswald published two sequels to his general handbook, in which he made a case for the chronological potential of stamps and figure-types respectively.¹⁷⁸ The German scholar August Oxé’s stamp catalogue was posthumously reworked and published by Howard Comfort as the *Corpus Vasorum Arretinorum*.¹⁷⁹ Again, the emphasis was firmly on dating: ‘*Denn gerade die Funde am Rhein und an der Lippe haben bisher die zuverlässigsten Stützen geliefert für die absolute Datierung der arretinischen Keramik (...)*’.¹⁸⁰ Like his colleague Knorr, Oxé’s work betrays a German art-historical tradition, with casual remarks on the links of sigillata decoration to ‘*der grossen griechischen Kunst*’.¹⁸¹

It might be too far fetched to bring in the post-World Wars ethos to account for new ways of defining sigillata. And yet the general climate of the time was one of acute chronological awareness, which proved compatible with the principles of evolution encountered in the previous phase. Combined with a continuing emphasis on written sources, the chronological concern helped write a homogeneous Roman history for Western Europe. Sigillata was transformed once again, from a value-laden symbol to an ‘objective’ tool for framing this global history by dating historical events. Scholars in the previous phase had set the stage for these developments by assembling sigillata pots from different sites and regions, and thus implicitly equating them analytically. Woven into the new historical texture was a different articulation of typologies. At a very basic level this is apparent in the process by which the random numbers of Dragendorff’s drawings now ended up as a rigid typology with global validity. ‘Types’ became chronological fossils, and sigillata a method rather than a goal for study.

The ‘sigillata dating method’ was fairly straightforward. As Knorr phrased it, ‘sigillata speaks for itself’, provided it was represented in an objective and detailed way. Sigillata was now articulated through assemblages of potsherds, grouped by find context, and became part of the history of this find context rather than of a technological pottery spectrum. Arranging and rearranging these sherds and their attributes – for example through charting form ratios – eventually allowed sigillata to ‘speak for itself’. Sigillata had thus become a neutral carrier of a historically dated event, a homogeneous package of traits that could be studied *by trait* – for instance, comparing the similarity and difference of one figure-type to another.

2.3.4 SIGILLATA AS THE PRODUCT OF WORKSHOPS (MID 20TH CENTURY)

A landmark in the history of sigillata studies was Stanfield and Simpson’s *Central Gaulish Potters* (1958). The title heralded a new focus on the identification of individual potters, beyond a concern with dating. Stanfield dedicated his spare time from his job at the Admiralty to the study of sigillata in London museums, and cultivated archaeological friendships with influential figures such as Mortimer Wheeler. Eventually, Grace Simpson was recruited to complete Stanfield’s work and became one of the prominent figures on the sigillata stage herself.¹⁸²

¹⁷⁴ Knorr 1952, viii, 1919.

¹⁷⁵ Knorr 1952, ix.

¹⁷⁶ Knorr 1952, x.

¹⁷⁷ See section 2.3.1.

¹⁷⁸ Oswald 1931, 1936/7.

¹⁷⁹ Oxé and Comfort 1968. The work – limited to Italian sigillata – built upon previous studies by Oxé (1933, 1934; Stieren 1943) of ceramics found in Haltern and the

Rhine area.

¹⁸⁰ Oxé 1933 1.

¹⁸¹ Oxé 1933, 2.

¹⁸² Grace Simpson was the daughter of F. Gerald Simpson, excavator of Hadrian’s Wall. She later reworked antiquarian notes by Rossignol on decorated Montans sigillata (Simpson 1976).

Central Gaulish Potters reached back to the earliest phases of sigillata scholarship in two ways. First, the actual material under study consisted of part of the Plicque collection, acquired by Oswald, and then transferred to Durham by Eric Birley.¹⁸³ Secondly, the work claimed to follow in the tracks of Déchelette and Knorr: ‘study of the Central Gaulish potters should in principle be modelled on Knorr’s treatment of their first-century South Gaulish predecessors’, and ‘Stanfield made *Les vases céramiques ornés de la Gaule romaine* by Joseph Déchelette his constant working partner’.¹⁸⁴

The prime focus in this phase was on decoration. In line with Knorr’s standards, drawings were made with great care. Stanfield was renowned for his accurate drawings, and later others such as Rogers were tasked with providing drawings for publication. The method of study of the decoration, however, was quite different from that of Knorr’s time. Hofmann devised a new scheme for the study of decorated bowls, beginning with the producers of figure stamps (*poinçons*), and setting identification of the master-stylist or mould-maker as the distant goal.¹⁸⁵ Figure-types alone were no longer seen as conclusive in the attribution of sherds to individual potters, contrary to Déchelette’s approach. Overall style and details less likely to be shared among potters – especially the ovolo or beaded rim decoration – became the decisive elements for identification. This resulted in the (re)construction of fictive identities such as ‘the potter with the cross detail’ or ‘the untidy potter’.¹⁸⁶

Detailed studies of different potters’ styles led to an awareness of the links between potters through copying, use of similar figure-types, repetition of overall organisational schemes, etc. This type of enquiry opened a new area of study, concerned with issues of production organisation – a topic further pursued in recent works. Statistical analysis aided comparison of ovolo’s, stamps and decorative elements.¹⁸⁷ With regard to Italian sigillata this trend took off later, with Pucci first showing interest in economic and social aspects of production.¹⁸⁸

Although chronology receded to the background, it was not forgotten. In line with the focus on individual potters and their production relations, emphasis was on dating the working lives of these potters, and, as a consequence, of their output.¹⁸⁹ But Stanfield and Simpson attempted to cut loose from the preceding chronological endeavours by establishing ‘[a]n entire new chronology (...), based solely on North British site evidence, in order to avoid bias from published works (...)’.¹⁹⁰ Nevertheless, in the actual corpus of the book, the dating of each potter is reduced to a brief note at the end of each section. Rogers in turn used the physical association of a pile of wasters to establish the contemporaneity of the styles represented in order to refine the chronology of Stanfield and Simpson.¹⁹¹

As to the format of the publications, it is significant that *Central Gaulish Potters* remained the only substantial monograph – much in contrast to previous phases. The switch to journal articles opened up scope for diversification of interests. Simpson, for example, not only wrote about decorated sigillata, but also devoted some time to the study of black-slipped sigillata, to sigillata production in Britain, to other small finds and metalwork, and to revising the chronology of Roman Wales. Rather than authoring major studies, sigillata scholars increasingly focused on specialist contributions to site reports.

Scholarship on Italian sigillata was revived by Arturo Stenico and by Christian Goudineau’s study of the plain sigillata from French excavations at Bolsena. These studies too explicitly aligned with founda-

¹⁸³ Birley’s part of the Plicque assemblage was later sold to the University of Durham. Another part of the collection – not acquired by Birley – moved to Nottingham University via Oswald.

¹⁸⁴ Stanfield/Simpson 1958, xvii, xxxi. Little reference was made to the preceding ‘chronology’ phase.

¹⁸⁵ Hofmann 1971.

¹⁸⁶ Note the parallel to Beazley’s contemporaneous attempts at linking stylistic details of Greek painted vases to indi-

vidual painters/potters, e.g. ‘the Berlin Potter’. These potters were actually creations of connoisseurship (Melius 2011).

¹⁸⁷ See Simpson/Rogers 1969.

¹⁸⁸ Pucci 1985; Menchelli 2005.

¹⁸⁹ See Simpson 1957, 35 and 1976, 269; Simpson/Rogers 1969, 5.

¹⁹⁰ Stanfield/Simpson 1958, xliii.

¹⁹¹ Rogers 1977.

tional works, especially by Dragendorff and Watzinger.¹⁹² Furthermore, much like Stanfield and Simpson, Stenico urged the specialist studying decorated sigillata to exhibit ‘*una generica riserva sulla validità del procedimento attribuzioni*’.¹⁹³ Finally, an interest in individual potters is indicated by Stenico’s analysis of the output of Rasinius, engaging with questions of production organisation.¹⁹⁴ Typology and chronology featured as stepping-stones towards broader debates.

Bypassing its previous definition as a dating tool, in this phase sigillata *also* became the result of a specific mode of production organisation, that of the creation and circulation of styles and decorative details. Sigillata was not as much a pot or a set of potsherds but a style, the recorded attestations of a specific ovolo or other details, situated at the interstices of relations between mould-makers, producers of figure stamps, and potters.

The practices of study did not change radically, in that the credo of the ‘accurate representation’ was still in place. What did change was the nature of the sample in which sigillata was placed, which shifted from an emphasis on find context to the output of a (set of) production centre(s) and their workshops. If sigillata was still thought to speak for itself, its ‘grammar’ became more specific – for example through decorative details – and, so was thought, more scientific. The use of statistical analysis aligned with this strive for objectivity.

2.3.5 SIGILLATA HAS NOT ALWAYS BEEN THE SAME THING!

After the 1970s, we can refer back to the ‘survival guide’ with which this chapter started, as it covers the most recent definition of terra sigillata. One way of reading the previous pages would be as different ways of interpreting an external, stable, unchanging essence of sigillata; as a story of tools and methods for studying sigillata that were gradually refined throughout the different phases, allowing us to access more and more of what sigillata *really* is. This is the retrospective approach, starting from the conclusion. One of the downsides of such an approach is that the connections between the different phases are ignored: the phases link up merely because they all talk about *the same thing*, terra sigillata.

But if, as in the above descriptions, the practices of study in the different phases are taken seriously, it becomes clear that sigillata was defined rather differently throughout its history of scholarship: from a second-rate collector’s item defined on the basis of aesthetic judgement, over an assemblage of traits that could be ordered chronologically, to a product of individual potters with specific styles. These differences had consequences for how sigillata’s historical role was imagined. Focus on its aesthetic repetitiveness placed sigillata in a pre-modern capitalist world¹⁹⁵, whereas analysis of decorative details traced a closely-knit community of craftsmen¹⁹⁶. In the first phase, sigillata was indicative of a nation’s specificity, only to become a shared (European) thing later on.

Starting from the differences between the phases forces us to think harder about what makes all of them hang together as a history of ‘sigillata’ scholarship. Reflecting on these connections helps clarifying some oddities that have no place within a retrospective approach. For example, despite their jettisoning since the time of C.R. Smith, the terms ‘samian’ and ‘arretine’ are still used by scholars in the UK to denote respectively Gaulish and Italian sigillata. This serves as a warning that the history of sigillata scholarship is more than a story of increasing accuracy. Practices cannot be eradicated instantly, but have a certain path-dependency and shape the possibilities for study in the next phases. The current scholarly construction of sigillata as a homogeneous category is not an inevitability, but the outcome of a contin-

¹⁹² Dragendorff 1895; Dragendorff/Watzinger 1948. References in Goudineau 1968 and Stenico 1960, 10.

¹⁹³ Stenico 1966, 11.

¹⁹⁴ Stenico 1960, 1966, 12–13; Goudineau 1968, 348 ff.

¹⁹⁵ Section 2.3.1.

¹⁹⁶ Section 2.3.4.

gent historical trajectory. For instance, it is only because Dragendorff and others started insisting on the compilation of region-wide studies that sigillata became seen as ‘the same everywhere’ – homogeneous and widely spread. Once this step was taken, sigillata became a potential chronological anchor. Its use as a chronological tool for writing history in turn prepared the economic and cultural narratives discussed in the introduction, in which sigillata features as ‘the same everywhere’ and can be used to chart economic and cultural (rather than, or in addition to chronological) patterns.

2.4 WHITHER SIGILLATA?

Before continuing it is crucial to be transparent about this book’s aspirations for sigillata scholarship. It is *not* the aim to get rid of the term terra sigillata, or to say that there can be no definable or productive class of sigillata. Denying an *a priori* essence to this category is a strategy to pull out more of the differences that have previously been erased (the category’s ‘bleeding’), and to challenge scholars to make sense of these differences. To clarify this with a random example: as I am writing this, I am sitting on a chair in the library, as are many others around me. We all sit on our chairs in a slightly different way (this would be the changing meaning suggested by biographical approaches, or the different phases of study in a retrospective history of sigillata scholarship), but no one would doubt the ‘chair-ness’ of the chair, or its difference from other things in the library such as tables or shelves, which are not used to sit on even though this would technically be possible. In this setting, a chair is defined as ‘what one sits on when working in a library’. But imagine a sudden fire in the library. In the instant panic the sturdy library chairs will lend themselves to breaking the windows and opening up an escape route. But so will the tables and the shelves: the difference between them is blurred in this setting, and the ‘chair-ness’ of the chair is no longer evident and relevant. Instead, in the changed setting the chair becomes part of a larger category defined as ‘what one can use to escape from a fire in the library’. Acknowledging how these similarities and differences change from one setting to the next (‘in-the-doing’, in everyday practices) is what this research is about.¹⁹⁷

The goal is to come to understand the historical processes that led sigillata to be defined as a homogeneous, widespread category, in past and present. Deconstruction of the category of sigillata – no longer taking it for granted – is thus an essential prerequisite to putting due emphasis on its historical construction! My account of sigillata scholarship is therefore not a negative one; on the contrary, I believe that rather more could be got out of it. My stance is a pragmatic one. Even if sigillata as a homogeneous category is a modern construct, it is in some ways *well-constructed* and does a lot of useful work in channelling knowledge. It allows archaeologists to date sites to within a couple of decades, it creates a disciplinary coherence, and it spurs economic and cultural reconstructions of the Roman world. But pointing out just *how* it is being constructed, as this chapter did, is necessary to allow sigillata pots to play a more active role in our historical narratives, instead of functioning as neutral props on distribution maps. Again, the credo is that ‘more is in sigillata’.

On the one hand, then, sigillata was being constructed and redefined as it moved in and out of different settings and practices. On the other hand, its ‘construction’ was very physical too: sigillata pots were being produced, distributed, and used, often in widely distant localities. Now that this chapter has introduced the shift in perspective through study of present practices surrounding sigillata, it is time to move onto its past practices. The following chapters will trace how sigillata pots were (re)defined along their trajectories of production, distribution, and consumption in the Roman world.

¹⁹⁷ Theoretically, it follows the lead of Science and Technology Studies, as in Latour 1999, 2005; Law 2002; Law/

Mol 2008; Mol 2002; Pickering 1984. See Van Oyen 2015b for more theoretical implications.

3 Practice before type: sigillata production at Lezoux (1st–2nd centuries AD)

If the previous chapter showed that sigillata has not always been a standardized, homogeneous category in its practices of study, this chapter will extend the same argument to its past practices of production. It will trace the contingent processes leading to the emergence of terra sigillata as a standardized category at the main production site of the 2nd century AD, Lezoux. Instead of a retrospective story of the replacement of one type with well-defined attributes by another, the evolution of ceramic production becomes a situated alignment of practices, skills, and relations. This reframes both the history of Lezoux and the economic models brought to bear on it. But it also has more far-reaching consequences for sigillata's historical role. The historical specificity of sigillata's standardisation and homogeneity is already hinted at by the marked contrast with the ceramics described in the prequel to this chapter. Finally, as a result of its situated 'category-ness' established at Lezoux, sigillata facilitated competition, and shaped a specific trajectory of distribution and consumption, to be explored in the following chapters.

3 . I PREQUEL: BLACK-GLOSS WARES AND PRE-SIGILLATA

Only a long-term perspective will succeed in bringing out the historical specificity of observed patterns and changes (Fig. 3.1). Before examining sigillata production, it is therefore helpful to rewind to the periods of the Republic or later Iron Age in the Western Mediterranean, and to their prototypical table wares, the so-called black-gloss wares. Produced roughly from the 4th until the 1st centuries BC, these fine wares act as the type-fossil for dating Republican contexts; much like sigillata does for later imperial sites. Studies of black-gloss wares have propagated similar concerns of chronology and typology, but have encountered rather more classificatory problems than sigillata scholarship. The first encompassing typology of black-gloss wares recognized three technical groups based on visible differences in clay and firing: Campana A, B, and C.¹⁹⁸ At the time, the general consensus was that these technical differences reflected geographically different production sources: Campania, Tuscany, and Sicily respectively.

Further typological and archaeometrical work soon made it clear, however, that these three groups did not easily map onto production sources.¹⁹⁹ Both technically and geographically the differences proved to be less clear-cut and more variable than initially assumed.²⁰⁰ The production landscape is now recognized to have covered much of northeast Spain, Mediterranean Gaul, and western Italy, and to have been scattered over a multitude of centres with varying output. Whatever model can characterize the production organisation of black-gloss wares²⁰¹, it is clear that production practices did not define products as a standardized and homogeneous category. Instead, forms, clays, firing techniques, production sites, and quality and care of execution betray variability as the defining feature of black-gloss wares. This explains pottery specialists' difficulty in trying to pin down recurrent identifying traits, and a seemingly

¹⁹⁸ Lamboglia 1952.

1998, 2006.

¹⁹⁹ Morel 1981. Summary in Di Giuseppe 2012.

²⁰¹ Di Giuseppe 2012, 23–32.

²⁰⁰ Cuomo di Caprio 2007, 321–325; Morel 1978; Principal

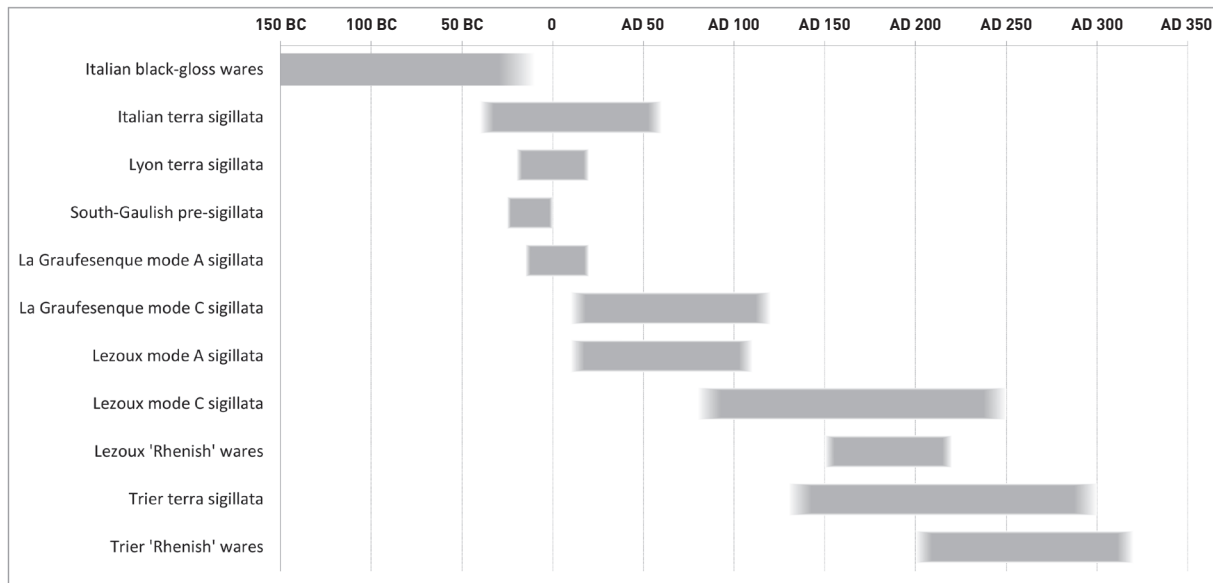


Fig. 3.1. Timeline of main ceramic productions discussed.

never-ending subdivision of the analytical umbrella of 'black-gloss wares'. It is this book's claim that the different propensity to present-day classification of sigillata and black-gloss wares reveals something about their definition in past production practices.

Despite their different definitions, sigillata was both practically and conceptually heir to the black-gloss tradition in the western Mediterranean. Exactly how the transition took shape remains a bone of contention, and should not concern this chapter. What does matter, is that some of black-gloss wares' analytical bleeding is impinging on the start of sigillata production. This manifests itself in terminological debates over 'pre-sigillata' or 'proto-sigillata'. One example are the so-called South Gaulish pre-sigillata: fine wares dated to the last decades of the 1st century BC, whose production sites were scattered across southwest Mediterranean France, in the hinterland of the Roman colony of Narbonne.²⁰² As their name indicates, pre-sigillata pots have been characterized by a formal resemblance to contemporary Italian sigillata, the production of which had started off only a few decades earlier (ca. 40 BC), and which were being imported in the area under study.

Where lies these products' classificatory trap? Formally, they tend to conform to sigillata's dictionary definition introduced at the beginning of this book. Nevertheless, a number of forms derive from earlier regional traditions of pottery production.²⁰³ Similarly, the clays used for pre-sigillata echoed the calcareous clays characteristic of sigillata production, but their variable CaO contents expresses a much wider latitude of variation in clay selection.²⁰⁴ Epigraphic stamps reminiscent of Italian products occur, but are rare. Most crucially, perhaps, firing of South Gaulish pre-sigillata pots was done in a reducing atmosphere, in contrast to terra sigillata. All the while, by playing with the cooling process and in the absence of sintering, the visual red appearance of sigillata vessels could be mirrored.²⁰⁵

These technical parameters sum up the challenge that the pre-sigillata phenomenon poses to the homogeneous and bounded analytical category of sigillata. Scholars have been at pains to protect the latter from the kind of 'leakage' that shaped studies of black-gloss ware for instance. In response, they devised two models to keep pre-sigillata firmly outside of the sigillata category and to maintain the lat-

²⁰² Passelac 1986a, 1986b, 1992, 2009.

'pre-sigillata'.

²⁰³ Martin 2005, 438, 441.

²⁰⁵ Passelac 2001, 2007; Passelac/Léon/Sciau 2008; Picon

²⁰⁴ Passelac 1986b. Bénévent/Dausse/Picon 2002 for other

2002a.

ter's homogeneity. One solution has been to situate pre-sigillata in a teleological history of production: an inferior technique meant that they were just 'not quite' sigillata yet.²⁰⁶ The other option links the observed technological differences to economic opportunities: fully developed sigillata technology only counted as the optimum if long-distance export could render higher investments in production viable.²⁰⁷

I have discussed the historical context and theoretical implications of South Gaulish pre-sigillata in more detail elsewhere.²⁰⁸ What matters for the purpose of this chapter is that this context was one of active colonization, different to the later established empire in which sigillata circulated during the first two centuries AD. The production sites of South Gaulish pre-sigillata were situated in direct relation to loci of colonial intervention: in the colony of Narbonne, or near the villa sites and crossroads that restructured its hinterland.

For now, two lessons follow from this discussion of black-gloss wares and pre-sigillata. Firstly, neither product was defined as a homogeneous category in past production. Their production practices did not maintain an either/or boundary between what counted as black-gloss wares or pre-sigillata and what did not – they did not conform to the analytical 'dictionary' model discussed in the previous chapter. Production sequences could not be summed up by a neatly defined package of traits but were characterized by a seemingly unstructured, 'fluid' variability.²⁰⁹

But why does this matter? The way in which things are defined leads them to create certain possibilities for action, and shapes their trajectory.²¹⁰ Put differently, the trajectory of black-gloss wares and pre-sigillata would have been different to that sketched in the following chapters for sigillata. The point is that these different conditions of possibility would have helped frame what tends to be called the 'historical context'. Black-gloss wares and pre-sigillata did not structure actions in the way sigillata later would as a homogeneous category (cf. following chapters); and the historical conditions of the western Mediterranean in the Republic or of Late Iron Age South Gaul on the brink of colonization were not those of an established empire. In contrast, sigillata enters squarely within the chronology of the Roman empire, and, judging from the success and taken-for-grantedness of its dictionary definition discussed in the previous chapter, it is likely that it was defined as a homogeneous category in production at some times and places. But before running ahead, empirical detail needs to be added to the long-term perspective of changing definitions of table ware production.

3.2 REVISITING THE STARTING POINT

The brief discussion of black-gloss wares and pre-sigillata helps to gage the historical specificity of what follows. But now the discussion will zoom in on a single production site and slow down to describe changes and continuities at a higher resolution. Lezoux (Central Gaul), the main sigillata production site in the 2nd century AD, allows for such a fine-grained description.

Having shaped both sigillata scholarship and sigillata's production in Roman times, Lezoux is the ideal case study. Maurice Picon did a landmark study on the technological changes in sigillata production at Lezoux, which exerted a large influence on the conceptualization of sigillata.²¹¹ As a result, Lezoux generally features as the key example for the transition between so-called 'imitation' or 'cheaper' (mode A firing²¹², non-calcareous clays, non sintered slips) and 'real' (mode C firing, calcareous clays, sintered slips) sigillata. Furthermore, Lezoux has the empirical benefit of offering insight into a long-term centre of ceramic activ-

²⁰⁶ Bémont 1990; Hoffmann 1995, 391; Wells 1990.

²⁰⁷ Picon 2002a (see next section).

²⁰⁸ Van Oyen 2013, 2015c.

²⁰⁹ Van Oyen 2013, 96–99.

²¹⁰ Not unlike how Harding 2005 tries to negotiate struc-

ture and event.

²¹¹ Picon 1973.

²¹² See sections 2.1.1 and 2.1.2 for clarification of firing modes.

ity, its technology, spatial organisation, and products. And Lezoux's exceptional success as a sigillata production centre in the 2nd century AD justifies its use as a basis for analysing how that production was defined.

The previous chapter touched upon Picon's model of the technological transition, but it is worth reiterating it as it stands as the current orthodoxy on the issue. Picon sought to undermine the teleological idea that the first production sequences of those centres that eventually developed 'mode C' sigillata (such as Lezoux) equal a period of trials or apprenticeship instead of being fully developed phases in their own right.²¹³ His alternative is a model of opportunistic economic calculation: mode C production with special kilns and high firing temperatures demanded increased investment, which was viable only in the case of guaranteed massive long-distance export; in other cases the cheaper mode A products would have suited regional demand.

A series of observations does indeed seem to endorse this model. First, experimental studies have shown that firing in an oxidizing atmosphere (mode C) necessitates higher firing temperatures, longer firing and more fuel to obtain similar chemical transformations of the clay (e.g. sintering).²¹⁴ Hence mode C sigillata would indeed require a higher production cost and more investment than its predecessors. Secondly, the technological trials visible in the archaeological record cannot be claimed to cover a time span significant enough to be accounted for by fully spontaneous internal development.²¹⁵ At first sight, this seems to point to a new 'template' of mode C sigillata being brought in instead of being developed locally. Thirdly, for most production centres the switch to mode C firing went hand in hand with expansion of long-distance distribution, as predicted by Picon's interpretation.²¹⁶ And finally, the landscape of production organisation is different for mode C sigillata as compared to previous black-gloss wares or pre-sigillata, with a limited number of large-scale and few if any smaller or intermediate centres in the former case, against a bimodal pattern of workshop sizes in the latter case.²¹⁷

But Picon's model assumes a dictionary definition as the template for two 'catalogue entries' of sigillata: a universally cheaper (mode A firing) and a more expensive (mode C firing) one. These are presented as 'well-defined'²¹⁸ choices weighed by the merchants (*negotiatores*). If economic opportunity allowed, the traders would decide to switch from one type of production to the other. The problem is that this is a retrospective approach to terra sigillata production, which lays full agency with external actors (traders) and does not account for the impact of such a switch on the practice of pottery production, the community of potters, or the local understanding of the products. Moreover, the prequel to this chapter has shown that not every ceramic production was defined in the way assumed by dictionary definitions – as a homogeneous category with a limited set of attributes. Consequently, the starting point is in need of revision: this can no longer consist of already defined types and dictionary definitions.

3.3 MICACEOUS LEZOUX WARE OR MODE A SIGILLATA?

This section discusses the production practices of a specific kind of pottery produced at Lezoux prior to mode C sigillata. This product has variously been described as micaceous (i.e. with non-calcareous fabric) Lezoux ware or mode A (i.e. fired in a reducing atmosphere) sigillata. Following Picon's model of weighed economic opportunities, it tends to be modelled as a clean-cut package of traits, a strategic alternative to the more expensive mode C sigillata. But is this how it was defined in practices of production?

²¹³ Picon 2002a, 347; Delage 1998, 286.

²¹⁴ de Casas/Fernandes 2002; Fernandes/Fernandes/de Casas 2005.

²¹⁵ Judged on the basis of current evidence (and dating accuracy). Detailed evidence from these transitional periods is lacking for most production sites.

²¹⁶ Picon 2002b.

²¹⁷ Bémont/Jacob 1986; Picon 2002a, 350–353. But especially in Italy recent discoveries caution for a distortion by research histories, as more smaller-scale sigillata workshops are retrieved (see Van Oyen 2015d).

²¹⁸ Picon 2002a, 348.

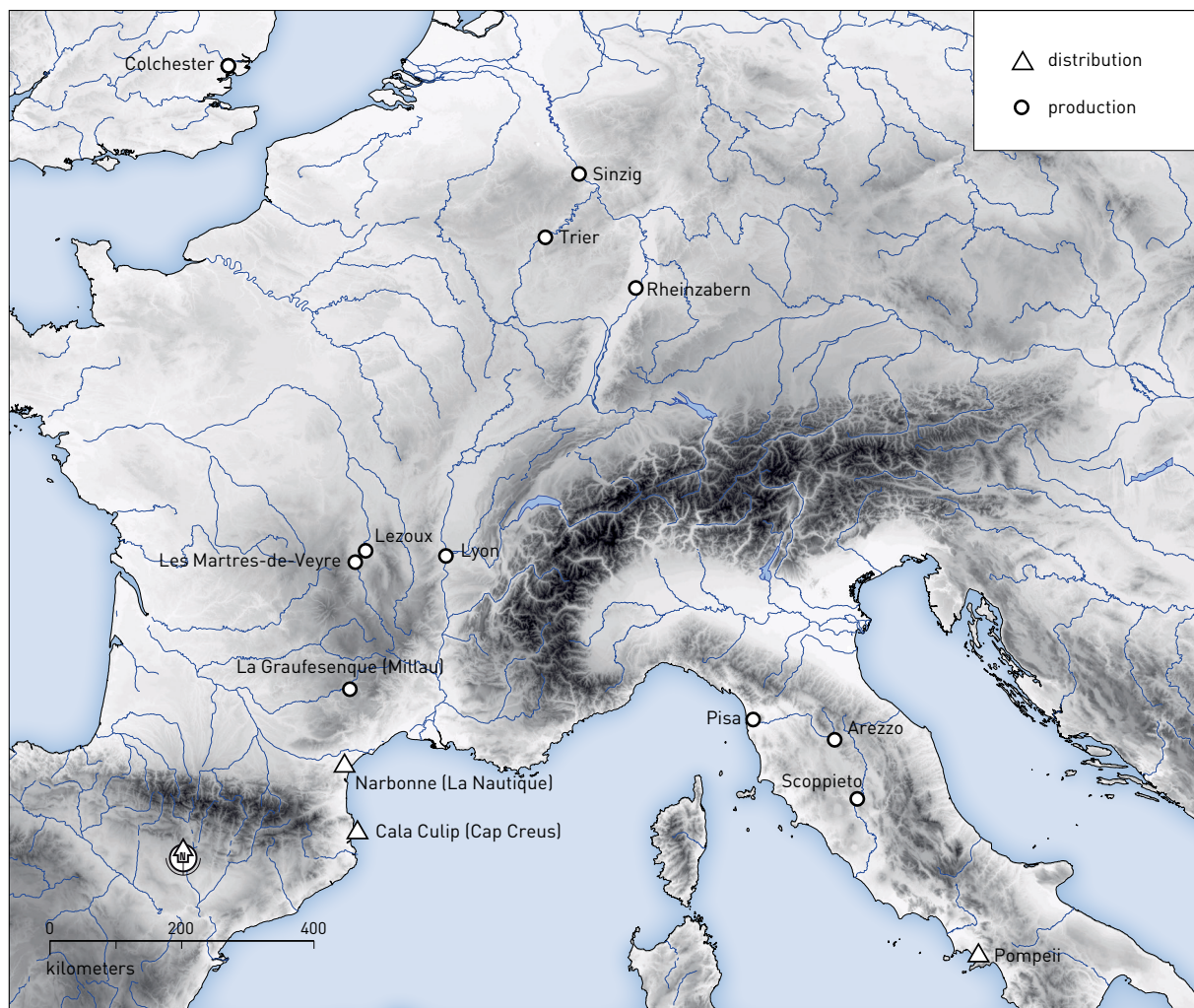


Fig. 3.2. Location map of production sites (dots) and distribution assemblages (triangles) discussed.

3.3.1 SITUATING LEZOUX

Lezoux is situated in the Auvergne, at the eastern end of the Massif Central (Fig. 3.2). During the Late Iron Age (La Tène II), a large political and economic constellation developed, the *Arverni* ‘kingdom’.²¹⁹ It benefited from the region’s wealth of metal mines – especially gold and iron – to gain control over the entire Massif Central and over a large part of the Gaulish communication networks.²²⁰ Lezoux was located at about 20 km east from *Augustonemetum* (present-day Clermont-Ferrand), the capital of the *Arverni* from the late 1st century BC onwards²²¹, and yielded several traces of activity during the La Tène period: burials, drains, and sheds and other structures.²²² Although the region witnessed imports of amphorae and tableware and even some local production of black-gloss fine wares, and was generally well connected with the rest of Gaul, contact with the Mediterranean was of limited intensity. Caesar’s

²¹⁹ Collis/Duval/Perichon 1983 and Mills 1985 on the La Tène period in the region.

²²⁰ Daugas/Malacher 1976, 744–746; Daugas/Raynal/Tixier 1982. Mangin 1988 and Ramin 1974 on evidence for metal mines in the Roman period.

²²¹ Bet/Delor 2002, 238. The hillfort of Gergovie was the previous central place, following the lowland site of Aulnat. Drinkwater 1983 and Goudineau 1996 for a general history of Roman Gaul.

²²² Bet/Vertet 1986, 139.

conquest of Gaul around the middle of the 1st century BC left its marks, and the collapse of the *Arverni* returned the region to a rather secluded state.

During the imperial Roman period, however, the site of Lezoux became again relatively well connected, with access to the river Allier, a subsidiary branch of the Loire, at about seven kilometres, and near the reconstructed route of the road linking Lyon to Bordeaux. All Central Gaulish sigillata production sites were scattered in the immediate surroundings of Lezoux and were administratively part of the *provincia Aquitania*. As noted for other important sigillata production centres such as La Graufesenque in South Gaul, Lezoux did not have obvious strategic, economic or political assets to become one of the leading exporters of sigillata. The status of the site remains unclear, and the tendency is to picture a rural site depending on a *vicus*, although the precise political and legal implications are obscure.²²³ Evidence for domestic activity decreases beyond a radius of three to five kilometres from the production site.²²⁴ The fertile plains of the Limagne spreading northwestwards from Lezoux covered a homogeneous clay layer, which was agriculturally exploited. The ceramic workshops were installed on adjoining heights with less fertile sandy soil.²²⁵ No craft activity other than pottery production has yet been attested at Lezoux.

3.3.2 CERAMIC PRODUCTION PREDATING THE ROMAN PERIOD

This tale of production practices begins at the end of the Iron Age with a series of black-gloss ceramics inspired by Italian imports, produced from the 1st century BC onwards on a number of sites around Lezoux. In the regions of Forez and Roannais, for example – to the northeast of the Massif Central – Campanian imports triggered a series of local (as yet unprovenanced) black-gloss products, with a fine fabric, reducing firing, and a restricted form repertoire.²²⁶ Excavations at Aulnat, an important undefended settlement occupied until 40–20 BC, have yielded evidence of '[i]mitation Campanian bowls (...) locally made with stamped palmettes'.²²⁷ These black-gloss products complemented a traditional Late Iron Age set of bowls and cooking pots in reduced coarse wares, and of imported amphorae and table wares.

Although production of these black-gloss wares has not been attested at Lezoux itself, a Late Iron Age kiln has been discovered on the site.²²⁸ The kiln is of a widespread (sub)circular type with a central pillar, a presumably permanent (but not preserved) floor and little use of prefabricated elements such as bricks.²²⁹ Parallels can be found throughout France, for example at La Lagaste (Aude valley), or closer to Lezoux at Clermont-Ferrand.²³⁰ Both open and closed ceramic forms were wheel-turned, with a dominance of greyish or black fabrics, as paralleled at Aulnat. Imports were absent from this context. At the end of the Iron Age, pottery production was thus a well-established craft at Lezoux and in its wider region, most likely coordinated by specialists, who mastered the techniques of modelling on the fast wheel and of controlling the firing atmosphere.²³¹

²²³ Bet/Delage/Vernhet 1994, 44; Bet/Vertet 1986, 138.

²²⁴ Bet/Vertet 1986.

²²⁵ Bet/Delor 2002, 238.

²²⁶ Sanial/Vaginay/Valette 1983.

²²⁷ Collis 1980, 44, 48; Collis/Duval/Perichon 1983.

²²⁸ Mennessier-Jouannet 1991.

²²⁹ The eastward orientation corresponds to that of most kilns of Roman date and reflects the dominant wind direction (Mennessier-Jouannet 1991, 118).

²³⁰ Daugas/Malacher 1976; Rancoule 1970.

²³¹ Mennessier-Jouannet 1991, 126.

From around AD 10 onwards evidence of ceramic production at Lezoux increased considerably.²³² By then Italian sigillata had become a consistent element of imports in the Auvergne, and sigillata forms were incorporated in the repertoire of the so-called ‘micaceous Lezoux wares’ (AD 10 – early 2nd century AD).

A number of other ceramic production centres in Central Gaul have yielded sparse evidence of precocious production of sigillata forms, but of very unequal importance compared to Lezoux.²³³ Recent research has proven that the site was organised from the start in different workshop groups, which were close but spatially distinct. As such its multifocal lay-out was not a consequence of later expansion, but structured the site from its very beginning.²³⁴ During the first half of the 1st century AD, three groups were already active: the *Ligennes* group, for which only the production of colour-coated wares is attested in its earliest phase; the workshops of the *Route de Maringues*, where a ditch filled with production waste of mode A sigillata (micaceous Lezoux ware) was unearthed; and the workshops of the *rue Saint-Taurin*, the core of the early installation of mode A sigillata production. With regard to the latter group Vertet first advanced the hypothesis that sigillata production at Lezoux took place as early as the Tiberian period (first half 1st century AD).²³⁵ The study of collections (e.g. Plicque collection²³⁶) feeds the presumption that other early imperial workshops remain to be discovered at Lezoux.²³⁷

A wide range of ceramics was being produced at Lezoux from the early first century AD onwards, including colour-coated wares (*céramiques engobées*) with a white, red (jugs, jars, urns) or black (*terra nigra*: cups, plates) surface; lead-glazed ceramics with a green-yellowish surface; Pompeian red ceramics with a slipped interior surface; non-slipped fine wares, painted or not; and various beakers.²³⁸ Some of these products, such as the lead-glazed and Pompeian red ceramics, did not continue after the first half of the 1st century. The considerable production of thin-walled ceramics including so-called *Aco-beakers* did not start until the second half of the 1st century.²³⁹ Coarse wares and other clay products such as lamps, figurines, and architectural elements complemented Lezoux’s repertoire.²⁴⁰ Any analysis of micaceous Lezoux ware has to be evaluated against the backdrop of this polyvalent ceramic production.

3 . 3 . 4 TECHNOLOGICAL CHOICES

Micaceous Lezoux ware has been labelled as ‘sigillata’ production because its forms are identical to those of sigillata products elsewhere: first the principal forms of Italian tradition, later the adoption of sigillata forms developed in South Gaul.²⁴¹ But this typological influence was selectively adopted and recombined. Some forms were mutually exclusive between South and Central Gaul: production of Ritt. 9 is not attested at Lezoux; whereas Central Gaulish production sites in turn developed a specific variant of Drag. 29 (Vertet 28) in both a plain (with a hatched decoration) and a moulded version.²⁴² Such transformations in turn branched into aspects other than form, as evidenced by the fact that form Vertet 28’s inner

²³² This starting date has only recently been moved forward into the end of the Augustan period (Bet/Delor 2002, 241).

²³³ Certainly Coulanges, and possibly Nérès-les-Bains and Yzeure (Bet/Delor 2002, 236–238). Other sites (Courpière) follow after AD 30/40 (Delage 1998, 278).

²³⁴ Bet/Delor 2002; Chuniaud 2002, 247.

²³⁵ Vertet 1967.

²³⁶ See section 2.3.1.

²³⁷ Delage 1998, 276.

²³⁸ Bet/Delage/Vernhet 1994, 50, footnote 37; Brulet/Vilvorder/Delage 2010, 286–295; Greene 2007.

²³⁹ See Greene 1979.

²⁴⁰ The Italian origin of most of these technologies has been (over)emphasized, whereas other types, such as large storage urns, tend to be attributed to a ‘local’ tradition (Bet/Delor 2002, 235–236). See Van Oyen 2013.

²⁴¹ Brulet/Vilvorder/Delage 2010, 109 ff.

²⁴² Bet/Delor 2002, 24; Vertet 1967, 279–283, 1968.

surface was never slipped, and its mould always lacked a base. This local solution was in turn applied to other forms, such as Drag. 11, whose mould always included a base in Italian production, but variably included or lacked one at Lezoux.²⁴³

Sigillata forms were not only selectively adopted; they were also not restricted to the (mode A) 'sigillata' production sequence. Instead the same form could cross multiple ceramic classes, as illustrated by examples of the (South Gaulish) sigillata form Drag. 29 executed in lead-glazed ceramics at Lezoux.²⁴⁴ This is a first hint that there was no either/or boundary delineating a homogeneous category of sigillata at Lezoux at this stage. It follows that it would be wrong to extrapolate from the presence of a 'sigillata' form to that of a 'sigillata' package (with specific forms exclusive to a specific production sequence). Instead permeability between different production sequences seems to have been part and parcel of the ceramic landscape at Lezoux at the time.

The clays used to produce the first sigillata forms at Lezoux did not in any way differ from those employed for the other ceramic products, be they coarse or fine wares.²⁴⁵ The chemical signature of these fabrics is largely determined by quartz and mica inclusions, based on non-calcareous clays, containing generally less than 2 % and certainly less than 4 % CaO.²⁴⁶ This is in marked contrast to contemporary Italian sigillata, which were at least known through imports, and the composition of which is generally calcareous (between 9 and 11 % CaO). The abundance of both calcareous and non-calcareous clay beds in the region of Lezoux rules out environmental determinism.²⁴⁷ So how to account for this preference?

Another technological choice that differed markedly from the 'sigillata' package helps answer this question. Micaceous Lezoux ware was fired according to Picon's mode A, with a reducing firing and oxidizing cooling atmosphere. The temperatures did not exceed 900/950 °C, and were fairly uneven: considerable variation was permitted on the respective maximum temperatures reached during each firing event.²⁴⁸ The majority of kilns dated to the 1st century AD are of a circular type derived from the Late Iron Age kilns discussed above, and attested during the same period at other production sites in Central Gaul such as Coulanges.²⁴⁹

Firing mode A led to an orange-red exterior colour (Fig. 3.3), like imported sigillata, but with two important caveats: firstly, the red colour could not be guaranteed as with mode C firing, and secondly, the slip – often very thin²⁵⁰ – on the finished vessels tended to be non-sintered; both in contrast to contemporary Italian sigillata. These remarks tie in with the use of non-calcareous clays. In order to obtain a red exterior colour through reducing firing it was essential that sintering did not occur, in order to allow for re-oxidization (black to red) of the slips during the oxidizing cooling phase (when fresh air was allowed into the kiln). If sintering did occur, the black colour taken on by the slip during reducing firing would be irreversible, and would not turn red again during the cooling phase. The low CaO content of non-calcareous clays acted as a 'safety' mechanism to limit the risks of sintering and hence guarantee a red exterior colour despite the reducing firing atmosphere.²⁵¹ The use of refractory slips with low vitrification susceptibility reinforced this mechanism.²⁵²

Two elements thus seem to have been key to the perception of possibilities in the production sequence of micaceous Lezoux wares. First, non-calcareous clays and a reducing firing atmosphere were mutually implicated in practice. This went back to a long (at least Late Iron Age) tradition of craft and know how²⁵³, and aligns with observations from the history of techniques where the first constellation that 'works' (whatever that means contextually) is only very rarely abandoned²⁵⁴. A second key element

²⁴³ Vertet 1967, 285.

²⁴⁴ Vertet 1968, 30.

²⁴⁵ Picon/Vichy/Meille 1971, 195.

²⁴⁶ Brulet/Vilvorder/Delage 2010, 10; Picon 1973; Picon/Vertet 1970; Picon/Vichy/Meille 1971, 193.

²⁴⁷ Picon/Vertet 1970, 212.

²⁴⁸ Brulet/Vilvorder/Delage 2010, 108; Picon 1973.

²⁴⁹ Bet/Delage/Vernhet 1994, 47.

²⁵⁰ Vertet 1967, 257.

²⁵¹ Picon 1973.

²⁵² Picon 2002b, 150.

²⁵³ Picon/Vertet 1970, 213.

²⁵⁴ Lemonnier 1993. See also Rice 1984; van der Leeuw 1993.



Fig. 3.3. Fabric and surface detail of micaceous Lezoux ware (1st century AD). © Centre de Recherches d'Archéologie Nationale, UCL. From Brulet/Vilvorder/Delage 2010, 108 (with permission).



was the possibility of obtaining a red exterior colour, in all likelihood following the typological correspondence with imported sigillata (although micaceous Lezoux wares did not strictly maintain the combination of form and surface treatment prevalent in imported sigillata). In sum, reproduction of the appearance of imported sigillata was met by the means and logic at hand within a long-embedded knowledge system.

In consequence, it is unwarranted to posit that the parameters within which micaceous Lezoux ware developed were congruent with those observed for contemporary Italian (and South Gaulish) sigillata products. This was hinted at by the fact that form and surface treatment were not exclusively correlated, but it is also evidenced by the latitude of variation allowed for in other technological choices. Both fabric and slip were subject to major colour variations, accounted for by Vertet as the result of deficient techniques and problems with firing.²⁵⁵ But instead of a 'deficient technique' – which was anything but true within a long-surviving craft tradition – the consistency of the bright red colour as in Italian sigillata may simply not have been a parameter by which to evaluate early Lezoux products. Instead a particular historically engrained combination of 'how to select the right clays' and 'how to fire them' defined the space for change and variation in other technological choices. Put differently, there existed no either/or boundary defining what counted as 'micaceous Lezoux ware' (or 'mode A sigillata') and what did not, and delineating a package of mutually implicated traits.

That the appearance of Italian sigillata appealed to Lezoux potters is highlighted by the formula *aretinum fecit*, alluding to an affiliation with production in Arezzo, Italy. This is not only attested on products from Lezoux, but also on specimens from Italy, Lyon and La Graufesenque (Fig. 3.2 for location) – used on mode A sigillata in the latter two cases.²⁵⁶ The existence of such a shared point of reference for those forms is corroborated by evidence for contact and migration between Italy, South and Central Gaul. On

²⁵⁵ Vertet 1967, 257.

²⁵⁶ Desbat/Genin/Lasfargues 1996, 28; Hoffmann 1995,

399–400; Genin/Hoffmann/Vernhet 2002, 67. Poblome/Brulet/Bounegru 2000, 280 for Eastern Sigillata B.

the one hand, there are indications of potters moving to Lezoux after having worked in South Gaul, but on the other hand, a mould found at La Graufesenque with a chemical signature corresponding to Lezoux clays confirms multidirectional influences.²⁵⁷ Moreover, this particular mould reproduces a decorative scheme initiated by the Italian mould-maker Perennius. But while Arezzo may well have existed as a notional ideal, these exchanges entailed only minor alterations to the existing *chaîne opératoire* at Lezoux.

More than 150 names have so far been recorded on stamped early Lezoux sigillata.²⁵⁸ The sheer number testifies to a substantial production volume from the earliest phases onwards. Despite vigorous debates concerning the function of stamping, Bet, Gangloff and Vertet conclude specifically for Lezoux that the initial use of epigraphic marks fitted within a logic of copying Italian models.²⁵⁹ As such, the introduction of the practice of stamping can be reconciled with the overall impression of a reproduction of the appearance of imported sigillata, within existing ways of doing.

A similar story holds true with regard to the decoration of moulded vessels. Nevertheless, from the Flavian period onwards, new styles can be discerned – especially in relation to the core group of workshops at Saint-Taurin – and it appears that the Central Gaulish potters started to distinguish their own styles from those of South Gaul.²⁶⁰ Nevertheless, the varying quality of finished moulds and decorated vessels demonstrates that a substantial degree of latitude existed at this stage of production too.²⁶¹

3.3.5 DISTRIBUTION

Lezoux dominated the provisioning of sigillata forms in zones on or near the major fluvial commercial axis of the Loire and its subsidiary the Allier during its earliest decades of activity, reaching onto the Armorican coast (Fig. 3.4).²⁶² Distribution via the Loire estuary is consistent with a western and southern bias in the pattern of supply to Britain.²⁶³ From AD 30/40 onwards, the massively increased export volume of the South Gaulish centres overtook these zones. While the extent of Lezoux's distribution did not shrink notably, its relative importance did decrease, and the site seems to have maintained its momentum only owing to its other ceramic products. Because sigillata at Lezoux was not a separate product category at this stage but a loosely articulated stylistic assemblage (form, colour, stamps), the site was more resilient to 'competition' in that same stylistic range. Put differently, Lezoux potters did not have to radically shift from one production sequence (sigillata) to another, but merely had to replace forms and finishings that failed to catch on with alternatives. Hence if not the product flow, at least the distribution network established in the Tiberian period seems to have been maintained after AD 30/40.²⁶⁴

The extra-regional distribution pattern of these mode A sigillata pots partly undermines Picon's equation between increased investment and long-distance distribution. Moreover, even for these early Lezoux sigillata pots preferential supply to the military – one of the main catalysts for investment in the 'mode C' technical package following Picon's model – can be noted, at least in Britain.²⁶⁵ But, as Willis suggests, '[e]arly Lezoux ware may simply have become part of a general 'pool' from which the army acquired its samian, rather than have been ordered from consignments from its source'.²⁶⁶ If valid, this observation opens up a tantalizing window on another redefinition of micaceous Lezoux ware, which in practices of distribution and exchange might have been perceived as equivalent to South Gaulish (and Italian) sigillata, despite a fundamentally different production template.

²⁵⁷ Bet/Delage/Vernhet 1994, 43–44; Bet/Delor 2002, 241; Hoffmann/Juranek 1982; Vertet 1967, 257–262.

²⁵⁸ Bet/Delor 2002, 238.

²⁵⁹ Bet/Gangloff/Vertet 1987, XI.

²⁶⁰ Brulet/Vilvorder/Delage 2010, 114.

²⁶¹ Vertet 1967.

²⁶² Delage 1998 for distribution of Lezoux sigillata per production phase.

²⁶³ Willis 2005, 6.4.6.

²⁶⁴ Delage 1998, 278.

²⁶⁵ Willis 2005, 6.4.3.

²⁶⁶ Willis 2005, 6.4.6.



Fig. 3.4. Distribution map of micaceous Lezoux ware (first half 1st century AD). Zone A: Central Gaulish sigillata dominant and present in large quantities on most sites; zone B: Central Gaulish sigillata not dominant, but regularly present on most sites; zone C: Central Gaulish sigillata rarely present. Based on data in Delage 1998.

3.3.6 AN ANCHORED KNOWLEDGE SYSTEM

Bet and Delor emphasised the sudden large-scale investment in pottery production at Lezoux apparent around the beginning of the 1st century AD.²⁶⁷ The discrepancy between the 150 recorded potters' names for the 1st century and the single kiln dating to the Late Iron Age – despite regular excavations – is at least remarkable. We are however left in the dark on the origin of this investment.²⁶⁸ What we can observe is how this early sigillata production was grasped and defined through its production practices. These continued a long regional tradition of pottery production revolving around an alignment between non-calcareous clays and reducing firing. This anchored tradition remained unchallenged: despite the introduction of new forms inspired by Italian and South Gaulish sigillata imports, the region only had sporadic and superficial contacts with the Mediterranean basin.

²⁶⁷ Bet/Delor 2002.

²⁶⁸ Trément 2010, 94 links investment at Lezoux to the

comparatively large agricultural sites (*villae*) south of Lezoux.

Intertwinement between different product classes (e.g. ‘sigillata’ forms with various kinds of surface finishing) and considerable latitude within technological choices (e.g. firing temperatures, colour) illustrate that the production of micaceous Lezoux ware did not conform to the characteristics of a dictionary definition. Instead, this latitude of variation allowed for the accommodation of a new need – triggered by the sigillata imports – by weaving it into the previously embodied practices of production. This narrative counters Vertet’s opinion that the lack of homogeneity in the technological choices of micaceous Lezoux ware betrays a period of evolution, adaptation, and resistance in reaction to the intrusion of sigillata as a marker of another ‘civilization’.²⁶⁹ On the contrary, despite constant changes (new forms, new decorations), the anchored ways of producing ceramics remained unchallenged. Sigillata forms were but another series of new shapes to be learned by trial and error, and passed on in a similar practice of teaching or apprenticeship²⁷⁰ as the existing repertoire, which was itself subject to continuous change.

Whether the product described above should be called ‘micaceous Lezoux ware’ or ‘mode A sigillata’ thus depends on whether or not sigillata scholars are willing to acknowledge the different possible ways in which sigillata could have been defined – beyond the homogeneous category, which had no conceptual leverage in this case. Mode A sigillata at Lezoux was very much a local product, embedded in a long tradition of making sense of pottery production. But the fact that it was not defined as a homogeneous category also means that we should refrain from projecting the same historical trajectory onto mode A sigillata as the following chapters will describe for mode C sigillata!

3.4 SIGILLATA PRODUCTION AT LEZOUX

From the end of the Flavian period onwards (second half of the 1st century AD) technological choices occurred which did not fit the previously anchored knowledge system. The scarcity of archaeological evidence for the crucial transitional decades has meant that various models have been proposed to account for this transition: from an evolutionary scheme to an economic equation, as discussed above. But as these models have started from mode A and mode C sigillata as similarly defined and comparably homogeneous packages, they have failed to trace the situated process by which these changes took hold. How did these empirical changes relate to changes in how the product(s) and its (their) production sequence(s) was (were) defined?

3.4.1 DIFFERENCES IN PRACTICE

The empirical changes towards the end of the 1st century were linked to differences in practice, in the on-the-ground experience of pottery production – in contrast to the earlier changes related to micaceous Lezoux ware. A first series of changes in practice concerns the landscape of sigillata production in Central Gaul and the different production groups at Lezoux. These are important, because the transition under study tends to be ascribed to an organisational transformation following a new wave of investment.²⁷¹ Among the Central Gaulish sigillata production sites, Les Martres-de-Veyre was Lezoux’s main contender (Fig. 3.2).²⁷² Production of fine and coarse wares there took place from the 1st century AD onwards, within a matrix of mixed craft activities and domestic occupation.²⁷³ Sigillata production was introduced fairly rapidly at the site – certainly no later than AD 90 – and played a pioneering role in the transformation of sigillata production in Central Gaul.²⁷⁴ At least some of the 2nd century sigillata

²⁶⁹ Vertet 1967, 286.

²⁷⁰ Cf. Wallaert-Pètre 2001.

²⁷¹ Delage 1998, 280.

²⁷² Romeuf 2001; Brulet/Vilvorder/Delage 2010, 125–129.

²⁷³ Romeuf 2001, 18 ff.

²⁷⁴ Delage 1998, 280–281.

workshops supplanted and destroyed earlier (1st century) habitations²⁷⁵, hinting at a change in organisation, and possibly a shift in structures of investment. Not only have the observable correlates of mode C sigillata production been recognized at an earlier stage at Les Martres-de-Veyre than at Lezoux, also in terms of the quantity of exported vessels (e.g. to Britain²⁷⁶) Les Martres was the leader around the turn of the 1st century AD. For example, bowls decorated by a single mould maker (the so-called *Potier à la Rosette*) have been executed with calcareous clays and sintered slips when produced at Les Martres-de-Veyre, but lack these features when originating from other Central Gaulish sites. A very hard-fired fabric (on the verge of being overfired) often characterizes sherds from Les Martres-de-Veyre

Around the middle of the 2nd century, however, the sudden success of Les Martres-de-Veyre started to fade, and Lezoux took over again. Nevertheless sigillata production at the site lasted until the later 2nd century AD, alongside other crafts and milling activities.²⁷⁷ In addition, a number of sites developed along the Allier river: close interaction with Lezoux justifies the term ‘satellites’ for Terre-Franche and Lubié, but a significant degree of stylistic and formal divergence from Lezoux sets the products from Toulon-sur-Allier and Gueugnon apart.²⁷⁸

The technical transition (from mode A to mode C) at Lezoux went hand in hand with a spatial relocation of the core of the activity: whereas the *Saint-Taurin* workshop group – most active up till then – progressively halted its (mode A) sigillata production, the *route de Maringues* group – which so far had brought forth a range of fine and coarse wares – became the seat of the new mode C sigillata production.²⁷⁹ It remains unclear who invested in this revival of sigillata production at Lezoux, although it seems likely that investors were distinct from those responsible for the previous pottery activity at Lezoux – including the mode A sigillata.²⁸⁰ At the *Ligonnes* group for example potting infrastructure replaced structures for agricultural exploitation in the 2nd century²⁸¹: it follows that patterns of land ownership were implicated in the organisational overturn. It seems very likely that land ownership provides the missing link of investment, which is bound to elude scholars given its limited archaeological visibility. One hypothesis – supported by the milling infrastructure at Les Martres-de-Veyre – is that pottery investment and workforce were closely integrated with agricultural activities, possibly on a seasonal basis.²⁸² Another entirely hypothetical connection links this new wave of investment to the exploitation of the metal mines in the mountains bordering the Massif Central to the west of Lezoux.²⁸³ Such exploitation was in place at least from the Late Iron Age onwards, and parallels an earlier association between South Gaulish pre-sigillata and metal mining.

The spatial relocation to the *Maringues* group was associated not only with new investment but also with a series of new prolific workshops such as those of Libertus and Butrio. Traditional explanations assume an influx of ‘real’ sigillata potters with a conceptual and practical template of a homogeneous category of sigillata, which was eventually adopted in unchanged form by the other Lezoux potters.²⁸⁴ Although presented as somewhat of a caricature, such a claim at least requires investigation into the situated practices of production to trace *how* this replacement happened. Moreover, for La Graufesenque in South Gaul – which had witnessed its own transition from mode A to mode C sigillata production²⁸⁵ – it has been shown that the same names (e.g. Ateius) occur on contemporary sintered (mode C) and non-

²⁷⁵ Romeuf 2001, 18–22.

²⁷⁶ Marsh 1981; Willis 2005.

²⁷⁷ Romeuf 2001, 24 ff.

²⁷⁸ Bémont/Jacob 1986, 153–156, 166–170; Brulet/Vilvorder/Delage 2010, 96–97; Delage 1998, 286–288.

²⁷⁹ Delage 1998, 281. Plicque’s collection stems from excavations in this zone, and contributed to a standard image of ‘sigillata’ as shiny and bright red.

²⁸⁰ Dannell 2002.

²⁸¹ Bet 1988.

²⁸² Martin Millett, pers. comm.

²⁸³ Trément 2010; Daugas/Malacher 1976.

²⁸⁴ Bet/Gangloff/Vertet 1987, XII.

²⁸⁵ Genin/Hoffmann/Vernhet 2002; Genin/Vernhet 2002. Cf. finds in the region of Lyon: Desbat 2004; Desbat/Picon 1992; Picon/Lasfargues 1974.

sintered (mode A) specimens.²⁸⁶ At the very least, this points to a more complex process than one of a simple replacement of potters and types.

This does of course not answer the questions of who these new potters were, where they came from or why they ventured to produce sigillata at Lezoux. In any case, highly complex chains of ‘wandering potters’²⁸⁷, mutual contacts between different production centres, economic, military²⁸⁸ and political considerations need to be borne in mind. It seems likely that influence did not flow unidirectionally from Italy over South Gaul to Central Gaul, but that more complex mazes of contact were woven between Italy, the Rhône valley, the centres of the South Gaulish pre-sigillata, La Graufesenque, and Lezoux, as was the case earlier in the 1st century.²⁸⁹ A number of forms and figure types were shared between Lezoux and La Graufesenque. It is possible that Italian (especially Arretine) potters made their way to Lezoux (or at least exerted considerable direct influence at Lezoux) prior to or contemporaneously with La Graufesenque, where mode C sigillata production was nevertheless established earlier. Furthermore, on the basis of the plasticity of his figure-types, it has been suggested that Libertus – one of Lezoux’s prolific potters – was originally a metalworker, adding another touch of cross-craft complexity to the interactions involved.²⁹⁰

While new workshops, investments, and relocations can all be expected to have had significant impact on the day-to-day practice at Lezoux, arguably the change introducing the most pronounced rupture in the practices of pottery production concerned the clays used.²⁹¹ Comparison of the average CaO contents of sigillata produced at Lezoux shows a distinctive switch to calcareous clays: 2,1 % for the 1st century compared to 9,8 % for the 2nd century.²⁹² This is all the more significant since ‘[n]on-calcareous pastes continue to be used, in the main, for coarse pottery as in the 1st century’.²⁹³

The distinction between calcareous and non-calcareous clays would have been either visible, or in any case obvious through some simple empirical trials and manipulations. Whereas the hue of the former tends to become brighter with increased firing temperature – veering towards yellow – the latter’s coloration inclines towards darker brown under the same conditions.²⁹⁴ As such, the change from one type of raw material to the other would have entailed both a conceptual (different categorization of ‘good’ and ‘bad’ clays for sigillata) and a bodily (different clay beds, routes, preparation, etc.) reformulation of practice. In addition, large paved areas for clay preparation dated to the middle of the 2nd century and beyond also testify to a change in techniques and organisation (different types of clays demanding different treatment in a different setting).

It is beyond doubt that this shift in clay use impacted on structures of land ownership, if these had not initiated it, as discussed above. Possible technical advantages of calcareous clays could have included a better adherence of the slip, a more shiny aspect of sintered slip, and, especially, a larger phase of quasi-inertia between 900 and 1100°C, reducing the risks of overfiring.²⁹⁵ Nevertheless, the precise response of calcareous clays to different temperatures and firing modes is far from unravelled, and the chemical reaction seems to be complex.²⁹⁶ It is clear, however, that the shift to calcareous clays was the prime mechanism to differentiate sigillata from other products.

The second element of the transition that sigillata scholarship has traditionally emphasized concerns the nature of the slip, and – in a causal relationship – the firing techniques. By the middle of the 2nd

²⁸⁶ Picon 2002b, 160; Comfort 1962; Hofmann 1992.

²⁸⁷ Hartley 1977; Vertet 1967, 260–261.

²⁸⁸ Delage 1998.

²⁸⁹ E.g. Hoffmann/Juranek 1982; Bet/Delage/Vernhet 1994.

²⁹⁰ Stanfield/Simpson 1958, 49; Richard Delage, pers. comm. (email 02/04/2011).

²⁹¹ This was not the case for the earlier introduction of ‘mode C’ sigillata at La Graufesenque (Bocquet/Picon

1994, 80).

²⁹² Picon/Vichy/Meille 1971, 193; Picon 1973.

²⁹³ Picon/Vichy/Meille 1971, 195.

²⁹⁴ Picon 1973; Picon 2002b, 144–145; Picon/Vertet 1970, 208.

²⁹⁵ Picon 2002b, 152.

²⁹⁶ Bénévent/Dausse/Picon 2002.

century larger rectangular kilns replaced multiple small-scale circular kilns.²⁹⁷ This shift can be related to changes in technical (different mode of firing), organisational (different division of work along the stages of the *chaîne opératoire*), and practical (shorter lifespan of 1st century kilns necessitates regular rebuilding) parameters. An oxidizing firing atmosphere – and thus indirect heating – is thought to have been obtained by means of so-called *tubuli* or clay pipes leading the heat through the firing chamber, while avoiding contact between the fumes and the vessels.²⁹⁸ Despite the presence on different Gaulish sites of parts of these *tubuli*, it is not clear where and when this procedure had been developed, and to what extent it was the sole mechanism in use. *Tubuli* have hypothetically been identified on sigillata kiln sites in the region of Pisa and Volterra, but this remains contentious.²⁹⁹ The largest kiln unearthed at Lezoux had a sunken firing chamber measuring 4 x 4 m, abutted by a 7,2 m long flute.³⁰⁰ But a simple binary reading (mode A = circular/mode C = rectangular) is thwarted by the existence of rectangular kilns dated to the 1st century, and by the continued use of circular structures throughout the history of ceramic production at Lezoux, even though it often remains unclear what type of ceramics were fired in which kiln (e.g. early rectangular kilns limited to tiles?).³⁰¹ In any case, circular kilns equipped with *tubuli* – for mode C firing – are attested both at Lezoux and elsewhere in Central Gaul (e.g. Gueugnon).³⁰²

The sigillata production which took off within the *route de Maringues* group thus not only used calcareous clays, but also fired its vessels in an oxidizing atmosphere (mode C) at temperatures around 1050 °C, resulting in bright red sintered slipped surfaces (Fig. 3.5). These three technical criteria are often considered to constitute ‘the manufacturing techniques of Samian ware of Italic tradition’³⁰³, and it is indeed remarkable to find the same package from Arezzo to Lyon, South and Central Gaul. How to account for this remarkable continuity without positing the a priori existence of a universal, homogeneous sigillata category?

3 . 4 . 2 EXPERIMENTATION

One underexplored item might hold the key: colour. The most prominent names (Libertus, Butrio) of the first mode C sigillata production within the *route de Maringues* group of Lezoux are associated with examples of black sigillata.³⁰⁴ Stanfield and Simpson comment: ‘[s]uch vessels are often black outside and red inside because, by standing them inverted in the kiln, the inside was protected and so retained its ferric decoration. The casting-slip was similar to that used for ordinary, red samian ware.’³⁰⁵ This seems to have been a very short-lived phenomenon, but cannot be framed within a dualist model such as Picon’s positing mode A and mode C sigillata as two homogeneous categories with well-defined traits.

The experimentation with colour and firing modes witnessed around the turn of the 1st century AD testifies to an exploration of possibilities. If, as seems reasonable, the technological choices of calcareous clay, sintered slip, and mode C firing did indeed combine to form something of a ‘micro-package’, one can hypothesize on the basis of the observed black sigillata of that period that the red colour was the desired characteristic which eventually led to the adoption of this entire package. As such, the aspired end product was not as much determined by practical benefits of use (e.g. reduced porosity), but by the appearance of the end product: red colour.³⁰⁶ If the latter was not a decisive element, mode B firing (reducing firing and cooling atmosphere) would have achieved the same technical properties through

²⁹⁷ Chuniaud 2002, 245; Delage 1998, 286.

²⁹⁸ Brulet/Vilvorder/Delage 2010, 108; Picon 2002b, 142.
For African red slip ware *cazettes* (clay boxes) separated the vessels from the reducing kiln atmosphere.

²⁹⁹ Cherubini/Del Rio 1996, 386 and table 39, numbers 14, 15.

³⁰⁰ Bet/Delage/Vernhet 1994, 46–47.

³⁰¹ Bet 1988.

³⁰² Notet 1996, 51, fig. 1.

³⁰³ Picon/Vichy/Meille 1971, 195.

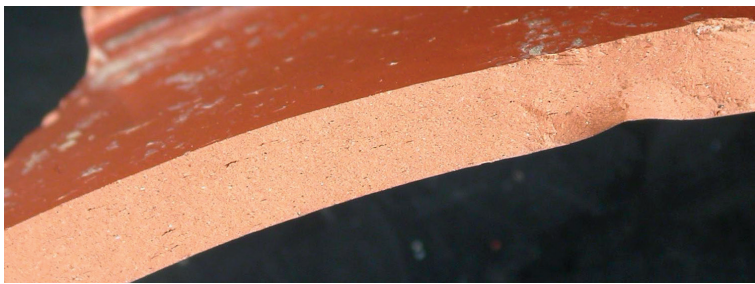
³⁰⁴ Simpson 1957.

³⁰⁵ Stanfield/Simpson 1958, 52.

³⁰⁶ See Rogers 1983 on the diffusion of innovations.



Fig. 3.5. Fabric and surface detail of mode C Lezoux terra sigillata (second half 2nd century AD). © Centre de Recherches d'Archéologie Nationale, UCL. From Brulet/Vilvorder/Delage 2010, 115 (with permission).



a black end product, but at lower firing temperatures, so with reduced additional cost. In this regard, it should be noted that late sigillata production at Lezoux during the 3rd and early 4th centuries was challenged by so-called *céramiques grises* (mode B firing) which benefited from exactly this combination of the same advantages in use and a cheaper production chain.³⁰⁷

Colour is a fuzzy notion, but one receiving increased attention in the context of the study of the past.³⁰⁸ Bradley's recent work on *Colour and Meaning in Ancient Rome* lists attitudes to *color* (Latin) among early imperial Roman authors.³⁰⁹ On the one hand, the divergence of opinion between classical authors about how to define *color*, whether it inheres in materials or is a matter of perception, and how it can be (mis)used, cautions against universal claims on the role, function, and symbolism of colour. On the other hand, the very existence of such a debate in Roman times testifies to the great potential of colour to trigger responses – in whatever guise.

It thus seems likely that the differences experienced in practice – discussed in the previous section – called into question and opened up the invariant core of the previous pottery tradition, which entangled non-calcareous clays and reducing firing. The alternative was another such constellation in which a particular choice of clay (calcareous) was invariably linked to a particular firing technique (oxidizing). The rigidity of this relation was probably due to tradition rather than intrinsic technological necessities.³¹⁰ We are thus led to hypothesize that a discursive play with surface colour (the desire to produce red pots) found its non-discursive correlate in practices concerning clays and firing technique (mode C firing in order to guarantee a red surface colour). But with the exception of one circular kiln in the *Ligennes* group

³⁰⁷ Picon 1973.

Classical Greek) tableware.

³⁰⁸ Jones/MacGregor 2002 on colour in archaeology; Vickers/Gill 1994 on colour symbolism of ancient (especially

³⁰⁹ Bradley 2009.

whose products occupied both technologically and morphologically an intermediate position between micaceous wares (mode A) and calcareous sigillata (mode C), we are left in the dark on the modalities of this process.³¹¹

In any case the transition was not instantaneous. Firstly, the technique of firing and cooling in an oxidizing atmosphere (mode C) was not perfectly mastered initially, as partially sintered examples testify.³¹² Secondly, the anchored ways of doing discussed in the previous section persisted, as shown not only through the continued production of other fine wares and coarse wares, but also through that of mode A sigillata.³¹³ The latter's repertoire of forms closely followed that of the new mode C products. Consequently, until around AD 140, production of sigillata at Lezoux witnessed a cohabitation of different *chaînes opératoires*, and, presumably, different definitions of sigillata.³¹⁴ How did these definitions communicate and align?

Around the beginning of the 2nd century, and again associated with the new workshops of the *Maringues* group, a wide range of forms and many misfired ceramics indicate a period of experimentation.³¹⁵ Bet and Vertet remarked on the presence of one-off forms in excavation, not previously listed, and often fragmented, and ascribed this to '*fantaisies passagères d'un potier*'.³¹⁶ This greater diversity of forms at the kiln site compared to the consumption sites warrants the label 'experimentation', even though no detailed information is available as to the firing mode and type of clay used for these 'one-offs'.

The Libertus workshop is often credited with the re-introduction of classical canons in sigillata decoration.³¹⁷ But there was no straightforward transplantation of Italian or South Gaulish schemes to Lezoux: gladiatorial and erotic scenes replaced mythological scenes popular among Italian products.³¹⁸ Especially the large plastic and realist human figures – among which many new characters – of Central Gaulish decoration (Fig. 3.6) contrast with the stylized and repetitive scenes preferred by the South Gaulish mould-makers.

Between AD 120 and 140 several workshops – most of them directly linked to the *Maringues* group – specialized in the production of moulds and moulded sigillata.³¹⁹ This led to a rapid turnover in decorative styles and schemes. Experimentation is also evident in the search for new techniques to obtain new visual effects, such as plaster moulds leaving a dotted imprint on the vessel surface. These had been putatively developed by a potter named Surillus, but were rapidly abandoned.³²⁰

This buzz of experimentation through trial-and-error testifies to an almost analytical preoccupation with the relation between techniques and bodily actions on the one hand, and end product on the other. It follows that choices were not random or 'taken for granted', but were made in a discursive way. The boundaries of what counted as sigillata and what not were still to be settled; no homogeneous package of traits had crystallized yet. But the Lezoux potters had clearly appropriated the quest for defining sigillata instead of adopting a 'wholesale' package either from Italy or South Gaul. Whatever the modalities of its introduction, sigillata production at the *route de Maringues* group did not take off as a bounded, homogeneous 'category'.

³¹⁰ In diffusion research this is known as a 'technology cluster', when '[t]wo or more innovations are (...) packaged together in order to facilitate their diffusion because the several innovations have a functional interrelatedness, or at least they are so perceived by potential adopters' (Rogers 1983, 143).

³¹¹ Chuniaud 2002, 248, footnote 23; Desbat *et al.* 1997, 147, fig. 4.

³¹² Brulet/Vilvorder/Delage 2010, 115; Vertet 1967, 257.

³¹³ Brulet/Vilvorder/Delage 2010, 324–326 on colour-coat-

ed wares; Picon/Vichy/Meille 1971.

³¹⁴ This period equals the three generations needed for a complete shift in language practices (Adams 2003, 305).

³¹⁵ Delage 1998, 281.

³¹⁶ Bet/Vertet 1986, 140.

³¹⁷ Bémont/Rogers 1978, 1979.

³¹⁸ Richard Delage, pers. comm. (email 02/04/2011).

³¹⁹ Brulet/Vilvorder/Delage 2010, 119.

³²⁰ Bet/Gangloff/Vertet 1987, XII.



Fig. 3.6. Moulded terra sigillata decoration with stamp by Sacer (Lezoux, AD 120–140). Photo by Richard Delage.

3.4.3 STANDARDISATION AND COMPETITION

Whereas most of this experimentation took place within the *Maringues* group, from AD 120/130 onwards mode C sigillata production spread to other workshop groups. The contribution of the previous core – the group *Saint-Taurin* – however, initially remained limited, and it was not until the middle of the 2nd century that the latter became important again, hosting for instance the Cinnamus workshop.³²¹ As the very limited evidence currently stands, it seems that the production activity of the *Ligennes* and *Maringues* groups decreased simultaneously. A double spatial switch can thus be observed from *Saint Taurin* to *Maringues* and back. These spatial dynamics echo the other technological choices: two systems of organisation remained in place throughout these technological changes, each with their own fate.

Towards the later part of the 2nd century firing temperatures increased significantly and became less variable.³²² At the same time the range of forms³²³ and products shrank notably. As to decoration, too, greater efficiency and repetition of schemes and canons characterized the 2nd century, although individual potters' styles could still be identified. Larger workshops with more continuous decorative schemes (e.g. Cinnamus, Paternus) replaced the rapid turnover of the output of the smaller workshops such as Libertus and Butrio.³²⁴ The organisation and rhythm of decorative schemes (ordered by medallions, scrolls, etc.) gained in importance, at the expense of the variety of figure stamps (Fig. 1.1). From the second half of the 2nd century onwards, moulds appear to have been more centrally produced and more widely distributed across workshop groups.

³²¹ Delage 1998.

³²² Picon 1973.

³²³ Bet/Delor 2000.

³²⁴ Brulet/Vilvorder/Delage 2010.

Furthermore, a number of forms became especially popular against the background of a standardized repertoire from the mid 2nd century onwards. The form Drag. 45/Bet 100, for example, a gilded *mortarium* with spout in the shape of a lion's head, was a Lezoux creation taken up in most other fine ware production centres of the period (Figs. 3.7 and 3.8).³²⁵ This form was exceptionally also rendered in different fabrics, which echoes the previously anchored ways of doing and their intertwinement between different ceramic 'classes'. But Drag. 45 would now have been 'marked' as a sigillata form – in contrast to the forms of micaceous Lezoux ware – and its citation in other fabrics could be interpreted as a discursive reference to sigillata. Other exceptionally popular forms were the drinking beaker Déch. 72/Bet 102 and the decorated vessel Drag. 30.

From the middle of the 2nd century onwards large intra-decorative stamps acted as something of a brand name or logo for the mould-maker, potter or workshop (Fig. 1.1).³²⁶ By means of the evolution in the stamps of Paternus and Cinnamus, Delage could demonstrate that the development of such 'brands'³²⁷ hinged on the contingency of for instance an individual potter's career. Cinnamus had been involved in the shift from the *Maringues* group to the *Saint-Taurin* centre. Moreover, the success of the products and decorative schemes associated with this Cinnamus 'brand' spread to other production centres in the Allier valley, not rarely via decorators trained in the Cinnamus workshops at Lezoux.³²⁸

3.4.4 DISTRIBUTION

Distribution patterns are the key strand of evidence bolstering Picon's model which takes technical differences to reflect a rational weighing of well-defined economic opportunities. It is indeed remarkable how the onset of mode C sigillata production at Lezoux (as well as earlier at Les Martres-de-Veyre³²⁹) seems to have coincided with the beginnings of large-scale long-distance trade, including to military sites in Britain, Germany and the Danube provinces (Fig. 3.9).³³⁰ As discussed in the previous section, however, the distribution of the earlier mode A Lezoux sigillata in Britain was already biased towards military sites. Similarly, in the 2nd century the frontier zones would have been one of the foci of activity in the empire, which would have attracted the attention of potential provisioners and traders. It has further been observed that for example for Britain the influx of sigillata did not coincide with local economic and military developments. Marsh has demonstrated that the amount of imported sigillata over time in London did not parallel the settlement's growth: imports from neither Les Martres-de-Veyre nor Lezoux attained the same level of intensity as those from southern Gaul in the first half of the 1st century AD.³³¹ Sigillata finds in Britain are especially scarce for the decade between AD 130 and 140³³², despite the contemporary expansion of Central Gaulish production and the military developments. On an organisational level, this points to a faltering feedback loop between demand and supply. On an institutional level, the Roman empire generally lacked arrangements to promote long-distance trade, exemplified for instance by its reluctance to cancel internal tolls.³³³ All of this makes it hard to maintain Picon's model as a workable hypothesis.

The period between the end of the 1st and the beginning of the 2nd centuries AD is particularly illuminating: mode C sigillata production boomed at Les Martres-de-Veyre while at Lezoux different knowledge systems coexisted. Production at Les Martres-de-Veyre seems to have been coupled to

³²⁵ Brulet/Vilvorder/Delage 2010, 124.

³²⁶ Delage 2004.

³²⁷ Bevan 2010 and Wengrow 2008 for archaeological accounts of branding in the past.

³²⁸ Brulet/Vilvorder/Delage 2010, 124.

³²⁹ Brulet/Vilvorder/Delage 2010, 129.

³³⁰ Delage 1998, 282.

³³¹ Marsh 1981; Willis 1998, 114–115 (differentiates by site type), 2005.

³³² Willis 1998, 115.

³³³ Bang 2008; Scheidel/Morris/Saller 2007.

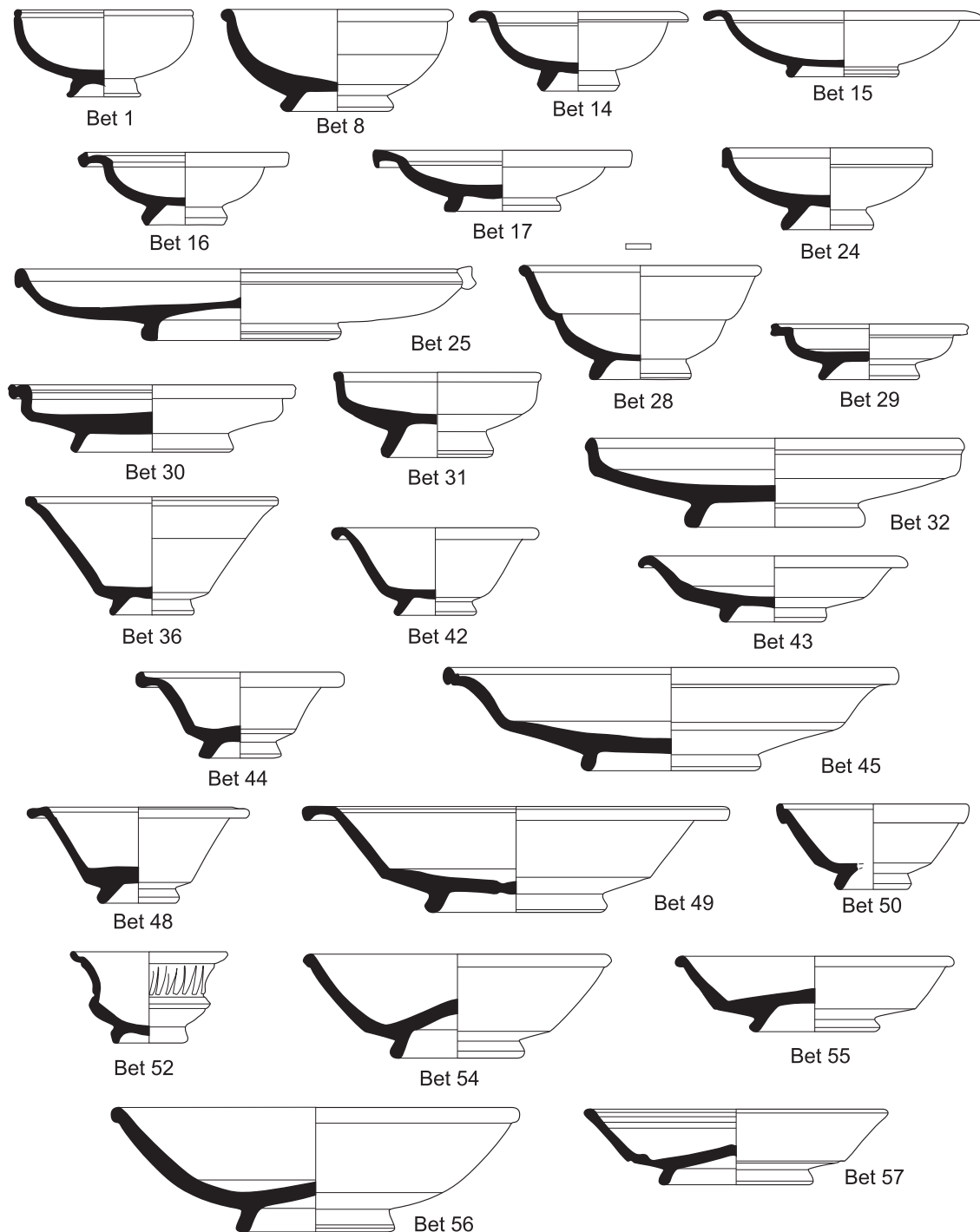


Fig. 3.7. Typology plain Lezoux terra sigillata (second half 2nd century AD) (1). © Centre de Recherches d'Archéologie Nationale, UCL. From Brulet/Vilvorder/Delage 2010, 122 (with permission).

long-distance export (e.g. Britain) from the start on (late 1st century AD). The reach of Lezoux sigillata, instead, remained static: the respective distribution patterns of its contemporaneous mode A or mode C products show no significant difference. While Les Martres-de-Veyre – where no sigillata production is attested prior to the mode C products of the late 1st century – took advantage of a series of economic opportunities, Lezoux stuck to its distribution network established earlier, focused on Gaul. In this regard, it is notable that sigillata from Les Martres-de-Veyre mainly feature in consumption contexts in large

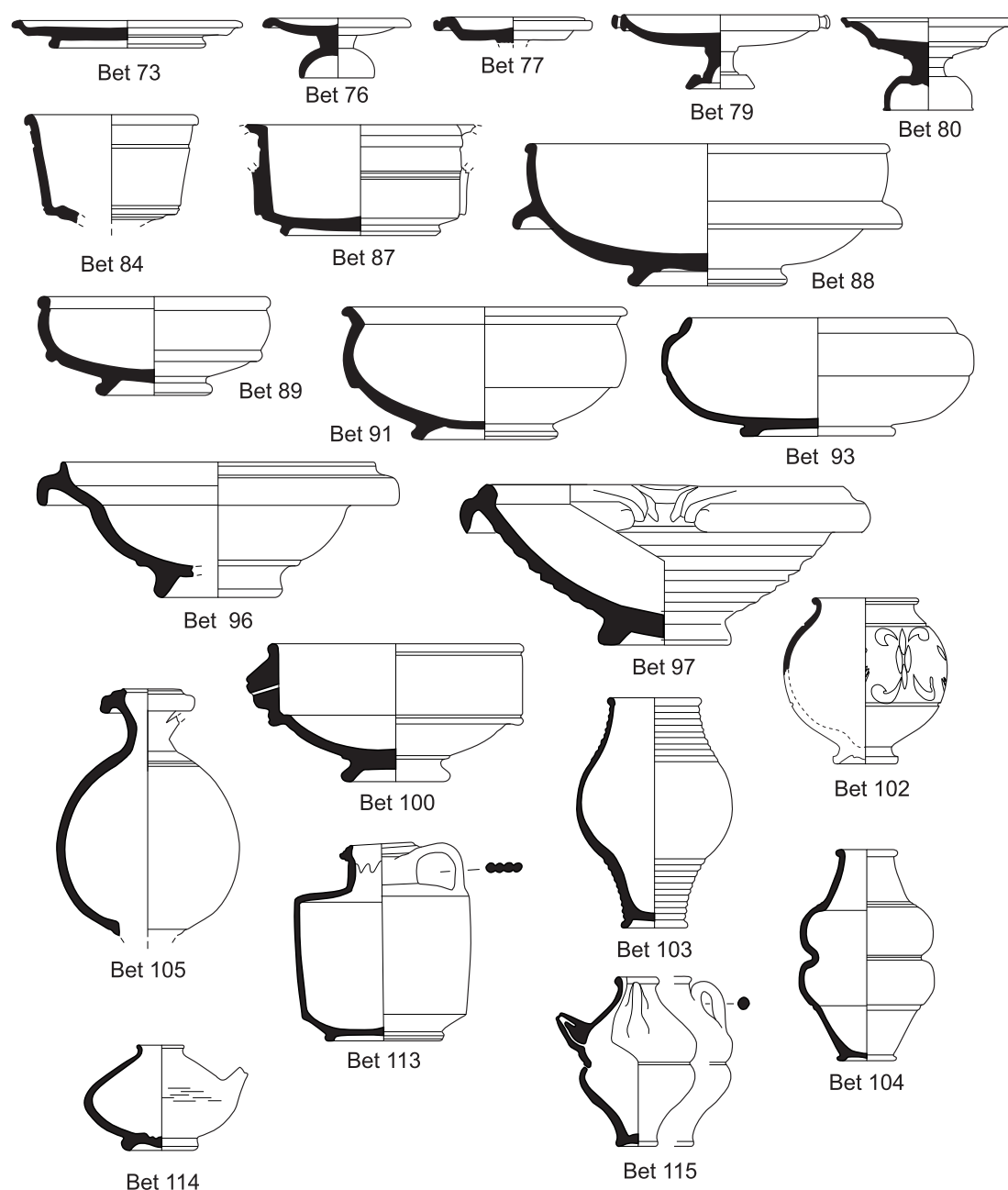


Fig. 3.8. Typology plain Lezoux terra sigillata (second half 2nd century AD) (2). © Centre de Recherches d'Archéologie Nationale, UCL. From Brulet/Vilvorder/Delage 2010, 123 (with permission).

agglomerations.³³⁴ This indicates that an entirely new organisation was set up. Sigillata distribution from Lezoux instead had to mediate between economic incentives and the remnants of a prior organisation and its attendant space for manoeuvre. A pre-existing knowledge system and distribution network shaped its response to new economic opportunities.

Direct competition between different production centres can be discarded as a primary factor. South Gaulish sigillata, for example, maintained a fairly large distribution similar to that of Central Gaulish workshops well into the period in which the latter were on their way to establishing a peak production

³³⁴ Delage 1998, 284.

volume.³³⁵ Conversely, when Lezoux faced difficulties on long-distance markets after AD 160, it did not cede place to other production centres instantly, but first intensified its hold on northern Aquitania and western Gaul.³³⁶ The latter region had been the stronghold of Lezoux's sigillata distribution since the Tiberian period (first half 1st century AD): again the established distribution networks were maintained. This fits with a reading of the Roman economy as an uncertain economic patchwork in which immediate and secured return was preferred over large risks.³³⁷ Based on the trade-off between the costs of ancient land transport and the low value per unit of weight of ceramics, Woolf has similarly suggested that the local and regional distributions were the prime movers of sigillata production, thus balancing Picon's focus on long-distance trade as the major incentive for investment.³³⁸

Finally, after AD 190 significant production activity has only been detected in the *Saint-Taurin* group, which was the original seat of the earliest mode A sigillata production. Delage thinks it likely that those workshops that disappeared (in particular the *Maringues* group, the initial core of the mode C sigillata) were the ones that had particularly invested in trade with the military markets.³³⁹ This could mean that different production groups persisted despite the implementation of mode C sigillata production on site level at Lezoux. In other words, the *Saint Taurin* group held on to its original established distribution network – even though it now distributed mode C instead of mode A sigillata – while the newer foci of *Maringues* and *Ligennes* explored new economic opportunities, not unlike Les Martres-de-Veyre.

3.4.5 CREATION AND CONSEQUENCES OF A 'CATEGORY'

The unchallenged anchored tradition of 'how to make good pottery' at Lezoux – in which mode A sigillata or micaceous Lezoux ware was embedded – suddenly encountered another orthodoxy of 'how to make good pottery' around the middle of the 1st century AD. Whether this encounter resulted from an external imposition of new norms, or whether it was initiated internally is bound to remain an open question. I am inclined to turn again to patterns of investment and landownership as probable but archaeologically elusive causes. Following that hypothesis, a shift in landownership would have spurred new investment and attracted new craft knowledge. This chapter has explored something different, though, by moving away from the source of agencies ('who?') to how they were channelled through practices.

The products of the new, incoming orthodoxy looked very similar to the mode A sigillata. One can only speculate on how this similarity must have triggered considerable interest, be it positive or negative. Drawn in by this initial veneer of similarity, soon however the difference between the respective practices would have become apparent. These differences – investors, potters, location, organisation, clays, firing – clearly marked out the mode C production as something 'distinct' from the previous pottery tradition. Moreover, the different production groups at Lezoux were fairly autonomous communities of practice.³⁴⁰ In contrast to La Graufesenque for example, at Lezoux a single potter tends to be associated with a single production group.³⁴¹ This multifocal site organisation would have hindered direct negotiation on the level of social micro-interactions (the proverbial 'running around the corner' or 'coffee break') between the different ways of doing.

But the encounter with ideas and ways of doing which were experienced as different in daily practice also served to objectify the anchored practices, and to open up space for discursive reflection and mediation. Practices that used to be taken for granted were now suddenly challenged. This is a well-studied phenomenon in the anthropology of contact situations, and tends to lead either to the strengthening of

³³⁵ See also Woolf 1998, 198.

³³⁶ Delage 1998, 291.

³³⁷ Bang 2008.

³³⁸ Woolf 1998, 201.

³³⁹ Delage 1998, 294.

³⁴⁰ *Sensu* Wenger 1998.

³⁴¹ Bet 1988.

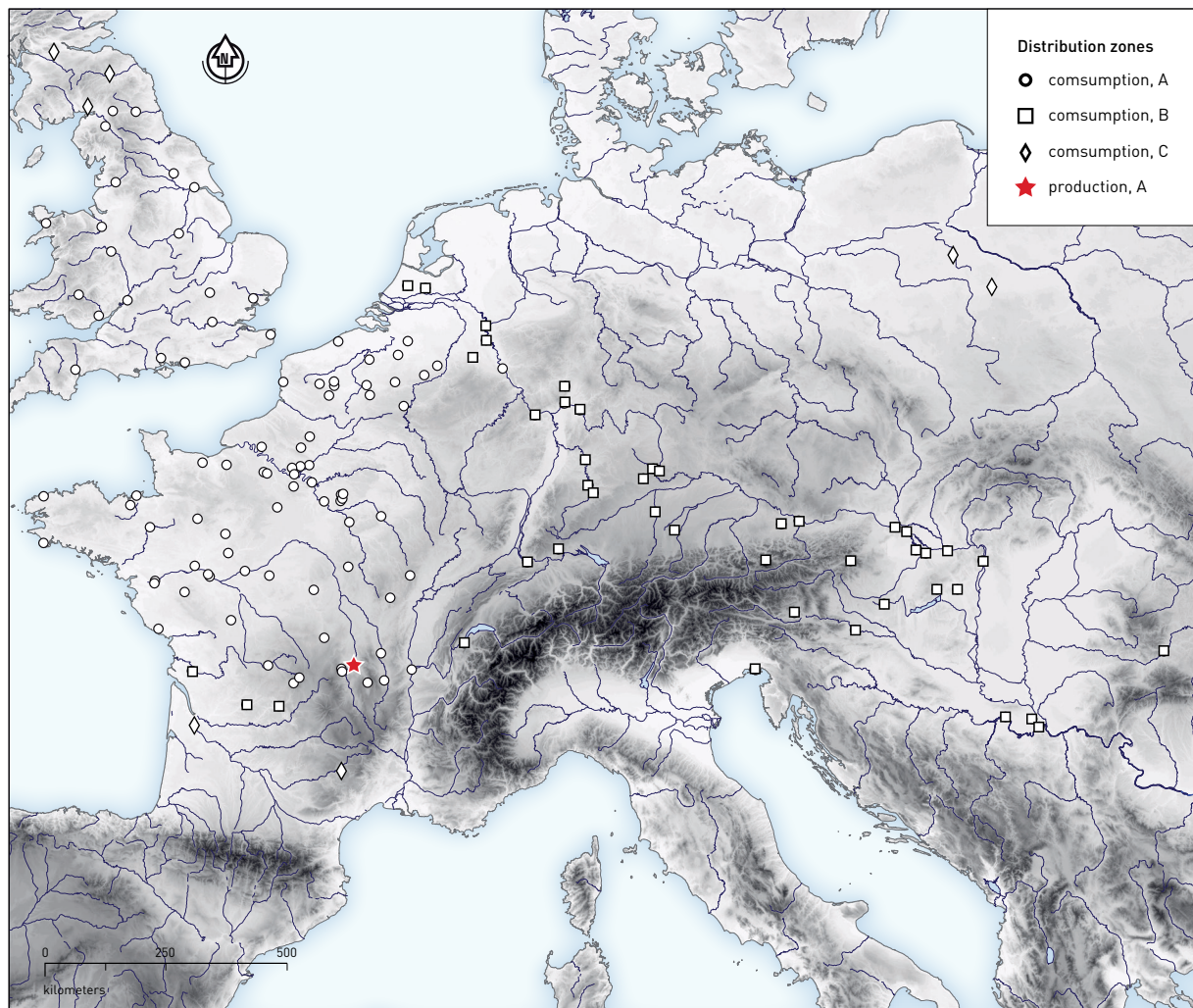


Fig. 3.9. Distribution map of mode C Lezoux terra sigillata (AD 120–140). Zone A: Central Gaulish sigillata dominant and present in large quantities on most sites; zone B: Central Gaulish sigillata not dominant, but regularly present on most sites; zone C: Central Gaulish sigillata rarely present. Based on data in Delage 1998.

the existing routines (or one of the different sets of routines that gets imposed), or to their opening up to change and external influence. Importantly, whatever the outcome, the choice is always discursive. In the case of Lezoux, a process of experimentation set in to negotiate between these different ways of doing. It follows that no sigillata ‘package of traits’ was introduced as such, and no wholesale adoption of any practice did occur. Instead, the different communities at Lezoux appropriated the definition of ‘sigillata’, and actively explored its possibilities, and its boundaries.

This exploration occurred in dialogue with the pre-existing, anchored frames of reference. This is illustrated by the difference in distribution patterns between late 1st/early 2nd century sigillata from Les Martres-de-Veyre and contemporary Lezoux products. Because the installation at Les Martres did not have to negotiate with a prior tradition of production and distribution of sigillata forms, it could quickly establish an entirely new distribution scheme geared towards supplying new and thriving nucleated nodes. Mode C sigillata production at Lezoux, however, inherited prior channels of distribution, and had to negotiate in order to expand, complement, or alter these existing arrangements.

After the middle of the 2nd century AD, experimentation receded to the background and the latitude of variation for the different technological choices narrowed down. Controversies and negotiations as to

what was or should be possible for sigillata were settled. This narrowing latitude of variation enhanced the likelihood of compatibility, both on a bodily (e.g. set dimensions of vessels attune to practices of production, transport, and cooking and dining (e.g. portions)) and conceptual (e.g. standardized material culture is more likely to be met by or to generate bounded, unitary identifications) level.³⁴²

As a consequence sigillata became a 'category' at Lezoux during the course of the second half of the 2nd century AD. Firstly, it could now be fully defined by a limited number of traits, like boxes to be ticked on a checklist, with a limited range of variability. Moreover, based on the presence of one or more of these traits one could postulate the presence of all other traits of the package. For example, if the use of calcareous clay is attested, it follows that mode C firing was practised and slips were sintered. Secondly, any sherd or pot belonged either to the sigillata 'category' or fell outside of its boundaries. A 'category' is delimited by a binary either/or boundary, which not only marks the 'inside' from the 'outside', but also assures internal homogeneity within the category. One of the most emblematic examples of a 'category' in the contemporary world must be the computer: it is defined as a package of traits (hard disk, memory space, keyboard, software, etc.), and bounded (it is generally easy to say what counts as a computer and what not). I thus coin a 'category' as a particular way in which practices can be ordered, different from the way in which black-gloss wares or pre-sigillata were defined.³⁴³ This starts to explain why sigillata scholarship has been generally quite successful in pinning down identifying traits for its object of study.

Sigillata as a 'category' was self-evident and 'in place' in the different practices surrounding production in later 2nd century Lezoux. After a phase of discursive experimentation, sigillata production became implicitly understood rather than discursively described.³⁴⁴ Here too, the computer can serve as a parallel: although it used to be a marked example of a new object, and despite the continuous developments of its technology, its appearance, its target audience etc., the computer has become embedded in the practices of the contemporary world to such an extent that it 'just fits in'. This phenomenon is not limited to practices ordered as 'categories', but is facilitated by the latter's standardisation.

This 'taken-for-granted-ness' – we intuitively know what a computer can do – hides complex threads running from the 'computer' to other practices such as marketing strategies, ergonomics, design, technology, investment, education and so on. This 'hiding' is sometimes called 'black-boxing'.³⁴⁵ It refers to the experience of simplicity, homogeneity and boundedness in daily routine, when the relational embeddedness of different things in their surrounding webs of practice recedes to the background. What we call a computer is made up of millions of parts, developed in separate places by separate persons, machines and technologies, and assembled to become a hybrid thing, operating at a certain moment in a certain place. But as a black box, it can be used in a straightforward way, without any concern for anything but its in- and out-put. This allows for integration of the computer in project outlines (the computer can be counted on as an implicit actor), consumer behaviour (internet banking assumes that most households have access to at least one computer), education (students know how to use a computer and thus how to hand in typed essays), etc.

Sigillata had thus become a well-defined, and clearly understood kind of thing: something from which you can produce x number of bowls and sell y number of plates without having to specify over and over again how they should be made, which clays should be used, or what they should look like. This 'category' of sigillata was not the local copy of a pre-existing global type, but was the outcome of contingent negotiations and alignments at Lezoux: it was *made* at Lezoux. As Annemarie Mol put it, '[c]oordination into singularity doesn't depend on the possibility to refer to a preexisting object. It is a task.'³⁴⁶

³⁴² Bowker/Star 1999 on standards and interrelatedness; David 1985 on technological 'lock-in'.

³⁴³ Van Oyen 2015c for theoretical background.

³⁴⁴ Cf. Heidegger's (1977) *zuhanden* (ready-to-hand), which

describes our everyday dealing with things prior to any conscious cognitive act (Harman 2002, 2010; Olsen 2010; on sigillata: Van Oyen 2012).

³⁴⁵ Latour 1994, 1999, 2005.

³⁴⁶ Mol 2002, 70.

But black-boxing is never a neutral conceptual move.³⁴⁷ Following a traditional retrospective approach to sigillata production, debates get paralyzed by attempts at identifying the agents in power, be they land-owners, workshop owners, merchants, or political elite ('who'). Avoiding a post-hoc viewpoint gives us a new handle on how power actually resides in the construction of meaning and categories ('how').³⁴⁸ So even though a 'project' or a source of power as such is hard to pin down, we can link the process of black-boxing to the embodiment of the category of sigillata, which structured people's engagement with other people and things precisely because it had become taken-for-granted. To return to the example of the computer, one does not need to know who owns Microsoft or Apple in order to follow how the computer has become a taken-for-granted actor which does not need explicit mention or specification in funding applications, homework assignments, television shows etc. Similarly, sigillata as a category would have structured commercial negotiations, investment, leasing contracts, etc.³⁴⁹

Moreover, in a retrospective framework, sigillata is by definition modelled as a homogeneous category. As a result, the category functions as a neutral, meaningless placeholder for *any* type of material culture. With the approach taken in this book, instead, the category has become a contingent construction *made* at Lezoux. It is no longer a neutral label, but the designation for material culture defined *in a certain way* (homogeneous, bounded, limited package of traits). As such the category itself is imbued with a particular agency to shape its own historical trajectory.

The next chapters will follow the category's trajectory, but here I can already point to one way in which this historical agency worked. A category facilitates competition by creating conditions of comparability and measurability, so that different renderings of the same trait can be measured one against the other.³⁵⁰ Returning to the example of the computer, one can compare the memory capacity of different computers, or their design, or their screen size. But this is a function of the prior construction of a 'category' of the computer. Similarly, even though Apple explicitly brands itself as different from mainstream computers – both with regard to use or experience as to technology – it still thrives on the fact that computers had already become a well-defined category. The niche it aims for is therefore not radically new, but rephrases that of the pre-existing 'in place-ness' of the computer. Similarly, its iPhone revolutionized the already existing category of smartphones. Hence the cultivation of competitive differences between the different sigillata production groups at Lezoux (e.g. different distribution networks, forms, intra-decorative stamps) was similarly nourished by the 'category' as a shared product definition.

Finally, this narrative of 'category' formation complements rather than rejects Picon's model. It does not deny the feedback loop between economic opportunities, investment and technological specificities. But instead of starting from sigillata as a 'category', to be opted for and implemented in a particular context, it shows how sigillata *became* a category in such a contingent situation. This process had to be worked through in practice, requiring time and effort, not just abstract block-charts of capital or financial investment. And competition was a product of this process, not just a prior incentive for implementing a 'category'.

3 . 5 NO MORE READY-MADE TYPES

Terra sigillata production at Lezoux did not start off as a homogeneous category. Instead, this chapter has traced how it *was made* into a homogeneous category as the result of a long process of negotiation of production practices during the 1st and 2nd centuries. Sigillata was not only made practically – modelling clay, decorating moulds, firing pots – but also conceptually – as a category with a standardized package of traits.

³⁴⁷ See Bowker/Star 1999 on political and ethical implications.

³⁴⁹ Slater 2002b.

³⁴⁸ See Foucault 1975.

³⁵⁰ Cf. creation of accountability by the firing lists (4.2).

The banner ‘no more ready-made types’ urges readers to open up the process of practical and conceptual *making* for the material culture they work with. After this chapter, it is no longer possible to assume that all types of material culture are ordered as categories – as homogeneous, bounded entities. Not all material culture can be crystallized into a dictionary definition. This was already hinted at by the failed attempts to fit the empirical variability of black-gloss wares and pre-sigillata in the same analytical construct as sigillata (the category).

In order to access how different types of material culture were ordered in practice, it is necessary to put practice before type, as in the title of this chapter. Following how practices changed, lined up, and formed – in this case production practices at Lezoux – allows describing how they were contingently ordered. In the case of sigillata production at Lezoux, anchored ways of doing opened up once contrasted with another orthodoxy of how to produce pots that looked the same. This created scope for experimentation with technological choices and their combination. After a couple of decades, a standardized production sequence crystallized out, with a number of set options for each technological choice, and a limited latitude of variation.

Archaeology cannot answer the questions of ‘who’ invested in intensified production in new workshop groups, ‘who’ decided to experiment, or ‘why’ experimentation eventually settled down. But this disciplinary limit should trigger methodological creativity rather than paralysis. In this context, methodological creativity consists of abandoning the questions of ‘who’ and ‘why’ in favour of the more accessible question of ‘how’. We *can* describe *how* practices changed, developed, and related one to another. The problem is that the ‘how’ question has long been looked down on as ‘mere description’ without any interpretive leverage.

This book aims to show that the ‘how’ question *does* have a contribution to make to historical interpretation. Specific things come with specific historical trajectories. This is not just a matter of *who* or *what* they are connected with, but of *how* they are connected. In the case of sigillata production in later 2nd century Lezoux, the connections established in practice formed a category: a homogenous and bounded entity defined by a standardized package of traits. As a category, 2nd century Lezoux sigillata shaped possibilities for action, it was a history-maker. For example, it facilitated competition, and thus set in motion a process of brand-making that affected the entire chain of production, distribution, and consumption. This is only the start of the historical trajectory that was initiated and shaped by contingent processes at the production site of Lezoux. The following chapters continue this trajectory by tracing the practices of distribution and consumption of the category of terra sigillata.

4 Points of redefinition: distribution, firing lists, and kiln loads (1st century AD)

At the end of the previous chapter terra sigillata was produced, the pots had been made. But it was not ‘just’ produced, it was produced in a particular way: as a category. Its production practices lined up to define sigillata as a bounded thing, clearly separate from other production sequences, and identifiable through a package of traits. The logical next step is distribution, the trading of sigillata pots. But practices of distribution posed rather different requirements for sigillata than production. Work was needed to assure a smooth transition from the pots’ definition in production to their role in distribution. How was sigillata made into a trade-able, calculable object? How did its definition as a category facilitate this?

The so-called firing lists provide a unique transcript of sigillata pots’ definition at exactly this crucial turning point between production and distribution. Incorporating these lists requires the narrative of this book to rewind by a century to the 1st century AD and to move from the production site of Lezoux to that of La Graufesenque in South Gaul (Fig. 3.2). Although a full empirical description exceeds the scope of this work, recent data underwrite the likelihood that a process comparable to the category emergence described in the previous chapter for Lezoux unfolded at La Graufesenque a century earlier.³⁵¹ This chapter’s chronological and geographical switch to pots produced at La Graufesenque therefore does not invalidate the overall historical trajectory of sigillata-as-a-category. Once sigillata left the production site, a series of intermediate stages again posed different requirements for sigillata. A collection of assemblages of unused South Gaulish sigillata dated to the 1st century AD at crucial points of turnover enable a continued description of the category’s trajectory. Moreover, these assemblages provide an arena to demonstrate how consideration of sigillata’s role as history-maker changes its use as history-teller, in this case its use as evidence for trade mechanisms.

4.1 TRAJECTORIES AND REDEFINITION IN ECONOMIC NARRATIVES

Attention to the redefinition of things along their trajectories of exchange is far from new. In economic anthropology, such redefinition came into the picture with substantivism.³⁵² In opposition to formalism, which posited rational, maximizing market behaviour as a universal template for economic action, substantivism situated this behaviour within a specific set of social and historical relations (embeddedness³⁵³), as channelled through institutions (institutedness; e.g. legal contracts). It follows that different historical and institutional settings give rise to different kinds of economic action and exchange. Thinking this through to the ‘things’ characterized by different kinds of exchange relations, economic anthropologists differentiated between gifts and commodities. The gift is characterized as a personalized form of exchange, embedded in social ties from which it is inalienable; while the commodity is seen as a utilitarian form of exchange, disembedded from wider social or cultural ties.³⁵⁴

³⁵¹ But at La Graufesenque, the choice of clay (which had always been calcareous) did not play a pivotal role, in contrast to Lezoux.

Thomas, and Strathern.

³⁵³ Krippner/Alvarez 2007.

³⁵⁴ Miller 2000.

³⁵² E.g. Munn 1986. Studies by Mauss, Weiner, Gregory,

Gifts and commodities come with different consequences for action. Think for instance about how one normally removes the price tag from a wine bottle one brings as a gift to a dinner party, because price is not seen as contributing to its value in that setting, which is thought to reside more in ‘immaterial’ considerations such as friendship, thoughtfulness, etc. Without a price tag, however, it would have been impossible to buy that same bottle in the supermarket, as a commodity. But not only does this distinction not map onto modern *versus* ancient economies (gift-giving is still around in today’s market economy), the boundary between both types is often blurred (gift-giving often implies calculation, and commodity exchange does not preclude emotional attachment and judgment).³⁵⁵

An attempt at taking up the notion of institutedness within a neoclassical economic framework is New Institutional Economics (NIE).³⁵⁶ NIE tries to curb the neoclassical model of frictionless and predictable rational action by modelling how all economic action is channelled through formal (law, firms, demography, technology, etc.) and informal (norms, customs, beliefs, etc.) institutions. But both NIE and its recent offshoots in Roman studies (with the *Cambridge Economic History of The Greco-Roman World* as a landmark) are hampered by the sharp distinction they maintain between ‘formal’ and ‘informal’ institutions.³⁵⁷ Demography, for example, is about (‘formal’) biological conditions as much as about (‘informal’) social norms (e.g. birth control), and from the preceding chapter it should be clear that technology is not simply restricted by natural laws but embodied, experienced, and learnt.

Substantivist studies of gifts and commodities, and NIE are two attempts at relating economic forms to social and historical structures. In theory, then, they can accommodate redefinitions of things: as the social and historical structures of exchange alter, so do the parameters for the things exchanged. But this potential remains largely untapped because the building block of these analyses as well as the agent of change remains the individual human actor.³⁵⁸ Things are again approached retrospectively, as chosen, rejected, given meaning, or desired by human agents; as history-tellers, not history-makers.

A non-retrospective approach to things in economic transactions requires emphasizing the material practices of exchange, just like the previous chapters did for the practices of study and production. This non-retrospective move has been made in recent studies of the modern market system (in particular by M. Callon), which look at practices to decide what is seen as constitutive of a certain actor or thing, what was taken into account in a transaction and what not.³⁵⁹ For example, the purchase of a bottle of wine in the supermarket hinges on the alignment of calculation devices, re-shelving, cashiers, trucks, but also regional drinking customs, social age restrictions, ID cards and so on. This network of practices stabilizes the bottle of wine as a transactable thing defined by a package of traits including price (in a standard currency), contents (one of a limited series of possible modules), percentage of alcohol contents, etc. Certain actors are taken into account, while others are excluded. But this does not run along the divide between formal and informal institutions: the lorries driving up and down along highways and back alleys that have to be wide enough can have the same input in the analysis as the socially sanctioned practice of alcohol consumption. The bottle of wine as transactable thing in the supermarket is kept separate from the environmental taxes for lorries transporting the wine bottles, and from debates on whether or not alcohol qualifies as a soft drug.³⁶⁰ But this separation is constantly challenged. If the

³⁵⁵ Miller 2000, building on Bourdieu 1979 and Appadurai 1986.

³⁵⁶ North 1990; Williamson 2000. Critique by Boldizzoni 2011; positive review by Bang 2009.

³⁵⁷ Cf. a modernist dichotomy between nature and culture (Latour 1993). In later work North (2005) tries to take on board more complex models of human/world interaction (e.g. Clark 2008 on cognitive psychology), but fails to articulate the consequences for the institutional framework.

³⁵⁸ Barry/Slater 2002, 184; e.g. North 1990, 48, 83 and *passim*; Greene 2005, 2006 for a similar critique from a more traditional perspective.

³⁵⁹ Callon 1999. Santos/Rodrigues 2009 for a critique based on the disciplinary practices of economics. Miller 2002a argues that such ‘framing’ that keeps certain considerations out of economic transactions does not exist in reality. But see Callon 2005; Callon/Latour 2011.

³⁶⁰ ‘Externalities’: Callon 1998b; Callon/Latour 2011.

supermarket personnel fail to maintain a strict policy of ID verification, this might result in increased alcohol consumption among those below the legal age limit, and, as a consequence, this legal frame might be adjusted.³⁶¹ Or, the other way round, if the environment becomes a matter of concern that is institutionalized in increased taxes for motor traffic, this will affect the supermarket's supplies and might lead to new sales strategies.

As a transactable item on the supermarket shelves, then, the wine bottle is characterised by a limited and standardized package of traits, and by a clear but actively maintained boundary with other products and debates. This strikes a parallel with *sigillata*'s definition as a category in production practices at 2nd century Lezoux, discussed in the previous chapter. This chapter will examine whether this definition similarly made *sigillata* into a transactable thing, shaping its trajectory of exchange in a particular way. It will also ask how this definition was maintained.

The questions of maintenance and stability are new and important: changes to material practices that previously seemed trivial (e.g. transport by train instead of lorry; introduction of a new volume module for wine bottles), can now shuffle an entire network of meaning and power.³⁶² Firstly, depending on how economic action is channelled, the semantic position of a bottle of wine changes: it is drawn closer to narratives of the environment, contrasted with a rhetoric of youth education, or distanced from a French blueprint of conviviality. Secondly, the very kind of thing that a bottle of wine is – the way it is understood and grasped – alters too. From a unit defined by a certain volume and several vintages that are reducible to price differences in the store (a category), to a more fuzzily grasped source of pleasure ('it tastes good'), the right accompaniment to a specific dish ('fish should go with white wine'), or a quick medium for getting drunk ('13% alcohol').³⁶³ Whether it is wine or *sigillata*, material culture is not always and self-evidently defined as a category, in contrast to the assumption of retrospective accounts. This sparks new questions, such as how the purchase of a bottle of wine in the supermarket is made possible; or why certain things can be compared based on price and brand, while this is impossible or 'not done' for others; or how one knows to bring a bottle of wine and not a stapler as a gift to a dinner party.

An example from Roman studies is the legal enforcement of liability for sellers of slaves who had to notify potential customers about diseases and other 'defaults'.³⁶⁴ This illustrates a specific instance of negotiation between different definitions of the slave: by the buyer who wants a good price, and by the seller who is looking for a reliable member of the household. Institutions such as legal arrangements and social norms about disease channelled these negotiations in a particular way. The resulting setting in turn defined the slave in a specific way – as *either* 'healthy' or 'not healthy' – to the detriment of many other possible definitions, based on other parameters, such as origin, skills, age, etc. One could for instance envisage a skill-based definition of the slave along much more fluid lines than allowed for by a binary qualifier: skills could overlap (and/or), be nested (skill a implies skill b), be present to various degrees (skill a and *a bit* of skill b), etc.

How then was *sigillata* made into a trade-able object? And how did this relate to its definition as a category through production practices?

³⁶¹ 'Overflows': the effects of action in a certain setting on actors not taken into account in that setting (Callon/Law 2005, 722; Callon 1998b).

³⁶² Slater/Tonkiss 2001, 116; Slater 2002c, 247.

³⁶³ Callon/Law 2005 on 'qualculation'. That 'unquantifiable'

experiences are often framed by carefully arranged practices is illustrated by Gomart/Hennion 1999 on drugs and music.

³⁶⁴ Frier/Kehoe 2007, 120.

4.2 FIRING LISTS: PINNING DOWN A PACKAGE OF TRAITS

4.2.1 STATE OF RESEARCH

Found at the production site of La Graufesenque in South Gaul (near present-day Millau, Fig. 3.2), the firing lists are key documents in sigillata studies.³⁶⁵ The lists were inscribed on actual sigillata plates after they were slipped but *before* firing. In separate columns they describe names, vessel types, dimensions and quantities (Figs. 4.1 and 4.2). A formalized heading precedes the tallies, and at the end the sum total is made of the quantities listed. The majority of the lists are dated to the Neronian and Flavian periods (second half of the 1st century AD), based on the attested potters' names and on the typology of the plates.³⁶⁶ Similar Roman 'tally lists' inscribed on tiles before firing are found on various Gaulish sites engaged in tile production. Some of those *graffiti ante cocturam* on tiles date a series of quantities linked to a series of potters, while making the sum at the end.³⁶⁷ These lists are however a much more dispersed phenomenon than the concentration of firing lists found at La Graufesenque, and they lack the formulaic character of the sigillata tallies. The dates in their heading, for instance, do not refer to a local standard as with the sigillata firing lists (the number of firing events in a season) but to the Roman calendar system (e.g. *Kalendis Iulis*). This suggests that even if the use of simple tallies was not unique to sigillata production, the firing lists were doing something more specific to sigillata, and to its production context.

The accepted estimate of pots produced at, and exported from, La Graufesenque in this period amounts to 15 million per year.³⁶⁸ These figures alone postulate organisational strategies for coping with this massive flow of goods, and the lists fit remarkably well in this frame as accounting devices *avant la lettre*. Hence they are taken to provide a summary of the sigillata pots going into the kiln during a single firing event. As a consequence the lists are frequently cited in debates on production organisation. Discussions revolve around whether or not communal firing was practised, how this was arranged, who invested in kiln infrastructure and wood supplies and how norms for quality control were maintained.³⁶⁹ But these debates remain open-ended, as the hypotheses are underdetermined by the evidence: e.g. the pattern of stamps and forms may indicate that pots were dried on wooden boards that were then carried to the kiln, but this same pattern could be explained in a myriad of different ways.³⁷⁰ The questions of 'who' and 'why' again lead to archaeological dead-ends. Linguistically, the lists mix Latin and Gaulish terms and declensions, and have been studied as examples of bi- or multilingualism with the aim of gaining insight into the social and ethnic dynamics of the potters' community.³⁷¹ Some questions occupying linguists are whether there were Greek craftsmen involved, whether slave labour was used, where the potters came from, and what terminology was used for the pots.³⁷²

Despite the disciplinary boundary separating those interested in the texts as evidence for language use and those interested in the lists as evidence for production organisation, the scholars involved are united by their general strategy of mining these objects as a source of information about an underlying reality, as retrospective history-tellers. The lists are (often implicitly) read as accounting devices as we know them today, facilitating the calculation of profits and returns, and referring to a social reality (production organisation, language use) beyond themselves. This use of the firing lists as history-tellers is not inherently wrong, but it is at best a partial narrative. Importantly, it misses out on the question of what a fir-

³⁶⁵ Bémont/Vernhet 1992/3; Hermet 1934; Lambert 2002, 83–146; Marichal 1988; Vernhet/Bémont 1990/1.

³⁶⁶ Blom 2012; Fülle 2000a, 64–65. P. Webster (2001, 295) hints at a link between the firing lists, the use of large kilns with *tubuli* and large-scale export, but this remains hypothetical (e.g. no firing lists attested at Lezoux).

³⁶⁷ Charlier 2004; Marichal 1988, 17 ff.

³⁶⁸ Hartley 2005, 116.

³⁶⁹ Dannell 2002; Fülle 2000a, 2000b; Polak 1989; Strobel 1992.

³⁷⁰ See Fülle 2000b, 2000c.

³⁷¹ Adams 2003, 687–724; Mullen 2013.

³⁷² Dannell 2006.

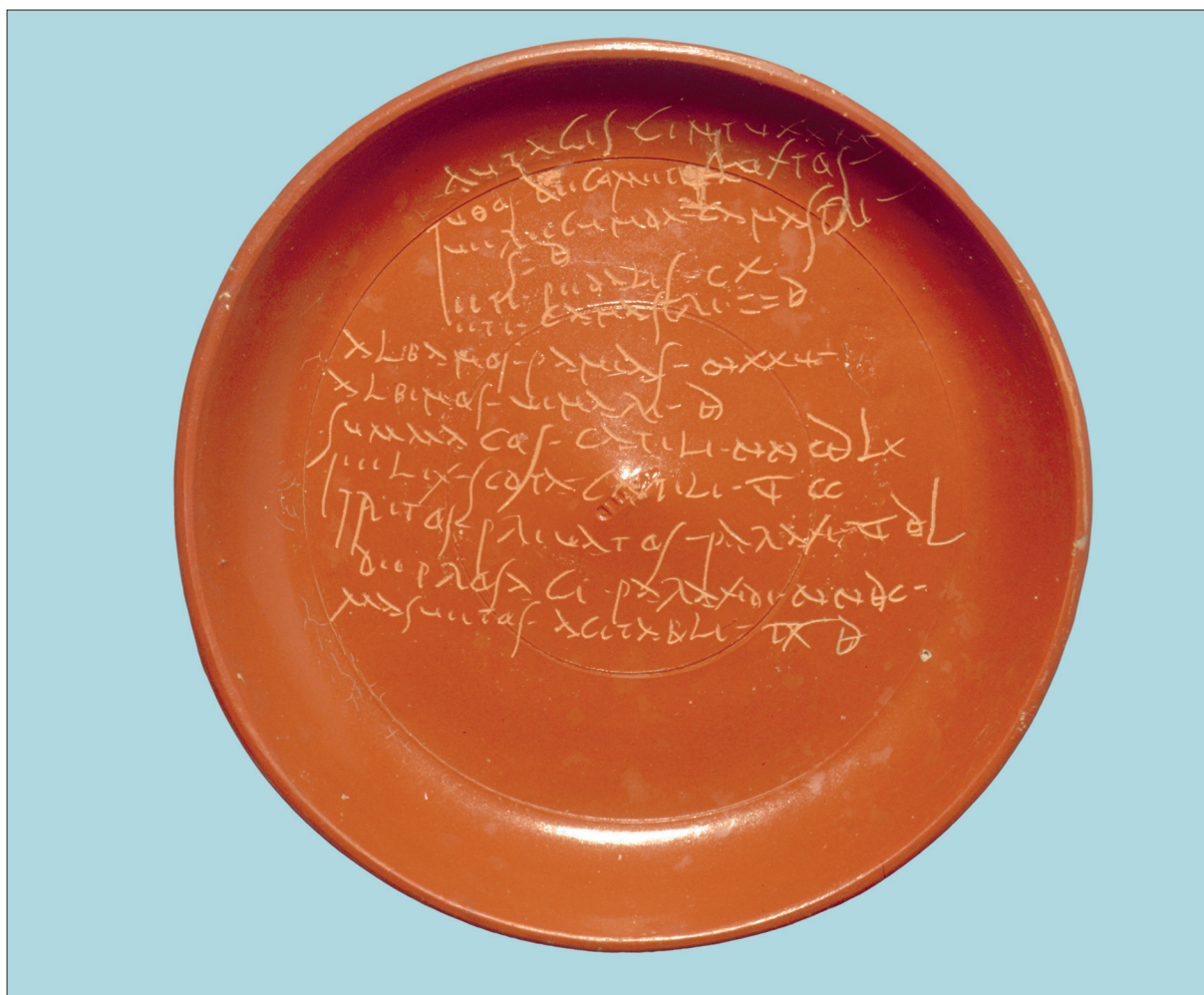


Fig. 4.1. Firing list (*bordereau d'enfournement*) on terra sigillata plate, written in Latin with Gaulish heading (La Graufesenque (Millau), 1st century AD) © Musée Fenaille – Rodez (coll. Société des Lettres, Sciences et Arts de l'Aveyron), photo Gilles Tordjeman (with permission).

Transcription of the firing list from La Graufesenque (Musée de Fenaille)

<i>heading</i>	
1	autagis cintux XXI
2	tuθos decametos luxtos

Fig. 4.2 Transcription of the firing list in Fig. 4.1.

	<i>(potter's?) name</i>	<i>vessel form</i>	<i>(adjective)</i>	<i>quantity</i>	
3	uerecunda	canastri			
4			S =	D	500
5	(eti)	pedalis		CX	110
6	(eti)	canastri	- -	D	500
7	albanos	panias		(I)XXV	1025
8	albinos	uinari		D	500
9	summacos	catili		(I)(I)CDLX	2460
10	felix scota	catili		V CC	5200
11	tritros priuatos	paraxi		V DL	5550
12	deprosagi	paraxidi		(I)(I)DC	2600
13	masuetos	acitabli		IX D	9500

ing list actually did, and how it related to the pots ('sigillata') it described. It follows that we should not limit analysis of the firing lists to what they tell us about the world (history-teller), but we should *also* ask what role they played in that world, and how they helped constitute it, with particular attention to how they framed possibilities for economic action (history-maker). This latter question requires the lists to be reinserted into the practices of firing and pottery production, and it is to these that I now turn.

4.2.2 NEGOTIATING DEFINITIONS AND ROLES

Sigillata studies tend to gloss over the firing process as a mere organisational hurdle. Once the technology for firing large batches of sigillata in an oxidizing kiln atmosphere was known, it was but a matter of investment and internal organisation to successfully implement it – or so the standard retrospective argument goes.³⁷³ Experimental studies serve to chart the precise correlations between investment, resources and output in this equation.³⁷⁴ The underlying rationale is that the firing of sigillata was mastered by a combination of skill and investment. But is this the full picture?

Ethnographic studies show that firing is one of the most crucial and uncertain stages in pottery production around the world, with a high symbolic leverage.³⁷⁵ This fits with a more general enchantment produced by complex technological processes.³⁷⁶ These studies amplify functionalist narratives by recasting technology as a meaningful strategy for making sense of the world.³⁷⁷ Firing was one of the most uncertain stages in the production sequence of sigillata too. Firstly, firing was irreversible: whatever the outcome, it could not be corrected. This is in marked contrast to previous stages in the production process that led from clay and water to a leather-hard formed pot, which could theoretically still be remodelled into a new sigillata pot. Rejects from firing, however, were dumped on the production site instead of being re-injected into the production process.³⁷⁸ As sigillata clays were fine and not tempered, misfired pots could not be recycled as grog. Secondly, firing was an obscure stage, which not only necessitated specialized skills but was also shielded from view as an indirect consequence of the closed nature of the kiln infrastructure, with only narrow access to the firing chamber.

This uncertainty was decisive for the different roles in sigillata production. The first such role is related to craftsmanship as 'doing a good job', and hence to the potter, workshop, or *officina* as a craftsman/association of craftsmen.³⁷⁹ In contrast to previous stages in the production process, the potter could not directly determine what happened to the pot in the kiln. The direct causal relationship between skilled bodily movements and adjustments to the shape or composition of the modelled clay was cut. As a consequence there was a constant threat of alienation between pot and potter. The pot was both an extension and a self-realization of the potter: if this would fail, then the potter would be both economically and socially discredited. Moreover, if firing was not successful, the pot was rejected and the potter's stamp³⁸⁰

³⁷³ Picon 2002b.

³⁷⁴ de Casas/Fernandes 2002; Fernandes/Fernandes/de Casas 2005; Schaad 2007, 219 ff.

³⁷⁵ On ceramic production: Birch Aguilar 2007; Dean 1994; on metalworking: Blakely 2006; Childs 1999; Giles 2007; Haaland 2004; Herbert 1993; Swenson/Warner 2012.

³⁷⁶ Gell 1992, 1998.

³⁷⁷ Dobres/Hoffman 1994; Latour 1991; Lemonnier 1986, 1993; Pfaffenberger 1992.

³⁷⁸ Genin 2007.

³⁷⁹ The literature on craftsmanship is expanding, e.g. Sennett 2008; Ingold 2010.

³⁸⁰ The role of the stamps is debated, and is likely to have varied across time and space. In this chapter stamps are linked to the producing parties (potters, *officina* owners, or workshop groups). Moreover, the correspondence between the names on the firing lists and the attested stamps is only partial: 'of 163 names on the firing-lists only 54 are the same as those of contemporary potters who stamped samian (33 per cent), 87 names are not known on contemporary stamps (53 per cent), and the remaining 22 names (14 per cent) are unlikely on the whole to be related to contemporary stamps' (Hartley/Dickinson 2008–12, 23). Also Oxé/Comfort/Kenrick 2000.

on its base was knocked out, thus materializing this alienation.³⁸¹ Rejects range from fused stacks found in a ditch at La Graufesenque to pots with minor deviations of cracking, surface finishing, or form.³⁸² This demonstrates that the nature of a ‘proper product’ and the attendant ‘craftsmanship’ were clearly defined. If however firing was successful, the pot was sold on as a product advertising craftsmanship, and the potter or *officina* owner became recognized sources of quality pottery.

On the other hand, the stakes in firing for the role of investment in sigillata production were high too. Large kilns and firing infrastructure amounted to a considerable part of funds and know-how, and the firing process crystallized all of the investment in sigillata up to that point (labour, raw materials, skill, etc.). Hence firing also decided whether or not investment and resources would turn into returns. As a consequence, firing connected and tuned two different definitions of sigillata, based on the perspective and the needs of respectively production and investment – regardless of whether or not these roles overlapped (i.e. whether potters actually invested funds themselves).

The firing process was therefore an uncertain moment at which different roles were (re-)defined and the attendant norms were negotiated. Anthropological studies have noted that participation in technical activities is choreographed so as to lead to ‘the creation of the type of *personhood* that the community deems essential to its viability’.³⁸³ Through the activity, the norms and rules for ‘good selves’ and ‘bad selves’, or, in this case, for ‘good potters/good investment/good sigillata’ and ‘bad potters/bad investment/bad sigillata’ were negotiated and reaffirmed. This attribution of identities happened regardless of whether or not there was a causal relation between a ‘good potter’ or a ‘good investment’ on the one hand and ‘good sigillata’ on the other: these roles were at stake in a process (firing) they could not fully control. All of this suggests that an interpretation of firing as an organisational stage of sigillata production only covers part of the story.

4.2.3 PRESCRIBING PARAMETERS

If these different roles negotiated their respective definitions of sigillata through firing, then where did this leave the pots and the parameters by which they were defined and evaluated? This is where the firing lists as history-makers come in: careful reading reveals that their role might not have been limited to documenting production organisation. For example, although most adjectives qualifying the types of pots tend to be specifications of size and dimensions – which makes sense as an accounting measure as the pots would have been stacked in the kiln by size – some adjectives talk about different aspects.³⁸⁴ There are several mentions of types of red: *aematina* (‘blood-red’ (like opaque red glass)), *mi[niata* (‘coloured with red’), *bur[ra* (‘red’).³⁸⁵ Descriptions of a red exterior colour only make sense after firing, after the chemical reactions altered and fixed the exterior colour and hue of the slip. In other words, not only do the firing lists keep track of the pots loaded into the kiln, they also de- or pre-scribe sigillata as the projected end result of successful firing: a pot of a certain form, function, size and colour – a ‘good’ sigillata pot.³⁸⁶ Key for the present analysis are not as much the actual descriptions of the colours and the different shades they denote, but the very degree of specificity that the medium of text allowed for and by which it enabled a fine-grained classification of that which was being described (sigillata). It follows that attempts at reconstructing direct semantic relations between specific terms and specific shades of red slip are in vain – sigillata scholarship tends to be able to distinguish between such shades only in cases of different production centres or radical chronological and technological changes.³⁸⁷

³⁸¹ Dannell 2002, 218, footnote 54.

³⁸² *Fosse Cirratus* (Genin 2007, 55–70).

³⁸³ Pfaffenberger 1999, 153 (original emphasis). Cf. Miller 2008, 58. Budden/Sofaer 2009 for a similar analysis.

³⁸⁴ Marichal 1988, 82–83, who argues that adjectives other than size were mentioned only if size was irrelevant for

recognizing a certain type of pot, e.g. for *catili* and *paraxidi*.

³⁸⁵ Marichal 1988; Mullen 2013. Bradley 2009 on colour in the Roman world more generally.

³⁸⁶ Cf. Austin 1962 on performative speech acts.

³⁸⁷ Brulet/Vilvorder/Delage 2010.

A more general tension is evident between the fairly standardized format of the opening formulae and organisation of the lists, and the great variety in vocabulary, with many quasi-synonyms and unique terms.³⁸⁸ Moreover, none of the adjectives mentioned on the lists differentiates between what archaeologists have seen as discriminating aspects for the creation and identification of types, for example the profiles of different ‘services’, the differentiation between plain and decorated bowls etc. This is not merely an issue of etic versus emic categories, as some of these analytical differences reflect markedly different ways of doing in the past. What mattered was not accurately describing the individualizing specifics of every single pot, as much as *pre-scribing* it as if it was already a successfully fired pot, which could *potentially* be characterized by its specific traits and distinguished from other pots. The lists thus *constituted* parameters of definition and evaluation for the finalized product of sigillata. Where the previous chapter described the emergence of sigillata as a category defined by binary boundaries and a package of traits through production practices, the firing lists helped substantiate these traits.

Furthermore, the firing lists materialized a shift in the scale at which sigillata production was conceptualized. During the modelling process sigillata would have been understood based on individual pots, linked to individual potters, workshop units or *officinae*. Indeed, a potter could only handle a single pot at any one time, however little time needed. By making the sum of the individual number of pots per potter or supplier, the lists enabled this sum total to be understood as a new whole, and, as a consequence, to change the relevant unit from the single pot to the kiln load. What is more, it is likely that this shift was prefigured in the way the firing lists were compiled: internal variation in vocabulary and declensions shows that they were possibly the result of a copy-paste process of a series of shorter notes – some of which have been found.³⁸⁹ The rarity of such finds, however, makes it doubtful that this was the regular practice.³⁹⁰ In any case, even though a temporary succession of copy-paste may have taken place, both the shorter (delivery or loading) notes and the firing lists were eventually included in the kiln load to be fired, and thus took part in the same uncertain process of firing.

Adjectives and quantification – and the attendant switch in scale – laid down a template for sigillata, which was not neutral but made ‘comparable activities and processes that may otherwise have [had] little in common’.³⁹¹ By effecting a shift in unit, the firing lists entailed new possibilities for trade: instead of having individual pots trickle through the mazes of distribution, wholesale batches could be sent off after firing. And by pinning down the traits by which the desired end product could be defined – colour, form, dimensions, etc. – with a notable degree of specificity, the lists created possibilities of comparison, measurement and calculation.³⁹² The lists thus served to articulate the possibilities for action created by sigillata’s definition as a category in production. As a consequence, sigillata defined accordingly could enter into practices that required accountability, comparison, etc. Put differently, ‘accounting’ as a type of action both presupposes and creates kinds of things with the possibility of individual identification (e.g. this specific dish of size x carrying stamp y), grouping (e.g. all dishes of size x), comparison (e.g. potter x brought a number of dishes of this type, and this is less than potter y), and finiteness (e.g. a finite number of pots can go into a kiln load).³⁹³ The possibility of using the lists as accounting devices to calculate profits or returns³⁹⁴ is thus not ruled out by the analysis developed here – but becomes coextensive with a process whereby the lists constituted the accountability of sigillata itself. Considering things as history-makers again amplifies their potential as history-tellers.

And this is precisely where the La Graufesenque firing lists differ from similar Roman ‘tally lists’ involved in tile production, which include no description whatsoever of the expected products. If there was any projection of the end result involved, this was of a very different nature, less amenable to internal

³⁸⁸ Marichal 1988, 83.

³⁸⁹ Bémont 2004, 126; Marichal 1988, 103–105 (Mar. 77, 82, 90); Lambert 2002.

³⁹⁰ Dannell 2002, 220, footnote 67.

³⁹¹ Miller 2008, 58.

³⁹² Callon 1998a; Slater 2002a, 2002c.

³⁹³ Cf. Callon’s (1998a, 1998b) inquiry into the mechanisms that make neoclassical calculative action possible.

³⁹⁴ As ‘*eine Art Buchführung*’ (Fülle 2000a, 63); or as enabling the calculation of profit per potter, as the supplied pots minus the division of costs for marketing and distribution (Nieto 1986, 109).

differentiation and specification. As a consequence, the modalities of framing the uncertainty of firing, if not the uncertainty itself, have to be seen as specific performances developed in the context of sigillata production. Whether or not this was peculiar to La Graufesenque, or had wider currency among sigillata production sites, and, if the latter, how this practice was transmitted, remains obscure. Fragments of similar lists have been found on a number of other sigillata production sites, but none of these offer any scope for seriously tackling these issues.³⁹⁵ It is my contention, however, that the way in which the firing lists pinned down defining traits for the end result of ‘good sigillata’ chimes with sigillata’s definition as a category in production practices as described for 2nd century Lezoux in the previous chapter.

4.2.4 DISTRIBUTING AGENCY

What was it about the firing lists that allowed them to negotiate definitions and roles and to prescribe parameters for sigillata? Put differently, what was the source of action? The previous section has mentioned different ways in which the lists shaped action, which could ultimately be traced back to affordances of a textual and numerical syntax, such as the differentiation they allow for. But more relations can be traced.

The practice of inscribing actual sigillata plates and firing them along with the vessels thus described cannot fully be explained as assuring the authenticity and durability of bookkeeping records, or as outweighing the use of scarce papyrus.³⁹⁶ The lists were inscribed on a medium that itself had to undergo the uncertain process of firing in order to be transformed, not from clay into sigillata but from clay into record. A firing list occupied a liminal position relative to the rest of the pots: itself prevented from becoming sigillata from the moment it was inscribed (after the slip was applied and dried), it facilitated the transformation of the kiln load into ‘good sigillata’. Inserting the projected outcome of the firing process – the successfully fired kiln load as described on the list – denied the uncertainty and implied institutional confidence in the reality of successful outcome. Moreover, the lists can be argued to have been incorporative of the entire fired sigillata batch. This was enabled by the specific combination between the affordances of the lists-as-things (visually (same shape and colour) and causally (result of the same production process) linked to the other pots) and those of the lists-as-texts (symbolically crystallizing the entire kiln load).³⁹⁷ Because the lists indexed the successfully fired pots, but remained themselves at the production site, they prolonged the links between the producers and the pots that were traded on.

But even the combined affordances of text and thing did not fully exhaust the role of the lists as history-makers. With regard to the ancient Greek world, a late 6th century BC black-figured vase painting depicts a workshop of ceramic containers, including the kiln equipped with an apotropaic mask and olive branches.³⁹⁸ A similar appeal to unaccountable forces to protect the firing process is vividly illustrated in the so-called kiln poem from the *Life of Homer* by pseudo-Herodotus (variously dated to the 2nd–3rd centuries AD³⁹⁹, or between 130–80 BC⁴⁰⁰). Of particular interest is the listing of five bad spirits (‘ravagers of kilns’), which objectify all that could possibly go wrong in the kiln (cracking, breaking, collapsing of pile, overfiring, distortion).⁴⁰¹ But above all, the poem attests to the paradox involved in trying to manage firing: scrupulous observance of all necessary steps is needed, but eventually the outcome is still a matter of hoping and waiting, often subject to the whims of unaccountable forces. Accountability is never contained in or guaranteed by the preceding steps, and unaccountable uncertainty does not easily translate into calculable risk.⁴⁰² As Marian Naranjo, a potter in New Mexico, testifies:

³⁹⁵ Marichal 1988, 16; Mullen 2013, Appendix.

³⁹⁶ Marichal 1988, 15–17.

³⁹⁷ Knappett 2002, 2005.

³⁹⁸ Hampe/Winter 1962, 54, 114. I am grateful to Athéna Tsingarida for this information.

³⁹⁹ Noble 1966, 102.

⁴⁰⁰ von Wilamowitz-Moellendorf 1916, 413–439.

⁴⁰¹ Noble 1966, 103–105.

⁴⁰² Cf. Hennion 2001, 12 on the framing of an unaccountable or passionate music experience.

‘After you have done everything patiently and carefully, you just hope, until the firing is finished, that all the pots turn out. (...) You have to be real clean about every stage of your work, or else the finished product will not turn out right. Even your feelings have to be real good’.⁴⁰³

In other words, there is always something escaping full calculation, and that may be precisely what is needed to make firing work.⁴⁰⁴

This ‘something’ is also hinted at by the firing lists – differentiating them even further from the Roman-period tallies on tiles discussed above. The opening heading of the lists sometimes contains the term *legitumu*, referring to some kind of control or legitimization.⁴⁰⁵ A control mechanism fits well into the discourse of authenticity and rationality associated with a retrospective reading of the lists as accounting devices. But again the evidence is rather more complex. The term *legitumu* is associated with *casidanos* (Gaulish) or *flamen* (Latin). Much has been written about the ‘who’ and ‘why’ behind these parallel terms – in particular *flamen*, as the etymological roots of *casidanos* remain obscure.⁴⁰⁶ The interpretations advanced so far identify the terms either as devices for eponym dating or as referring to firing masters. Marichal’s hypothesis is that the *flamines* on the lists are analogous to provincial priests, and are mentioned as a means of eponym dating.⁴⁰⁷ The mention of *flamen* would thus be primarily a means of dating consecutive kiln firings, and, presumably, of keeping track of the fired batches. Strobel, in turn, traced the etymological roots of *flamen* back to *flamma*, emphasizing the link between fire/craft and cult/priests.⁴⁰⁸ As a result, he arrives at an identification of the *flamen/casidanos* as firing master.⁴⁰⁹ Note that those who are named as *flamen* or *casidanos* sometimes also feature as potters in the actual lists.

One way to escape this etymological conundrum is to ask how the text as writing actually enabled and constrained the course of practice. Beard has claimed that the practice of writing shaped the nature of Roman pagan religion and of the possible relations within that religion.⁴¹⁰ How did the written mention of *flamen/casidanos* affect the agency of the firing lists, what did it allow them to do?

Mention of *flamen* or *casidanos* seems to have gone hand in hand with the inscription of either a cross or a raven on the base of the plate (which by then had become a list). Although its precise connotation is unclear, the raven represented a powerful and ominous force according to Celtic tradition.⁴¹¹ In particular, the raven was associated with prophecy and had ‘alleged prognostic powers’, exceptional intelligence and skills.⁴¹² These capacities fit remarkably well into a narrative of firing lists as projecting and enforcing an expected future outcome of a process requiring great but obscure skills.

In light of the ample ethnographic and archaeological evidence on the ritual and religious connotations of firing referred to above, it is surprising that scholars have been so reluctant to emphasize this aspect, as both the raven and the term *flamen* indicate some kind of ritual or even magical capacity.⁴¹³ This betrays a deep-rooted polarization between economics/calculation and magic/ritual, by which the former equals a progressive disenchantment of the latter.⁴¹⁴ Conversely, as the ‘Other’ of rational economic action, magic is often defined in wholly constructivist terms.⁴¹⁵ When considered as practices *shaping* rather than *reflecting* possibilities for action, however, the distinction becomes less sharp, and the firing lists suit both accounting strategies and magical practices as a ‘kind of coercive proceduralism’⁴¹⁶.

⁴⁰³ Dean 1994, 287.

⁴⁰⁴ Gomart/Hennion 1999 on drug users and music amateurs.

⁴⁰⁵ Marichal 1988, nrs 4, 6, 8.

⁴⁰⁶ Lambert 2002, 111–112; Marichal 1988, 98; Mullen 2013; Strobel 1992, 43 and footnotes 95, 96.

⁴⁰⁷ Marichal 1988, 98, disproving Vernhet’s (1979, 21) hypothesis of watermarks preventing imitation.

⁴⁰⁸ Strobel 1992.

⁴⁰⁹ Disputed by Fülle 2000a, 83.

⁴¹⁰ Beard 1991.

⁴¹¹ Bloch 1976, 19–32.

⁴¹² Ross 1967, 311.

⁴¹³ With the exception of Mees 2012. Note the prominent position of two *fana* and a later temple amidst the potters’ quarter at La Graufesenque (Schaad 2007, 85 ff.).

⁴¹⁴ E.g. Weber 2001 [1930].

⁴¹⁵ E.g. Gordon 1999, 159: ‘a shared construction, a child of the imagination’.

⁴¹⁶ Appadurai 2012, 8.

The combination of the formula, the role of *flamen/casidanos*, and the act of inscribing a cross or raven should be seen as a ritual acknowledgement meant to bring about the desired end result of successful firing: sigillata pots with a well-defined package of traits (colour, shape, size, etc.). As such this 'ritual' practice eventually enabled the definition of sigillata as a category, facilitating comparison and calculation, and thus its enrolment in 'economic' transactions.

It is thus impossible to pin down a single source of action. As soon as agency is located, it escapes, from the text, to the thing, to unaccountable forces and priests. Firing lists were at the intersection of a network of practices that *as a mechanism* – not as a source of action – framed the uncertainty of the firing process and compelled a specific end product. More specifically, it pinned down the defining traits that make up the package of the category of sigillata.

4.2.5 A PATCHWORK OF PRACTICES

The previous section has examined what the firing lists did by inserting them in the practice of firing. But the lists were enrolled in a patchwork of further practices, including practices of production and deposition.

Firing lists did not exist as such before inscription, which set them apart from the remainder of the batch of pots to be fired. Because they were themselves written on pieces of 'sigillata in the making' (*before* these became 'sigillata as a category' through firing), the lists had a continuing, incorporative relation to the batch in question. This link was further reinforced and specified by the text, which defined the projected end result as a kiln load of fired sigillata of particular shape, size and (sometimes) colour. But the text can also be considered as an engagement in material practices, as an act of writing.⁴¹⁷ As material engagement, carving lines in cursive writing is very similar to carving lines when drawing crosses or ravens; especially since both used the same medium of leather-hard clay. Here too the practice, the very act of doing, constructed a meaningful, active link. The crosses and ravens come in different types, with various 'hands' producing variations on a shared template. While the ravens for instance are always drawn facing the same direction and following the same broad hand movements, they range from schematic depictions to very detailed elaborations, including feathering on the feet. The combination of a more or less formalized template with considerable latitude of variation in its actual contents reiterates the same tension observed with regard to the vocabulary and formulas used in the text. The connection thus established tied together sigillata as the expected outcome (written as text) and the unaccountable forces called upon to compel this outcome (drawn as ravens).

What if things went wrong, if one of the links did not perform? Rejects with knocked out stamps were mentioned above. But what happened when the misfired pot was the firing list itself? Unfortunately we are bound to speculate on this point, as no example of a misfired or rejected list has been retrieved. One fragment of a firing list has a central gap partly erasing the stamp, but the dented edges suggest that this was caused by post-depositional processes rather than by the knock of a sharp object.⁴¹⁸

In fact what happened to the lists after firing remains unclear. Hermet unearthed the most complete lists at the start of the 20th century. Precise contextual and stratigraphic information on these finds is lacking, but on the basis of excavation notes and plans it can nevertheless be posited that they originated from two close but distinct findspots.⁴¹⁹ Bémont even speaks of a kind of '*dépôt*' or repository where each example of those firing lists would have been kept in a good state.⁴²⁰ Later excavations by Vernhet using more accurate registration procedures yielded a substantial additional number of *graffiti*, but all of a more

⁴¹⁷ Ingold 2007a, 2007b.

⁴²⁰ Bémont 2004, 114.

⁴¹⁸ L-30g: Lambert 2002, 97.

⁴¹⁹ Dannell 2002, 215; Marichal 1988, 3–6.

fragmentary nature.⁴²¹ Some seem to have been deliberately broken, for example to repair the fill of a road crossing the workshops. Even though it is clear that Hermet picked out the nicest, most complete examples, it is nevertheless remarkable that no well-preserved lists have been found in any of the recent excavations.⁴²² This pattern of finds seems to point towards different modalities of treating the lists after firing, possibly in relation to the outcome of the firing process, i.e. how well the lists had performed, by the parameters they themselves had set. Could it be that a firing list that did indeed manage to steer the firing process to a successful end result was kept and filed, while one that had failed to do so was itself destroyed?

4.2.6 FROM CATEGORY TO COMMODITY

The firing lists not only represented or documented a world outside (e.g. production organisation, potters' community), but actively helped constitute this world and the possibilities for action in it. More specifically, the lists aimed to stabilize the uncertain but crucial process of firing by inscribing the projected end result of successful firing. This expected end result was 'good' sigillata, characterized by well-defined forms of certain size ranges, with specific kinds of red colour, etc. As such the firing lists continued sigillata's definition as a category as enacted in production practices. These 'good' sigillata pots in turn affirmed the craftsmanship of their potters, workshops or *officinae* and were the basis of the profits of those who had invested in the production. In sum, firing acted as a bottleneck for negotiation and affirmation of what counted as sigillata and what did not, and the firing lists were active gatekeepers of these standards.

While the previous chapter already discussed comparability as one of the consequences of sigillata's definition as a category, this can now be extended to accountability and commodity exchange. Accountability is not an a priori of a certain economic system (e.g. market-oriented commodity exchange), but arises as a function of a specific set of practices. The accountability of the firing of sigillata – and, as a consequence, of sigillata itself – had to be carefully performed. The firing lists had a leading role in this performance of reducing the uncertainty of firing and of pinning down and compelling certain attributes of the expected finished products. While sigillata was being defined as a category with a binary boundary and an identifying package of traits through production practices, the firing lists further articulated these traits and paved the way for these pots to be exchanged as commodities. Sigillata was *made* into a tradeable commodity by configuring the attendant roles (e.g. investment) and parameters (e.g. sizes), which in turn enabled certain kinds of economic action (e.g. comparison, calculation). The firing lists lined up roles, successfully closed the production sequence, and provided a template for the resulting products, thus facilitating the products' exchange. The conditions for economic action, social roles, and relations of meaning and power are all coextensive and negotiated through material practices. Within such an approach the firing lists' appeal to ritual, for example, no longer precludes an outcome of economic calculability and commodity exchange.

4.3 SIGILLATA ON THE MOVE: CHANGING PARAMETERS AND THE KILN LOAD MODEL

Following the trajectory of a fired batch of sigillata from La Graufesenque onwards, this chapter enters the more traditional grounds of ancient economic history. The starting point is sigillata defined as a category, whose package of traits has crystallized, and whose relations to production have been cut. At this stage, sigillata was ready to enter into commodity exchange. But commodities were not singularly

⁴²¹ Marichal 1988, 6–8.

⁴²² Schaad 2007.

defined either. Instead, at different stages in sigillata's distribution, different situational parameters prevailed, and different characteristics from its defining package of traits were foregrounded. Four rare sets of unused sigillata allow probing four different stages in the exchange of 1st century AD sigillata from La Graufesenque: an assemblage from Port-la-Nautique near Narbonne, a shipwreck (Cala Culip IV) off the Catalan coast, two Colchester 'pottery shops', and a crate of decorated sigillata in a house in Pompeii (Fig. 3.2 for location of these assemblages).

4.3.1 INTERMEZZO: SIGILLATA PRODUCTION ORGANISATION

Vigorous debates have been waged over the riddles of sigillata production organisation, in particular focusing on evidence of stamps and firing lists from La Graufesenque. Throughout the 1st century AD, most sigillata forms carried an epigraphic name stamp on their inner base. Stamps with different readings referring to the same name are separated out as individual dies. All stamp and die numbers used in the following analyses are based on the Leeds index as published in *Names on Terra Sigillata* by Hartley and Dickinson (2008–2012). The exact role of the stamping practice remains a bone of contention, and was in all likelihood subject to chronological and geographical variation. As stamps were applied before firing, at the very least they can be taken as a generic index of the production process. But just what form this index took is unclear, and different interpretations feed into different implicit assumptions about the organisation of sigillata production, and, on a bigger scale, about the nature of the Roman economy. Sigillata production organisation has been described on a sliding scale from industry⁴²³ or manufacture⁴²⁴, to nucleated workshops⁴²⁵, or even '*artisanat groupé*'.⁴²⁶

This prequel does not aim to get into the nitty-gritty of the debate, which remains largely beyond empirical testing. But before developing the case studies below, I need to sort out some of the practicalities involved in the organisation of sigillata production. Firstly, it would have been normal practice for sigillata kiln loads to contain pots made by different potters, workshops, or *officinae* (i.e. carrying different stamps). This follows from the sheer volume of some of the kilns such as the *grand four* at La Graufesenque (measuring 7 x 7 m), from the organisation of the firing lists with separate lines headed by different names, and from deposits at the production site such as the *Fosse Cirratus* containing fused stacks of pots stamped with different names.⁴²⁷

Secondly, it is very unlikely that individual potters or workshops would have claimed their pots after firing, and would have organised distribution themselves. Ethnography of installations of similar size shows that the making and selling of pottery are generally separate activities.⁴²⁸ But there is also the practical difficulty of identifying and retrieving standardized pots from a fired batch. Granted, those responsible for the firing would recall how the pots were arranged in the kiln, and stacks would have been organized by form. But the sheer number of pots fired would have made this post-firing retrieval a very tiresome business indeed. Moreover, the tiny format of the stamps argues against this option, as does the fact that pots would have been stacked base-upwards, which would have made the stamps on the inner base invisible. Finally, the geographical distribution of stamps from La Graufesenque does not show the regularity one would expect if individual workshops arranged for distribution on the basis of personal trade networks. In contrast, such a pattern has been attested for the 1st century BC distribution of Italian sigillata produced in different workshops at Arezzo.⁴²⁹

⁴²³ Kenrick 1993; Pucci 1973, 1993 for a Marxist take on industry.

⁴²⁴ Peacock 1982.

⁴²⁵ Fülle 1997; Poblome/Bruet 2005 on *locatio conductio*.

⁴²⁶ Jacob/Leredde 1982; Dannell 2002, 236.

⁴²⁷ Schaad 2007, 190–206 on the *grand four*.

⁴²⁸ Peacock 1982, 119.

⁴²⁹ Kenrick 2004, 256–257.

This goes to show that communal firing does not need to imply a cooperative-like production organisation, with equal and autonomous potters. As mentioned in the previous chapter, investment probably forms the key missing link. My working hypothesis, therefore, is one where landowners provided the necessary influx of capital, and established some form of contract with the potting community, however the latter was organized internally, and whether this contract was based on rent or output. Decision-making with regard to means and output would then reside in the node between investors and traders, while the potters possessed the know-how and organised the actual production practices.

4.3.2 PORT-LA-NAUTIQUE: REGULAR TURNOVER

Although the importance of Narbonne as a commercial port is well attested in ancient texts, researchers struggle to link this to an unequivocal archaeological picture.⁴³⁰ Narbonne was separated from the Mediterranean by briny lakes. These acted as a buffer for coastal transport, but they were also under constant threat of silting up. The current hypothesis posits a possible fluvial port in Narbonne itself⁴³¹, and multiple (temporally consecutive?) outer sea harbours along the lakes where goods could have been transhipped on flat-bottomed vessels. The only candidate identified as yet for the latter function, however, is the site of Port-la-Nautique, along the northern shore of a lake, four kilometres south of Narbonne. Dredging works have identified a short activity period between 40 BC and AD 70, but some recently retrieved Greco-Italic amphorae might push this back as far as 150 BC.⁴³² Significantly, if Italian sigillata is found – mostly in relation to the early 1st century AD – it bears traces of use and *graffiti*, distinguishing it from other materials found in the port area that were clearly part of commercial cargoes.⁴³³

One of the only stratified assemblages at Port-la-Nautique has been excavated in a silted, now inland zone that would have been at the waterfront in the 1st century AD.⁴³⁴ The assemblage resulted from a test sounding to the west of the ruins of a large building with tiles and antefixes, then identified as warehouse, but later reinterpreted by some as domestic structures or exploitative *villae*.⁴³⁵ Later excavations east of the test sounding unearthed remnants of a large structure along the shore, poor in archaeological material, and identified as a warehouse for storage purposes.⁴³⁶ One of four identified layers contained about 300 kg of generally reconstructable sigillata forms, interspersed with few single sherds from amphorae and other ceramics and a coin dated to the reign of Claudius. Based on the stratigraphy and reconstruction of the assemblage it is clear that the ceramics form a homogeneous batch of complete and unused sigillata vessels that has been discharged in one go, between AD 50 and 60.⁴³⁷

The stamps and overall appearance of the vessels suggest a provenance from La Graufesenque, echoing what is known about that centre's distribution and marketing strategies.⁴³⁸ Pots were brought to Narbonne overland over the *cause du Larzac*, where they were either shipped in sea-going vessels for trade within the Mediterranean, or set out for a northwards route along the Rhône. One of the *graffiti* found at La Graufesenque gives some hints regarding the modalities of the first stage of overland transport from the production site, relating the activities of six slaves owned by a certain *Atilia*.⁴³⁹ Reference

⁴³⁰ Strabo, *Geographia* IV, 1, 6, 12; Diodorus Siculus, *Bibliotheca historica* V, 38; Sanchez 2002.

⁴³¹ Sanchez 2009, 300 ff.

⁴³² Sanchez 2009, 265, 279; Bouscaras 1974; Solier 1981.

⁴³³ Sanchez 2009, 275.

⁴³⁴ Fiches/Guy/Poncin 1978.

⁴³⁵ Sanchez 2009, 271 (based on fragments of wall-paintings, domestic waste and oyster shells).

⁴³⁶ Sanchez 2009, 272–274, Fig. 209 (reports unpublished).

⁴³⁷ Fiches/Guy/Poncin 1978, 187, Fig. 2. Dating based on stratigraphy, stamps and form ratios.

⁴³⁸ Only Salvius is attested at Montans instead of La Graufesenque, while the production of a few others (e.g. Dioratus) has not yet been localized (Fiches/Guy/Poncin 1978, 193). Montans generally distributed its products westwards (Martin 2001).

⁴³⁹ Marichal 1988, 226–227, nr. 169.

is made to transport to a number of places, including the number of days needed, and a general mention of *ad m[ercatum]* has been reconstructed in association with a ‘mule driver’.⁴⁴⁰ In short, the first stage of transport was being ‘catered for within the context of traditional market locations and without the need for the creation of a novel and specialized marketing network’.⁴⁴¹ Some form of leasing contracts (*locatio conductio*) can be hypothesized, but scholars are bound to speculation when it comes to identifying the actual legal agents.⁴⁴²

Can an inquiry into how sigillata was defined between the production site and the warehouse at Narbonne move beyond speculation? First of all, sigillata was not understood by reference to something else; space on the mules did not have to be shared with other products; risk (e.g. breakage or theft) pertained solely to the bright red pots newly produced at La Graufesenque. The cargo equalled sigillata, and, more specifically, sigillata from a single production site, La Graufesenque. The assemblage from Port-la-Nautique illustrates that this understanding of sigillata as a prime product in and of itself remained unaltered through storage in the warehouses: the stored piles that were dumped contained solely new sigillata pots.

It is possible to go even further and suggest an equation between the cargo transported overland and a single kiln load. Returning to the firing process, the previous section discussed how it altered the scale at which sigillata was made sense of: from individual pot to kiln load. Did this unit remain unchanged throughout transport to Narbonne? In other words, was a single kiln load transported as a whole instead of being fragmented or being temporarily stored at the production site? Several indications seem to suggest so. Nieto emphasizes the time pressure resulting from an overlap in seasonality between the firing of sigillata (between April and September, judging from the firing lists) and favourable conditions for shipping on the Mediterranean.⁴⁴³

But the strongest strand of evidence is that of the potters’ stamps. The assemblage from Port-la-Nautique yielded 428 stamps made by 90 different dies and mentioning the names of 53 potters.⁴⁴⁴ The internal division of the number of stamps per potter is interesting (Fig. 4.3), as more than half of the assemblage stemmed from only eight workshops, while about fifteen stamps are only represented once.⁴⁴⁵ The mass of the assemblage stored at a certain point in time in a warehouse at Port-la-Nautique thus consisted of the output of a limited series of potters, very much analogous to what can be reconstructed as (part of) a single kiln load based on the firing lists. It is true that the division of the quantities mentioned on the firing lists by potter varies, from a highly skewed (a single potter accounting for almost half of the assemblage⁴⁴⁶) to a fragmented distribution (with lots of smaller entries by different potters). Nevertheless, for any sigillata assemblage *en route*, one can still reasonably recognize the degree of closeness to one or multiple original kiln load assemblage(s): the difference between multiple contributions to a single kiln load will always be of a much smaller order of magnitude than if we are dealing with mixing of already subdivided lots.⁴⁴⁷ The logical consequence in the case of the Port-la-Nautique assemblage is that the homogenous subset (one or more kiln loads) had been transported as a whole to Narbonne, remaining indivisible throughout the journey.⁴⁴⁸

⁴⁴⁰ Nieto 1986, 112–113 identifies this ‘market’ as Narbonne. Given the modality of transport and the time ranges mentioned, however, I am inclined to map these ‘marketplaces’ onto intermediate stages, as *per* Middleton 1980, 189.

⁴⁴¹ Middleton 1980, 189.

⁴⁴² This brings us back to debates on production organisation, as *per* Nieto (1986; Nieto *et al.* 1989: 197–206) who claims that trade up to Narbonne was in the hands of a partnership of potters. Speculations on the agents of

trade abound, in particular on the role of the army (direct (Wells 1977a, 1977b, 1992) or via metal procurement (Middleton 1980, 1983)).

⁴⁴³ Marichal 1988; Nieto 1986, 108. Cf. Horden/Purcell 2000.

⁴⁴⁴ Also Rhodes 1989, 51.

⁴⁴⁵ Fiches/Guy/Poncin 1978, 190.

⁴⁴⁶ E.g. Masuetus in Hermet 1934, nr. 3.

⁴⁴⁷ *Contra* Walsh 2006, 231.

⁴⁴⁸ Nieto 1986, 108.

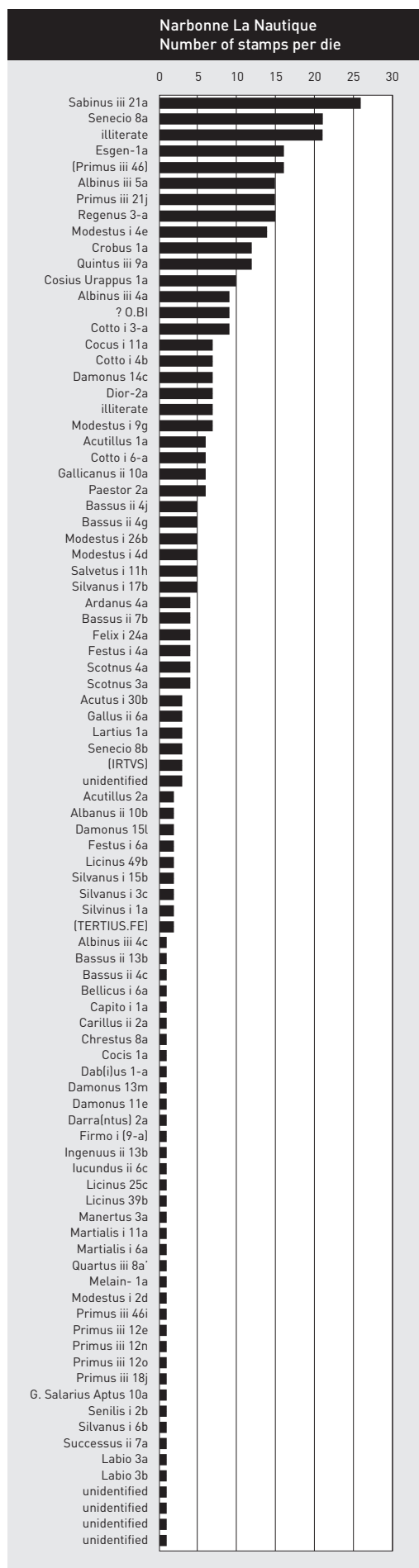


Fig. 4.3. Stamp distribution by die, Port-la-Nautique (AD 50–60). Data in Appendix 1, Table 1.

The more singular stamps in the remainder of the assemblage, however, indicate that this indivisibility was challenged upon arrival in the warehouse. Since some of the vessels in the assemblage from Port-la-Nautique were still piled up, they must have been dumped straight from the warehouse or storage space. It follows that within that warehouse the new kiln load(s) coming in as an indivisible unit was mixed with sigillata pots from previous deliveries. Because the latter were represented in the assemblage by a random distribution of stamps, a likely scenario is that the bulk of the batches (singular kiln loads) to which they originally belonged had been sold or traded on.⁴⁴⁹ So sigillata underwent another process of transformation – from a determined and bounded indivisible kiln load to a constantly changing ‘stock in the making’ – although the actual mechanisms (registration, infrastructure, ownership) facilitating this transformation are difficult to pin down. This shift also served to cut the final ties between production centre and products: by dissolving the ‘kiln load’ as accounting unit, the referential link to kiln, firing, and production was obliterated.

Can a closer look at the internal division of the stamps add anything to this picture? Fiches, Guy and Poncin have sorted the stamps by vessel form – with the inclusion of a generic category of plates/dishes when no differentiation could be made between the bases of Drag. 15/17 or Drag. 18 (Appendix 1, Table 1). To take the most commonly occurring names: 32 stamps of Modestus i are divided over four forms, including a single Drag. 29; 36 stamps by Primus iii encompass five forms, but with a marked predominance of two of them, while two forms are represented by 2 specimens only; 25 stamps naming Albinus iii include 4 forms, one of which with a single specimen; and 24 mentions of Senecio are limited to one single form, Drag. 24/25. So not only was there a skewed distribution of potters (or workshops) in relation to the number

⁴⁴⁹ Dannell/Mees 2013, 182 discard this hypothesis on the basis of a similar stamp distribution with a ‘tail’ occurring at *Fosse Cirratius*, a dump of fused sigillata kiln wasters. It is unclear, however, whether only those stamps represented by many examples occurred on fused pots that can actually be traced back to an initial kiln load.

of vessels represented, the stamps by those potters represented by the highest number of vessels also show a skewed distribution in relation to vessel form. So those few vessels stamped by potters rarely occurring within the assemblage as well as those vessels with a combination of form and potter's name represented by only a few examples are likely to have been residual pots from (a) kiln load(s) previously brought to Narbonne. A similar pattern can be detected when differentiating individual potters' stamps by die. The 24 examples of form Drag. 24/25 by Senecio were stamped by two different dies: die 8a accounts for 21 specimens, but die 8b only for 3. Again, one could hypothesize that these derive from different original kiln loads.

Further implications for the organisation of production at the kiln site will follow below. For now it is worth noting that it is impossible to differentiate chronologically between the two groups thus identified, as this temporal sequence of individual kiln loads being brought into the warehouses at Narbonne in all likelihood followed the rhythm of firing. Hence the chronological difference between consecutive batches would have been in the order of weeks or months, a resolution too fine for the mazes of dating based on stamps and forms. Only numerical analysis offers scope to tease out the rhythm of input of kiln loads in the warehouse and output of pots for shipment, and I will term the method for doing so the 'kiln load model'.⁴⁵⁰

Firstly, although the distribution of number of stamps per potter is skewed, it is not steeply skewed; or rather, it is multimodal (Fig. 4.3). The multiple, but flattened-out peaks of the curve are the remnants of multiple kiln loads being mixed into the assemblage. The large range of variation, and the rather small quantitative differences between consecutive 'peaks' argue for a regular rhythm of turnover. Secondly, the total number of pots per potter is many times smaller than the numbers given on the firing lists from La Graufesenque, which tend to be in the order of hundreds or thousands (pots of a certain form associated with a single (potter's?) name).⁴⁵¹ These two observations suggest that the assemblage dumped at La Nautique consisted of a random sample of unsold 'leftovers' from a warehouse, representing several instances of kiln loads being brought in and stock being sold on, rather than an aggregate of pots that were rejected upon loading a ship.⁴⁵²

But more was at stake in how the warehouse (and its practices) changed the definition of sigillata. From kiln to warehouse, the sigillata-on-the-move had one clear goal: to reach Narbonne. A clear sense of directionality was associated with sigillata: they were originally *from* La Graufesenque and travelling *to* Narbonne. This entails unequivocal parameters for evaluation: either sigillata did reach Narbonne and was registered and stored in a warehouse, or not. Once stored in the warehouse and undone from its referential ties to the production centre, this directionality was blurred, and sigillata's movement was halted. Its destination – the 'to' – became uncertain, both in time (when would it leave the warehouse) and space (where would it travel). The assemblage of Port-la-Nautique testifies to this uncertainty, as it never made it through storage. In this case, sigillata's trajectory was probably disrupted for contingent reasons that elude us now – e.g. no more space to fit in a cargo, repurposing and emptying of a warehouse, etc.

4.3.3 CALA CULIP IV: RECENT REPLENISHMENT

Evidence for a following stage in the distribution sequence comes from the extraordinary find of a shipwreck just off the coast of Catalonia, north of Ampurias (Fig. 3.2). At the site (Cap Creus) the coast curves outwards, which, in combination with the prevailing winds and currents, would have resulted in a highly dangerous point for ships.⁴⁵³ Hence the five shipwrecks of Roman date (Cala Culip I-V) found

⁴⁵⁰ There are obvious similarities between the arguments of Dannell/Mees 2013 and my approach, developed before the former's publication.

⁴⁵¹ Marichal 1988.

⁴⁵² Fiches/Guy/Poncin 1978, 188.

⁴⁵³ Nieto 1986, 82–86.

in that zone, of which Cala Culip IV is the only one presenting a consistent, non-dispersed assemblage. Culip IV – dated to the reign of Vespasian⁴⁵⁴ (third quarter of the 1st century AD) – was a small- to medium-sized⁴⁵⁵ vessel whose main load consisted of Dressel 20 olive-oil amphorae from Baetica (MNI 76) with a joint consignment of Baetican thin-walled pottery (MNI 1500) in addition to South-Gaulish terra sigillata (MNI 1974 (plain) + 753 (decorated)) and a small batch of lamps produced in the area of Rome (MNI 42).⁴⁵⁶ A very small number of other amphora types⁴⁵⁷ is likely to have been part of the cargo as well, whereas other singular objects have been identified as the crew's equipment⁴⁵⁸ based on their nature, location and traces of use.

The reconstructed movement of the goods is subject to debate. The model proposed by the excavator runs as follows.⁴⁵⁹ Larger ships with less mixed cargoes would have circulated key products directly among major port hubs. These hubs in turn acted as redistributive nodes catering for a smaller-scale network of trading routes and centres. Hence the olive oil contained in the Dressel 20 amphorae would have been shipped straight from Baetica in South Spain to Narbonne in South Gaul, which acted as a redistributive hub in the 1st century AD. The Baetican thin-walled vessels could have piggybacked on this large-scale transport of staple goods. Upon arrival at Narbonne this cargo would have been unloaded, and possibly temporarily stored, before being transhipped onto a smaller vessel as part of a more mixed assemblage of goods; in this case, including lamps that had come (maybe piggybacking too) to Narbonne from Rome, and a batch of South-Gaulish sigillata. As such a smaller vessel, Culip IV was on its way southwards from Narbonne, following the coast of Catalonia when it was probably overtaken by a storm. Its precise destination(s) can only be guessed, but Ampurias is a likely candidate: because the latter no longer functioned itself as a major hub in this period, it largely depended on Narbonne for its supply of all things Mediterranean. This explains why a ship seemingly moving Baetican products back to their origin (southwards) does not necessarily defy the logic of transport costs.

Millett has suggested another model for the movement of the goods on board Culip, based on the practice of *cabotage* or coast hopping.⁴⁶⁰ This type of trade whereby ships with mixed cargoes travelled small distances in between stops, trading bits and pieces of their cargo as they went, is in accord with the structural conditions of the Mediterranean and their impact on ancient trade.⁴⁶¹ Incomplete information, fragmented units, volatile weather and winds, would all have pleaded in favour of a sequence of smaller, changeable, and opportunistic movements. Directional long-distance shipping routes would only have been possible if these structural constraints were subdued by an external agency such as the state. But state supply and the long-distance routes it generated would have been directed towards Rome and the frontier zones.⁴⁶²

These different models do not make a major difference to how sigillata would have been defined on board Culip IV. Nevertheless it is worth invoking them as they illustrate how retrospective accounts – assuming that sigillata was the same thing throughout its distribution chain – run into the limits of using sigillata as a history-teller. In view of these retrospective limits, certain *a priori*'s are accepted (e.g. whether or not an external agency like the state was needed to deal with the structural parameters of the ancient Mediterranean), which force the debates on the Roman economy into a stalemate around

⁴⁵⁴ This postdates the Port-la-Nautique assemblage, but the general chronological horizon and same origin of the pots guarantees the reconstruction of a meaningful trajectory of sigillata.

⁴⁵⁵ Estimated carriage capacity ca. 8 tonnes; length ca. 9,5 m (Nieto *et al.* 1989, 229–230).

⁴⁵⁶ Data derived from report by Nieto *et al.* 1989. See also Picon 1986.

⁴⁵⁷ Recorded amphorae other than Dressel 20 all originate

from Baetica or Narbonensis, except for one Dressel 2/4 africana (Nieto *et al.* 1989, 74–76, 82).

⁴⁵⁸ Nieto *et al.* 1989, 215 ff.

⁴⁵⁹ Nieto *et al.* 1989, 239 ff.; Nieto 1986.

⁴⁶⁰ Millett 1993 and pers. comm.

⁴⁶¹ Horden/Purcell 2000. Arnaud 2005 advocates structured sequences of shorter routes.

⁴⁶² Hopkins 1980.

tags such as ‘modernism’ and ‘primitivism’.⁴⁶³ Instead of starting from such implicit, taken-for-granted assumptions, detailed case studies are needed from which to draw broader implications, which can in turn be re-injected into these debates. In this specific case, part of the answer to distinguish between the models of hubs or *cabotage* would lie in a non-retrospective study of the amphorae, which would have been either loaded directly in southern Spain or indirectly via Narbonne.

What can sigillata add to these debates? How was sigillata enacted on board Culip IV, how did its possibilities change between the warehouse at Port-la-Nautique and its sea journey, and what were the parameters for defining what counted as sigillata and what not in this stage? Sigillata was the sole product within a certain transport unit until it reached the warehouse in Narbonne. Obviously this changed once it became part of a multiproduct cargo, as in Culip IV. Now sigillata was one among many products to be transported and traded, and possibly a secondary one at that. As a consequence, not only was risk no longer crystallized around sigillata – as it had been during all previous stages of its trajectory – but sigillata could actually contribute to reducing the overall costs of the ship journey. Because the latter were almost invariant to the actual load carried, complementing the main cargo (olive oil) with additional secondary products (thin-walled vessels, sigillata) amounted to pure gain.⁴⁶⁴ Hence the new relations forged around sigillata by its becoming part of a multiproduct cargo altered the landscape of risk, and made sigillata into a relatively low-risk, high profit enterprise.

The reason why sigillata could have been a secondary product within the cargo of Culip IV, despite its numerical dominance, is because the unit of calculation was no longer the total number of pots (as on the firing lists) nor the individual kiln load (as after successful firing). Instead the parameter for comparison became volume. When Culip IV was loaded or filled up at Narbonne, the amount of sigillata requested from the warehouses would have been determined by the space left in between the Dressel 20 amphorae. The organisation of the latter would have been the major determinant in guaranteeing the stability of the ship. A balance between weight and volume (the sum of all sigillata fragments amounts to 737,6 kg⁴⁶⁵), both negligible compared to the dimensions of the olive oil and its containers (estimated gross weight 2204 kg⁴⁶⁶), became the main determinant of how many sigillata pots could be taken on board.

The modalities of packaging sigillata remain unclear. Wooden crates seem out of the question, since no indications have been found despite the partial preservation of wooden fragments belonging to the ship itself. Nets were visually depicted on a relief from Narbonne, but no traces of cords have been retrieved.⁴⁶⁷ What is clear, however, is that the sigillata vessels as a group were not randomly scattered throughout the cargo, but were mainly confined to the stern, with a few secondary concentrations near the bow.⁴⁶⁸ Hence they were enclosing the Dressel 20 amphorae occupying the central, probably most spacious, area of the ship.⁴⁶⁹ Internal sorting within these concentrations seems not to have happened by stamp, nor based on a distinction between decorated and plain wares. The only criterion that might have had an influence on the arrangement of sigillata vessels is homogeneity of size and dimensions, which facilitated piling and hence efficient use of space. The excavators distinguished between different modules of dimensions, which allowed them to note a concentration of smaller sized bowls and thin-walled vessels in one corner of the ‘sigillata zone’.⁴⁷⁰ So while volume was the main parameter, size acted as its practical corollary for sorting pots.

This helps to explain the presence of numerous ‘imperfect’ sigillata pots within the Culip IV cargo. Several vessels and sherds show signs of overfiring, wiped out decoration, or elongated rim openings. Nieto explains the fact that these deformed pots did apparently qualify for trade by a huge demand

⁴⁶³ Morley 2004, 33–50.

⁴⁶⁴ Nieto 1986, 86.

⁴⁶⁵ Nieto *et al.* 1989, 164, 185–190.

⁴⁶⁶ Nieto *et al.* 1989, 225.

⁴⁶⁷ Nieto *et al.* 1989, 230, fig. 310.

⁴⁶⁸ Nieto *et al.* 1989, 164 (plain wares), 173 (Drag. 29), 179 (Drag. 37).

⁴⁶⁹ Nieto *et al.* 1989, 79 (Dressel 20).

⁴⁷⁰ Nieto *et al.* 1989, 164.

that would always have surpassed supply: these pots could be sold anyway, but at a lower price.⁴⁷¹ This explanation hinges on a strictly modernist economic rationale that fails to appreciate the different kinds of economic ‘calculation’⁴⁷² and the changing parameters by which sigillata was defined and evaluated along its trajectory. Once these pots had managed to slip through the mazes of presumed post-firing control, their rejection or acceptance as proper products did not primarily revolve around the quality of their execution (as craftsmanship), but around their size, volume and weight. This meant that what archaeologists now recognize as ‘perfect’ and ‘imperfect’ pots did not necessarily come with a different risk for rejection at this stage.

Some pots were still piled up when found. One pile in particular is notable: three Drag. 37 bowls and two Drag. 29 bowls were contained one in another, from large to small so as to minimize the space occupied. Interestingly the excavators encountered a thin-walled vessel (form Mayet XXXIX) as top of that pile on the seabed. In an earlier publication, Nieto accepted this constellation as a reflection of the original situation during transport⁴⁷³, but later the team was inclined to invoke the post-depositional action of the sea to have caused the thin-walled vessel to slip onto an original pile of decorated sigillata⁴⁷⁴. Although plausible, this argument seems to contradict indications of the limited post-depositional displacement by the sea on the remains of the Culip IV wreck and cargo. Following the logic of space/volume it would make sense to allow for ‘mixed-type’ piles, organized solely on the basis of dimension. Sigillata and thin-walled vessels were both conceptually and practically merged as secondary products in the setting of the Culip IV cargo, and it would have made perfect sense for them to be piled up alongside one another, or even intermingled. Whether or not ‘mixed’ piles were common practice, the overall distribution of material shows that the concentrations of thin-walled ceramics more or less overlap with those of sigillata.⁴⁷⁵

Product differentiation within the cargo thus did not equal the ceramic classes as distinguished by archaeologists, nor did it hinge on origin as with the previous stage of directional trade. The idea of directionality was loosened; it was no longer limited by the unequivocal and defining ‘to’ and ‘from’ as it had been until sigillata reached Narbonne. Directionality was further negotiated with the environment, not in the least winds and seasonality. As mentioned above, both the firing season and the shipping season of sigillata would have coincided during the summer months. Stones of peaches found among the crew’s equipment in the Culip IV wreck show that this was no exception to this rule, and that its last journey took place during summer.⁴⁷⁶ The interplay between winds, geography and sea currents facilitates navigation westwards along the northern shores of the Mediterranean and eastwards along the southern coast.⁴⁷⁷ The north-south movement of Culip IV along the western edge of the Mediterranean thus made sense in terms of environmental affordances. Moreover, the properties of a smaller-sized ship like Culip IV necessitated such an increased negotiation with a wider range of actors. It is thus likely that any destination that had been set (probably Ampurias or its region in this case) became a more fluid notion than in a previous stage of directional trade: ‘Ampurias’ could possibly be replaced by ‘the region of Ampurias’, or ‘some other suitable place on the way to Ampurias where the goods can be sold’. Emphasizing such negotiation does not rule out *cabotage* as a model; but neither does it mean identifying an ‘anarchic’ trade pattern, which Nieto is at pains to denounce.⁴⁷⁸

The Culip IV sigillata assemblage shows a stamp distribution similar to La Nautique (Fig. 4.4; Appendix 1, Table 2) in which ‘23 of the 46 potters identified are represented by only 1 or 2 examples. The remainder of the potters are represented by a maximum of 1001 examples, but only 4 potters occur

⁴⁷¹ Nieto 1986, 107; Nieto *et al.* 1989, 161.

⁴⁷² Appadurai 2012; Callon/Latour 2011; Miller 2008.

⁴⁷³ Nieto 1986, 102.

⁴⁷⁴ Nieto *et al.* 1989, 179, 187–189.

⁴⁷⁵ Distribution of thin-walled ceramics: Nieto *et al.* 1989,

109.

⁴⁷⁶ Nieto *et al.* 1989, 215.

⁴⁷⁷ Arnaud 2005; Horden/Purcell 2000; Nieto 1986, 84.

⁴⁷⁸ Nieto *et al.* 1989, 239.

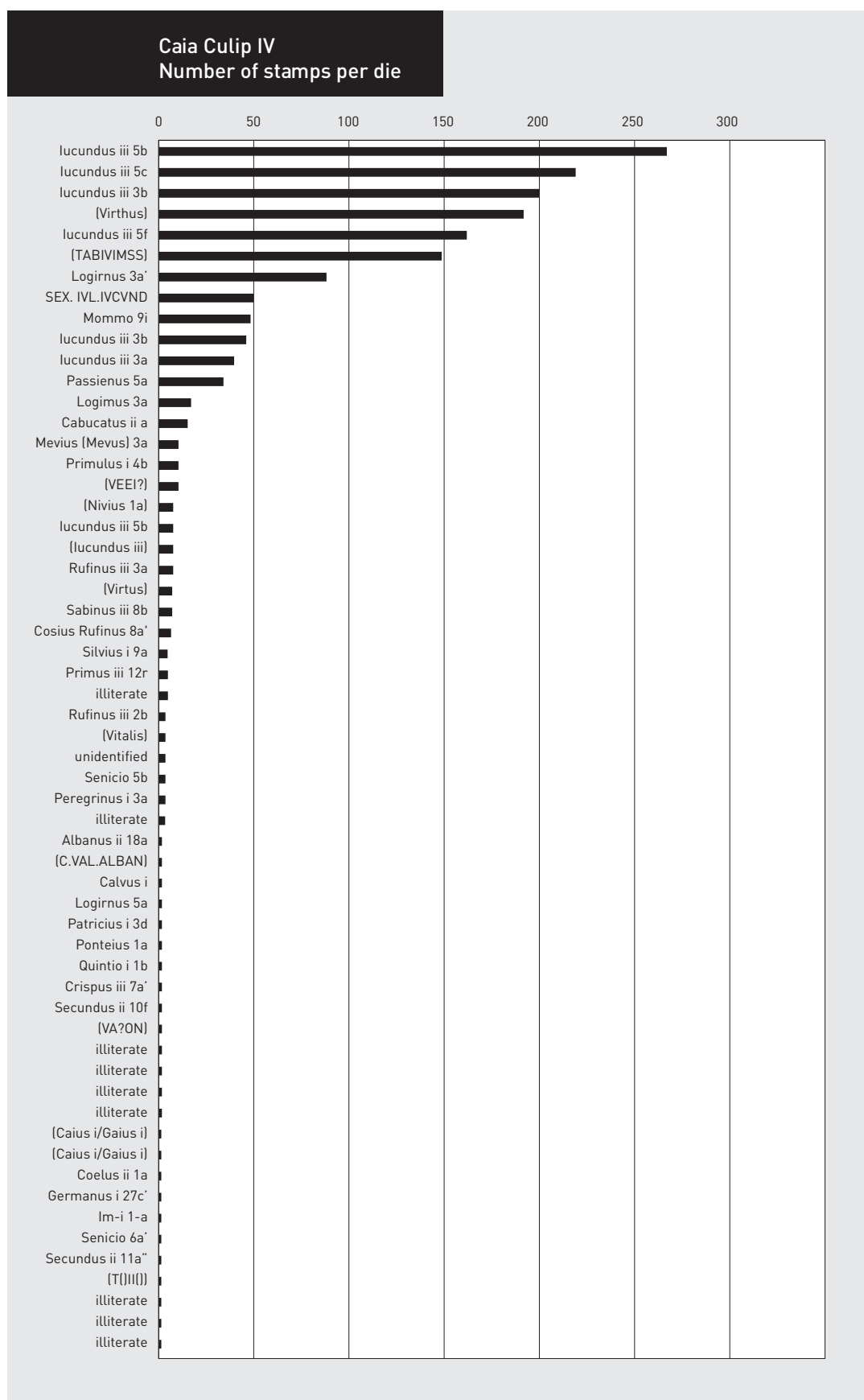


Fig. 4.4. Stamp distribution by die, Cala Culip IV (AD 69-79). Data in Appendix 1, Table 2.

more than 100 times'.⁴⁷⁹ For example with regard to form Drag. 29, 4 dies (7%) signed 99,1 % of all vases.⁴⁸⁰ The pattern does however not map completely onto that observed at La Nautique: whereas I identified a multimodal curve for La Nautique, reflecting multiple 'topped off' kiln loads; the Culip IV curve has a much steeper peak. This is mostly due to the extraordinary contribution of Iucundus, which is moreover mostly made up by two forms (Drag. 18 and Drag. 27).⁴⁸¹ The order of Iucundus' share is almost consistent with that of the individual tallies on the firing lists; his name alone matches 51 % of the total identified⁴⁸² single stamps. Following the 'kiln load model', this could mean that it was part of a kiln load very recently brought into Narbonne, and specific parts (probably defined by forms) of which were directly shipped onto Culip IV. Upon removal of the peak caused by Iucundus, the curve is still skewed, although less pronouncedly so.

Whether the remaining, more heterogeneous part of the assemblage is due to residual or unsold pots in the *warehouse* (hubs model) or on board of the *ship* (*cabotage* model), is difficult to determine. Millett suggested that 'the ship acted as a floating shop, from which only small batches were dispersed at each port of call, so that in addition to the sets of newest stock from the kilns the cargo contained remainders of earlier batches which had yet to be sold'.⁴⁸³ Following the entire trajectory of sigillata from production site to ship, however, demonstrates that the skewed distribution of stamps may just as well have its origin in the warehouses at Narbonne. The pattern of stamps observed at Culip IV would then be no more than a logical continuation of a shift that had already occurred at Port-la-Nautique, a change in the way sigillata was defined, and in the way it was measured: no longer as indivisible kiln load, but by volume and weight. Hence the observation of a skewed distribution of number of stamps per potter cannot in itself be taken to prove either *cabotage* or a model of redistributive hubs.

If a single die is present on different forms, these tend to be represented in very different proportions (Appendix 1, Table 2). For instance, the die Iucundus iii 3b⁴⁸⁴ was used on both Drag. 24/25 and Drag. 27, but counted only 7 times on the latter as against 193 examples of the former. Iucundus iii's main contribution of Drag. 27 in the Culip IV assemblage was stamped with a different die, Iucundus iii 5c. Following the hypothesis tracing the composition of this assemblage back to (part of) an incoming kiln load and several mixed-in ones, this differential proportion between different forms stamped by individual dies implies that for each kiln load each single die tended to be used for one specific form only. This correspondence between die and form varied with each firing event or kiln load, and, as is evident from a quick glance at the *Names on Terra Sigillata* catalogue, no universal correlation can be posited. A similar pattern can be noted for Port-la-Nautique, although less pronounced, as we are dealing here with more 'flattened out' peaks deriving from original kiln loads. For instance die Primus iii 21j⁴⁸⁵ is present on 13 examples of Drag. 24/25 but only on two examples of Drag. 27.

These observations have consequences for models of production organisation at the kiln site. It seems likely that the kiln load – as structuring principle in terms of investment and commercialization – determined the rhythm and modalities of production. For each kiln load, certain potters or *officinae* produced a certain number of pots of a certain form, or of multiple forms. Within the workshop the modelling was then organized on an ad-hoc basis, whereby each modelling sequence would focus on a single form and use a single die to stamp the resulting pots. Specialisation was thus a kiln load-specific concept *in practice*, and did not truly become tied to skilled craftsmen or to specific workshops. Even if agents of power cannot be identified, asymmetries are evident in that the principles of distribution constrained and shaped the possibilities of production.

⁴⁷⁹ Millett 1993, 418; Nieto *et al.* 1989, 200–201, Figure 148.

See also Dannell/Mees 2013.

⁴⁸⁰ Nieto *et al.* 1989, 191.

⁴⁸¹ Nieto *et al.* 1989, 200–201, Figure 148.

⁴⁸² Non-readable stamps (Nieto *et al.* 1989, 201, 18.1 ff.)

were excluded from the analyses.

⁴⁸³ Millett 1993, 419.

⁴⁸⁴ Nieto *et al.* 1989, 200, die 2.6.

⁴⁸⁵ Fiches/Guy/Poncin 1978, die 65.

At Colchester (Fig. 3.2), the assemblages of two so-called potters' shops have been related to destruction by fire during the Boudiccan revolt in AD 61.⁴⁸⁶ The pottery of the First Shop has later been re-dated to AD 50–55 by Millett⁴⁸⁷, but still falls within the Neronian–Vespasian horizon and can be treated alongside that of the Second Shop for the purposes of this study. Apart from unused South Gaulish sigillata, the assemblages also contained glass, colour-coated wares, and lamps.⁴⁸⁸ Seeds found in the Second Shop indicate that provisions such as barley, spelt, lentils, figs, and coriander had been stored alongside the table wares.⁴⁸⁹ The shop assemblages form a logical continuation of the trajectory of South Gaulish sigillata; even though they are part of a northern distribution network rather than a Mediterranean one as served by Culip IV.

Sigillata as a separate product

The shops consisted of small daub and timber buildings. Based on the stratigraphy of the First Shop it seems that the sigillata pots were stored in stacks base-upwards on a lower shelf or on ground level, with the glass vessels on a higher shelf.⁴⁹⁰ Sigillata was thus again part of a multiproduct assemblage. In contrast to Culip IV, however, sigillata was now differentiated more clearly from other products, a differentiation materialized by their respective position on different shelves. This is very different to the conceptual merging of sigillata and thin-walled pottery through the parameter of volume on board Culip IV. In other words, sigillata again became a product understood in and of itself.

The segregation of sigillata is reinforced by another site at Colchester, the destruction of which has also been dated to the Boudiccan revolt. On North Hill, insula 10, a large rectangular daub structure was subdivided into smaller box-like rooms on the east side and larger rooms on the west end. The eastern compartments contained lots of pottery, some stacked on shelves, alongside wheat and bronze scales. The pottery contained a series of almost identical *mortaria* all stamped by Quintus Valerius Secundus, a stock of similar flagons, and a variety of amphorae. The excavator interpreted the site as a store room or 'small-scale public depot'.⁴⁹¹ A specialist appendix by Dannell lists a series of sigillata forms found in the same layers. Millett later revisited the assemblages from the original excavation and produced approximate spatial distribution maps of the different material categories, including sigillata.⁴⁹² A larger than average presence of sigillata in room 1 overlapped with a concentration of *mortaria*. Flagons and amphorae were comparatively focused on room 5, which lay opposite to, but not in direct connection with room 1. This pattern thus suggests that if sigillata was to any extent involved in the warehouse facilities of the building, it seems to have been characterized by an association with *mortaria*, and a differentiation from flagons and amphorae. Whether this association was due to supply networks or different mechanisms for storage and sale is difficult to tell. In any case, sigillata was not randomly mixed in with other goods, and operated as a meaningful unit in relation to other products.⁴⁹³

*Assemblage composition and modalities of trade*⁴⁹⁴

The previous case studies have shown that sigillata stamp distributions can be related to the modalities and rhythm of trade. This general method could be called the 'kiln load model', based on study of stamp distributions, where the meaningful unit of analysis is a unique combination of die and form, which can

⁴⁸⁶ Hull 1958, xxvi.

⁴⁸⁷ Millett 1987b (see below).

⁴⁸⁸ Hull 1958, 152–158 (First Shop), 198–202 (Second Shop).

⁴⁸⁹ Rhodes 1989, 53.

⁴⁹⁰ Some of the molten glass had dripped onto the sigillata.

⁴⁹¹ Dunnett 1966, 33.

⁴⁹² Millett 1983, 174.

⁴⁹³ 12 dies were recorded by Millett (1983, 305–313) for insula 10, none by the same potter. Except for four examples of Drag. 27 and three of Drag. 18(R), the stamps are all on different forms too.

⁴⁹⁴ Data based on Millett 1987b.

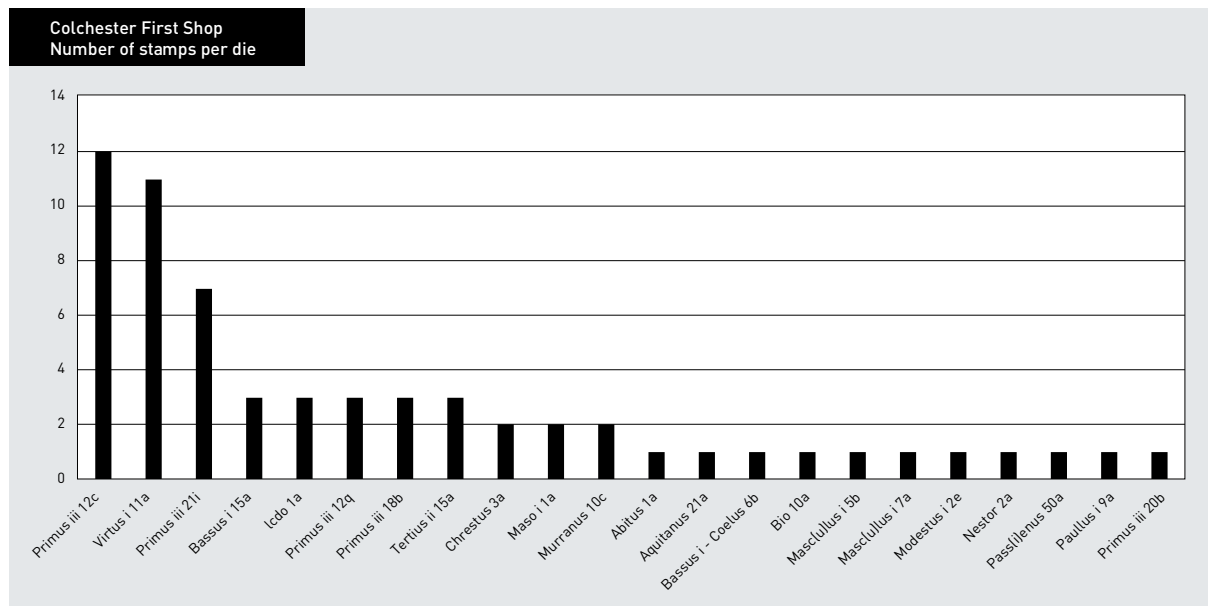


Fig. 4.5. Stamp distribution by die, Colchester First Shop (AD 50–55). Data in Appendix 1, Table 3.

be related to original (parts of) kiln loads.

There is some overlap between both Colchester assemblages and that from Port-la-Nautique: some potters' names are common to both, although no identical dies have been attested; both share the relative ordering of the most popular forms; and analogies can be drawn based on the composition and motifs of decorated vessels.⁴⁹⁵ But not only are the Colchester assemblages far less numerous than those discussed above, they also have a much lower average number of stamps per potter.⁴⁹⁶ This makes sense as Colchester is situated further down the trajectory of sigillata from producer to consumer. As the ties between potter and pot lost their ontological significance through firing, and as the kiln load was dissolved as a meaningful unit from the warehouse and initial transport onwards, the road was opened for sigillata to be mixed internally regardless of those criteria.

Comparing the shape of the stamp distributions (Figs. 4.5 and 4.6) shows a skewed pattern with a small number of dies accounting for half of the stamps in the assemblages at Colchester (in both cases about 15% of the dies add up to 50% of the total number of stamps), but this is far less pronounced than was the case for Culip IV. The pattern of Culip IV was interpreted above as an assemblage consisting of a fairly recent, homogeneous batch ((part of) a kiln load set) and a series of heterogeneous 'leftover' pots. Similarly, the heterogeneous 'tail' of the Colchester curves derives from a long process of transactions similar to the 'stock in the making' that shaped the La Nautique curve. But as the latter's multimodal shape is not equalled by the Colchester assemblages, it follows that the Shops did not receive as frequent supplies as the La Nautique warehouses: the gap between subsequent deliveries to Colchester was wide enough to allow for all original 'peaks' to be flattened out up to the same level. We cannot detect whether this happened at the Shops themselves or at a previous stage in their trajectory; but this uncertainty does not thwart the observation that the available stock at Colchester was formed by an irregular rhythm of supply, with fairly long lapses of time in between replenishments. This provides an important empirically based insight into the irregular (maybe seasonal?) availability of sigillata at the major site in Essex, which must in turn have had consequences for how sigillata was being perceived and understood.

Moreover, this has important implications for the model of distribution that can be posited between La Graufesenque and Colchester. Directional trade can be ruled out because of the heterogeneous curves

⁴⁹⁵ Fiches/Guy/Poncin 1978, 206–207.

⁴⁹⁶ Rhodes 1989, 47, Fig. 2.

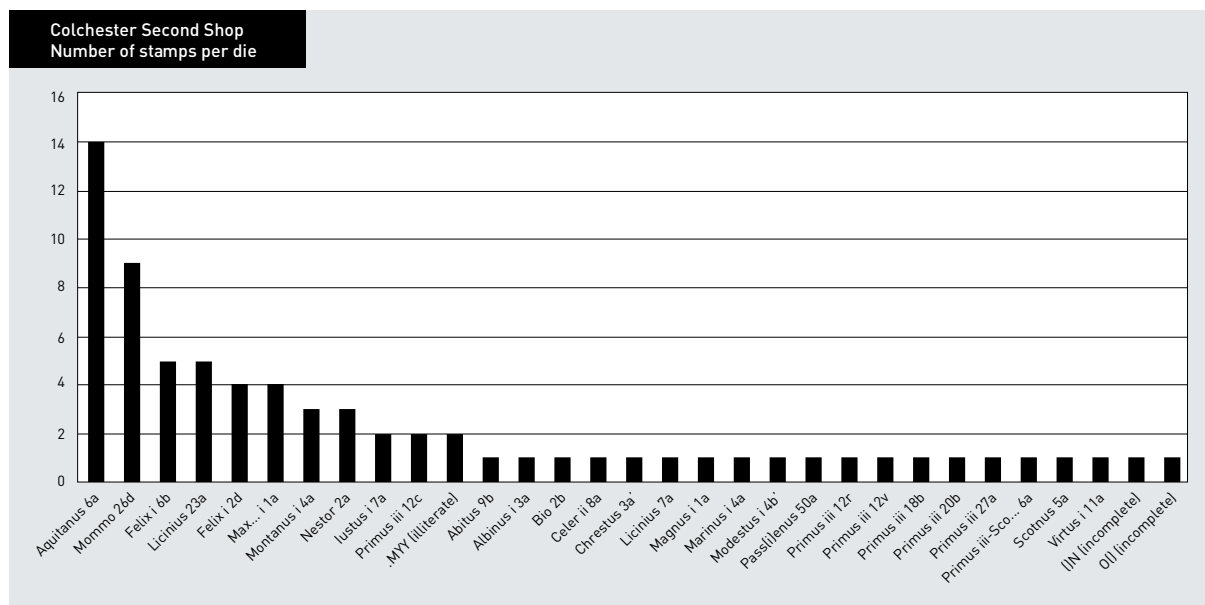


Fig. 4.6. Stamp distribution by die, Colchester Second Shop (AD 61). Data in Appendix 1, Table 4.

of stamp distributions for both assemblages. But the other extreme, highly fragmented trade, is equally unlikely: this would have resulted in mixing of the kiln load derivatives to such an extent as to make it impossible to introduce a significantly visible homogeneous peak in the stamp curve. Since such a peak is attested, it follows that a certain form/die combination was preserved well enough (i.e. in a marked quantity) throughout the different transactions to cause a wiggle in the curve. This view finds support in recent work by Dannell and Mees, which shows that ‘even at great distances from the point of manufacture, the pottery recovered from [warehouse and retail outlets] represents what looks suspiciously like parcels derived from a single production source if not a single kiln firing’.⁴⁹⁷

Stamp distribution: chronology or kiln load rhythm?

When Millett redated the First Shop assemblage, he started from ‘the fundamental assumption on which the chronologies are based, that assemblages deposited at or near the same time, within the same distribution network, will be similar in composition. This assumption has itself rarely been tested to establish the limits within which other factors determining pottery supply, use and deposition, may obscure these underlying chronological structures, and render them unreliable for the precise dating upon which Roman archaeologists rely’.⁴⁹⁸

The kiln load model provides exactly such an as yet unexplored tangential factor that would undermine the starting assumption that contemporary assemblages, coming from the same source and going through the same distribution network, would be similar in composition. If different stamp distributions show a different curve, their respective assemblages are likely to have been formed by different modalities and rhythms of transactions and trade. So in order for Millett’s chronological arguments to hold true, I have to establish that the observed differences in ceramic signature between the assemblages from both Shops did not result from different processes of supply and turnover instead of different dates of deposition.

⁴⁹⁷ Dannell/Mees 2013, 176.

⁴⁹⁸ Millett 1987b, 93. See also Millett 1987a.

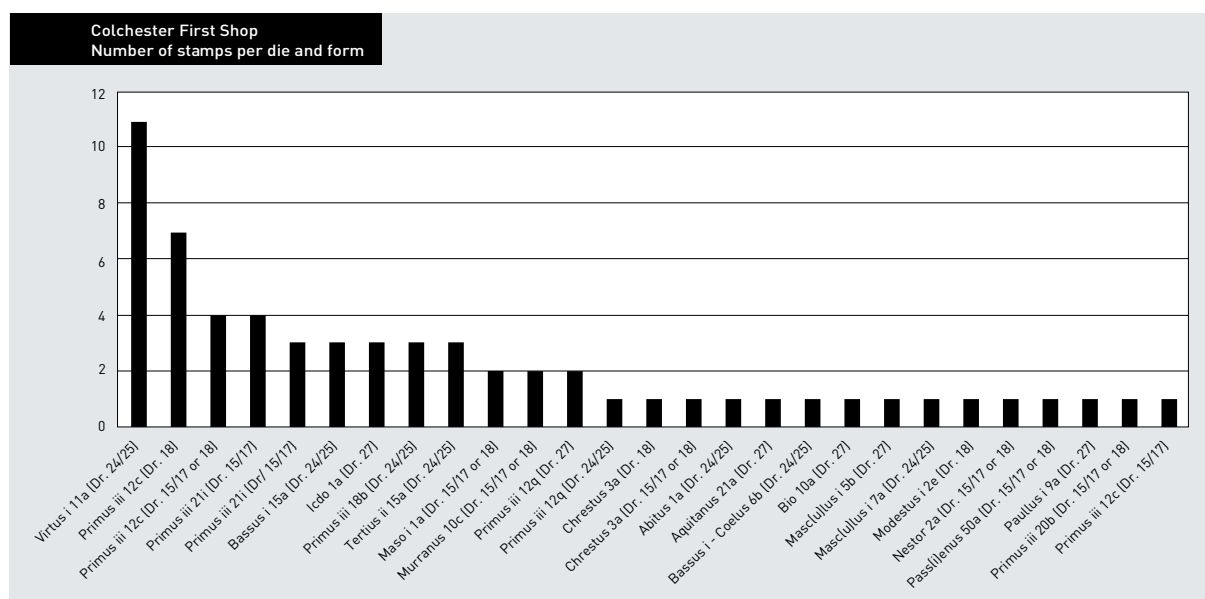


Fig. 4.7. Stamp distribution by die and form, Colchester First shop. Data in Appendix 1, Table 3.

The previous section has discussed the general comparability of the curves for both Colchester Shops, and their similarity to the peaked pattern of Culip IV. The similarity between the First and Second Shops becomes even clearer when individual dies are charted by form⁴⁹⁹ (compare Figs. 4.6 and 4.7), as the combination of die and form is what counts as derivative of an original kiln load. Another measure of comparison is the ‘peak’ of the stamp distribution: the largest number of stamps with a single die/form combination divided by the total number of recorded stamps. The resultant values are 0,15 for the First Shop (11/62) and 0,19 for the Second (14/73; Appendix 1, Tables 3–4). It follows that neither of the shops was marked out by a notably more recent delivery or by a disproportionately homogeneous replenishment.

The kiln load model thus provides an important new anchor for chronological arguments, and touches on the very fundamentals of pottery dating. Verifying the modalities of trade by comparing stamp curves introduces a new, necessary ‘check’ on the comparability of different assemblages. Once this comparability is established – as with the Colchester Shops – other well-established parameters can date the assemblages: Millett for instance used aggregate dates of forms, decorative elements and stamps. But if analysis of the stamp curves would have pointed to a difference in modalities and rhythm of trade – as for example with La Nautique and Culip IV – an archaic ceramic signature for one of the assemblages could well be due to a lack of recent supplies instead of a different date of deposition.

Form distribution: chronology or kiln load rhythm?

What about the form distribution of the assemblages under study (Fig. 4.8)? Note that in order to be able to take La Nautique into consideration, the form distributions are plotted for stamped examples only. Firstly, the consistency between the relative percentages of the respective (stamped) forms for La Nautique on the one hand and the combined Colchester shops on the other hand demonstrates that whatever the trade route and destination (i.e. Mediterranean or northbound), the proportions of different forms traded was the same, and ran parallel to what was being produced. Similarly, the ratio of cups (Drag. 24/25 and 27) to plates (Drag. 15/17 and 18) is almost identical for the Colchester assemblages and La Nautique.

⁴⁹⁹ This does not affect the Second Shop, where each die is represented on a single form only.

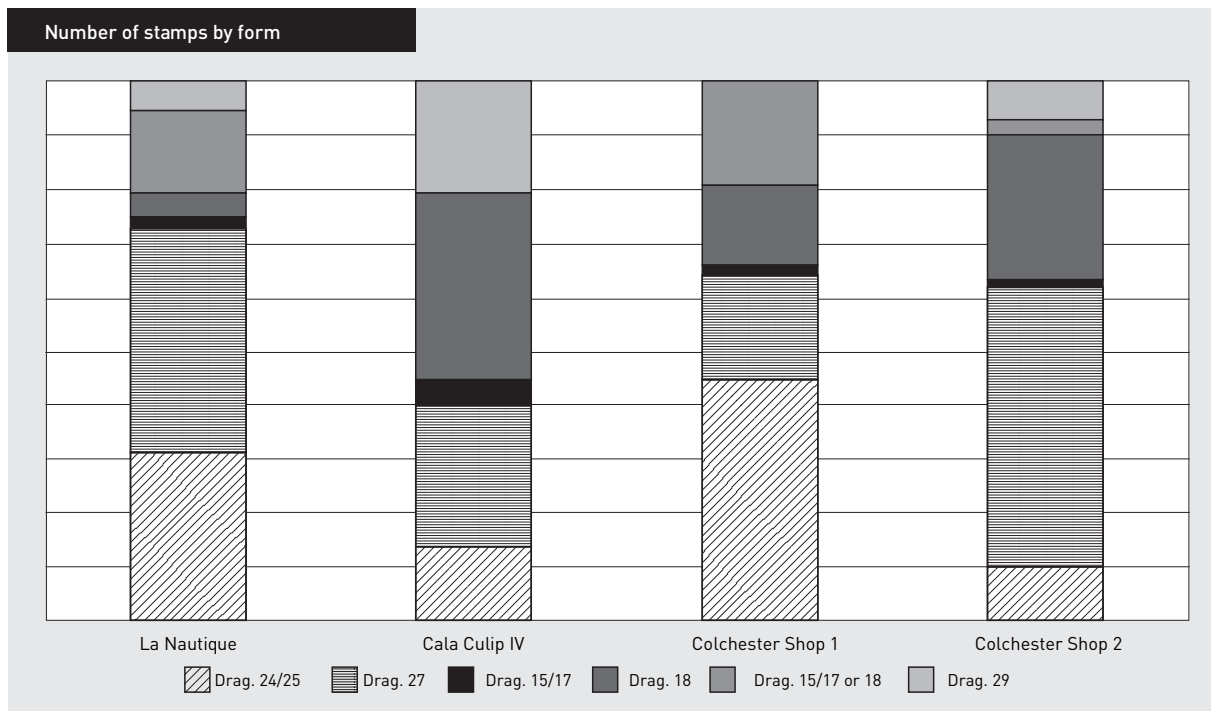


Fig. 4.8. Distribution of forms across assemblages. Data in Appendix 1.

Secondly, the distributions by form are very much shaped by the homogeneous parts, and hence by the random character of what was contained in the kiln load derivative that happened to be brought in. This could account in part for the ‘abnormally’ (as compared to La Nautique and Colchester) high proportion of Drag. 18 plates⁵⁰⁰ in the Culip IV assemblage. Surely part of the answer must be to do with chronology: Drag. 18 was the newer replacement of Drag. 15/17 at La Graufesenque.⁵⁰¹ But returning to the original spreadsheet for the assemblage (Appendix 1, Table 2), it is clear that the abnormally high representation of Drag. 18 is to be traced back to the abnormally (with regard to the internal distribution within the assemblage) high peak of two dies by a distinct potter, Iucundus iii. If, as hypothesized above, these peaks were caused by ‘fresh’ input of kiln load produce, and would be flattened out through further trade, then we can conclude that variation in the specific form distributions between assemblages from the same chronological horizon (and derived from a single production centre), could just as well be due to the contingency of the rhythm of production and movement of pots rather than a specific ‘catering for taste’.

This could be a complementary cause for variation, in addition to the chronological factor, to account for divergences of form distributions observed in assemblages belonging to the same chronological horizon. But this comparison of form distributions should follow the establishment of the modalities of supply and assemblage composition. Again, the similarity between those modalities for the Colchester Shops allows meaningful comparison of their form ratio’s, where in this case the dominance of the newer Drag. 27 and Drag. 18 (as compared to Drag. 24/25 and Drag. 15/17)⁵⁰² suggests a more recent date for the Second Shop assemblage.

⁵⁰⁰ But note the large group of ‘Drag. 15/17 or 18’ for La Nautique and Colchester.

⁵⁰¹ Willis 2005, 5.3.2.2.

⁵⁰² Willis 2005, 5.3.

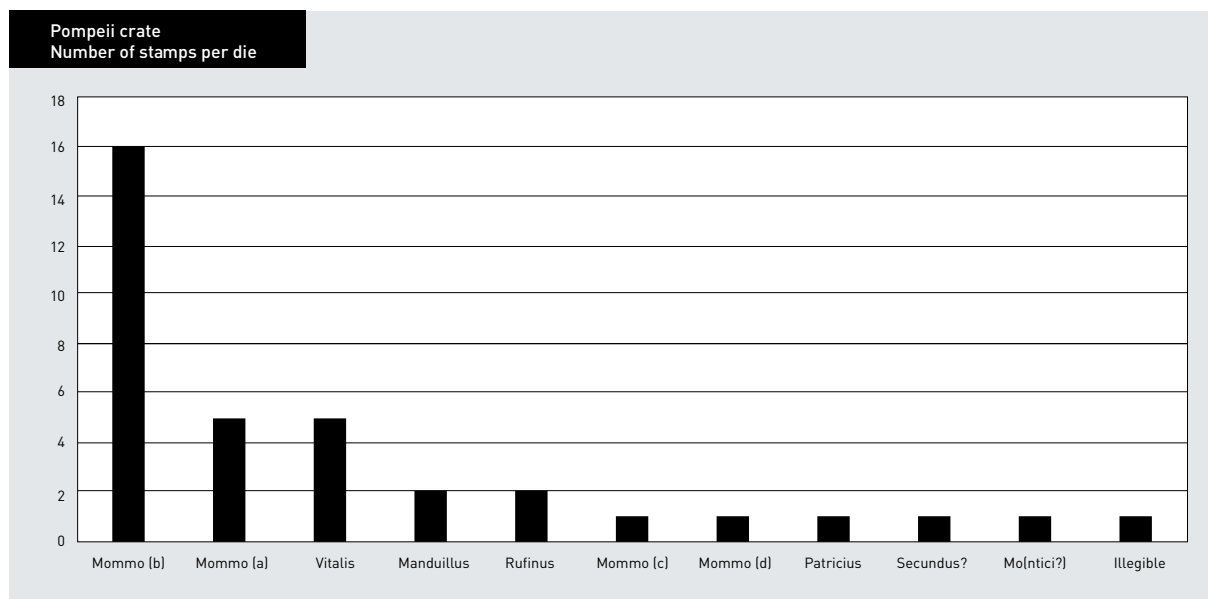


Fig. 4.9. Stamp distribution by die, Pompeii crate (AD 79).

4.3.5 THE POMPEII CRATE: NORM OR ANOMALY?

During the eruption of the Vesuvius in AD 79, a wooden crate was buried in Pompeii (Fig. 3.2). It was discovered in October 1881, in the *tablinum* of house 9, insula 5, regio VIII.⁵⁰³ The excavation notes describe a deposit of unused coral red and black slipped cups and lamps, ordered in a wooden crate.⁵⁰⁴ More specifically, 90 South Gaulish decorated sigillata bowls had been arranged in a wooden crate – the charred remains of which survived – along with 37 ceramic lamps originating from northern Italy.⁵⁰⁵ The sigillata consisted only of decorated bowls, 36 of form Drag. 29 and 54 examples of Drag. 37.⁵⁰⁶ All were completely preserved and unused, some bases still covered in the sand particles on which they had been dried.⁵⁰⁷ Alongside this crate two more boxes were found containing ‘red earth’, either crushed brick or a pigment for wall covers.⁵⁰⁸

When Atkinson first published the sigillata bowls, he interpreted them as ‘a consignment lately received in Pompeii from a wholesale dealer in such wares’.⁵⁰⁹ Moreover, he inserted lamps and sigillata in a single flow of trade: ‘[t]he presence of lamps of Fortis and Communis, whose factories are usually assigned to northern Italy, indicates that the bowls did not reach Pompeii direct from their place of manufacture in southern Gaul’.⁵¹⁰ Hence both the crate and its contents have entered the literature and scholarly imagination as a pristine remnant of and a transparent window on trade flows between South Gaul and Pompeii, via northern Italy: a batch of brand-new sigillata straight from the production site being complemented by a set of lamps along the way. This assumption is based on the fact that both lamps and bowls were unused, and on their ‘packed up’ state in a wooden crate: as if they had literally just arrived on the spot. But is this in accordance with the modalities of trade deduced from the ‘kiln load model’? Only

⁵⁰³ Gassner 1986, 201, nrs VIII 5, 10 and VIII 5, 11.12 for discussion of the house’s possible commercial role as *taberna*, based on architectural analysis. For other discoveries in the same house, see *Atti della Reale Accademia dei Lincei 1880-81. Serie 3. Memorie della classe di Scienze morali, storiche e filologiche* 7, 463, 539; and 9, 433–435.

⁵⁰⁴ *Atti Lincei* 9, 412 ff. Black colour probably due to scorching of the red slip.

⁵⁰⁵ Atkinson 1914, 26, 28.

⁵⁰⁶ Atkinson 1914, who studied the assemblage in Naples. Data on forms and stamps were not included in the excavation notes.

⁵⁰⁷ Atkinson 1914, 28.

⁵⁰⁸ *Atti Lincei* 9, 435.

⁵⁰⁹ Atkinson 1914, 28.

⁵¹⁰ Atkinson 1914, 28.

the Drag, 29 bowls had been stamped internally.⁵¹¹ Individual dies can only be derived from Atkinson's transcriptions, but the overall distribution of internal stamps is as follows⁵¹²:

Mommo: four different dies, represented by: 5, 16, 1 and 1 examples each
 Vitalis: 5
 Manduillus: 2
 Rufinus: 2
 Patricius: 1
 Secundus?: 1
 Mo(ntici?): 1
 illegible: 1

It is at once clear that this distribution is highly skewed (Fig. 4.9), with a single die (Mommo (b)) accounting for 44 % (16/36) of the entire consignment of Drag. 29. So again there is a homogeneous peak of many pots by a single potter against a heterogeneous background of few pots by many potters. This is different from the pattern expected if the sigillata in the Pompeii case would have travelled as a set all the way from La Graufesenque: in that case, the desired quantity of Drag. 29 bowls would have been directly extracted from a single kiln load, which would have resulted in a more even stamp distribution. Instead the pattern is similar to the curves of both Cala Culip IV and the Colchester Shops and indicative of a process of stock-in-the-making with a recent replenishment. It can thus be hypothesized that the vessels stamped by die Mommo (b) were part of a different initial kiln load than the other potters' vessels. Moreover, the marked difference between the number of Mommo (b) stamps and that of the 'background' potters suggests that there was a substantial gap between the former's addition to the latter. If not, one would expect more 'mixing in' of Mommo (b) stamps. These observations hold true regardless of where the bowls were packed in the crate, although it is likely that this happened in an intervening warehouse-type setting, similar to the process reconstructed for Colchester. But in a similar vein as the Colchester assemblage, this sigillata assemblage's trajectory cannot have been highly fragmented: if so, the Mommo (b) peak could be expected to have flattened out, which is not the case.

So does this crate – and the two joining ones containing the red earth – represent a different type of economic action, where a specific, clearly defined demand crystallized in the (semi-)directional supply of three idiosyncratic crates to a specific customer? The stamp distribution cautions against this hypothesis. Instead, the curve is in perfect accordance with other 'normal' points of turnover like Culip IV and the Colchester Shops.

But contrary to these previous assemblages, it is not clear that the Pompeii crate functioned in the context of a 'shop'. More contextual detail is needed. Unfortunately the relevant excavation notes of the 1880s are not very elaborate, and the material belonging to this context and house has not been consistently kept apart.⁵¹³ Various disparate finds have been recorded for the other rooms of the house: small amphorae, glass vessels, serving ware in different materials, some coins of low denomination. The sigillata bowls and lamps are the only consistent set of material discovered, and the three crates seem to be the only example of deliberately packed-up goods. One exception to the dominance of storage and serving vessels⁵¹⁴ are a set of tools found in the first room adjoining the *peristilium* on the right hand side: a hoe

⁵¹¹ None of the Drag. 37 examples were stamped internally, and only three yielded an intra-decorative stamp, respectively by Memor, Mommo and Mo(destus?) (Atkinson 1914, 30).

⁵¹² These data are drawn from Atkinson 1914, 29 and could not be verified against the *Names on Terra Sigillata* cata-

logue as no reproductions of the dies have been published.

⁵¹³ *Atti Lincei* 7, 463, 539; *Atti Lincei* 9, 433–435.

⁵¹⁴ The absence of cooking wares could be due to this category not having been recorded in the early excavations (a single ceramic lid is mentioned).

or pickaxe (length 29,5 cm), a hatchet with a double blade (length 22,0 cm), and some fragments of a saw, all in iron.⁵¹⁵ Further objects in that room were a ceramic bowl containing lime, a bruised bronze bowl with unsoldered handles, a bronze flexible peg, seven amphorae, and two medium value coins.

It is known that Pompeii had suffered a series of earthquakes between AD 62 and the eruption of the Vesuvius in AD 79, and that some of the resulting damage had not yet been repaired when an ash layer finally covered the city.⁵¹⁶ The tools, the peg and the ceramic bowl containing lime could attest to such repair work in the house under study.⁵¹⁷ If the lime suggests re-plastering, then it is not inconceivable that the red earth found in the two crates in the *tablinum* served as pigment or substance in this process. Where does this leave the crate with sigillata and lamps? As the tools and red earth indicate repair works following an earthquake, the decorated sigillata bowls and lamps might have been packed-up for protection during these refurbishments, possibly as ‘new’ goods that still had to be sold on, or were worth shielding off from the vagaries of dust and paint.

To consolidate this argument further, other examples of packed-up sets of material during repair works at Pompeii can be mentioned. Varone published a picture of a similar ceramic bowl containing lime from a bakery (house IX.12.6) whose implements showed signs of seismic damage too. Nappo mentions the yellow pozzolana stored and used in house II.8.6 for the painting of new wall decorations, replacing ones in an older style that were damaged by an earthquake.⁵¹⁸ Berry in turn has investigated in detail the evidence for houses I.9.11 and I.9.12. Like the house under study here, these show evidence of planned repair works: ‘building material in the atrium in the form of a pile of pozzolana, amphorae filled with pozzolana and *cocciopesto*, a pile of blue pigment, and two dressed Sarno stone blocks’.⁵¹⁹ In contrast to the ‘sigillata house’, however, no tools or equipment were found, and the building works largely seem to have been abandoned by AD 79. Also in contrast to the ‘sigillata house’, few or any domestic artefacts have been reported for houses I.9.11 and I.9.12; none of them cooking implements, and all of them in a context of storage in the portico rather than in current use. Despite the lack of a crate or other storage facilities, this recalls our hypothesis of stowed away sigillata and lamps in house 9. The excavation report of the latter however did make mention of several domestic objects scattered around the other spaces whereas the spaces of houses I.9.11 and I.9.12 had been overtaken by commercially oriented activities, with the presence of two large sets of amphorae and a mule pointing towards transport and turnover of goods. Another example is house I.8.14, where a large range of artefacts was distributed over several spaces. In the *fauces* leading onto the street a remarkable concentration of gold and silver objects was found in association with a wooden chest.⁵²⁰ Given the location, this is more likely to have been related to packing-up for a flight rather than storage and protection during repair works, but nevertheless here too we see an ad-hoc selection of valuable items packed-up in a closed container. Finally, in house I.9.1-2 – which showed evidence of restoration works during its habitation – a chest was found containing various metal and glass objects, coins, sigillata, and ceramic lamps.⁵²¹ These and many other examples prove the impact of the different earthquakes preceding the AD 79 eruption on Pompeian domestic life, as well as the various contingent responses resulting in the rebuilding, restructuring, or re-destination of spaces and activities.⁵²²

If this hypothesis is correct, this does not thwart the observations on the modalities of trade of the sigillata assemblage as such. But it does recontextualize the specificities of packing up, and the resultant associations. Hence any parameter by which the assemblage as a whole was organized speaks first and

⁵¹⁵ *Atti dei Lincei* 9, 414.

⁵¹⁶ See *Archäologie und Seismologie* 1995 for archaeological indicators, esp. De Simone 1995; Nappo 1995; Varone 1995; Berry 1997a, 103–104.

⁵¹⁷ Thanks to Martin Millett for first suggesting this idea.

⁵¹⁸ Nappo 1995, 47.

⁵¹⁹ Berry 1997a, 119.

⁵²⁰ Berry 1997b, 190, 193.

⁵²¹ Berry 2007.

⁵²² Berry 1997b, 185 for a cautionary note on narratives of disruption during the last couple of years of Pompeii’s existence.

foremost to choices made within the contingent historical matrix of house VIII.5.9 and Pompeii at a time of functional re-destinations and restorations. The most striking feature of the set of sigillata bowls is the absence of plain wares, which otherwise tend to be the majority of what was produced at and distributed from La Graufesenque.⁵²³ The corollary of this with regard to the understanding of sigillata is that the meaningful unit was no longer even sigillata in itself – as we observed for the Colchester shops – but a much more specific category of ‘decorated red slipped bowls’. But it is not certain that no plain sigillata had been delivered alongside the decorated bowls; only that these were not packed-up for protection during repair works.

Similarly, the association of decorated bowls with lamps can have resulted from ad hoc requirements of packing-up/protection rather than being the pristine remnant of a single trade flow as Atkinson assumed. Berry cautions that for the many examples of storage-related contexts in Pompeii, ‘[t]here often appears to be no system or pattern in the artefact types; thus, for example, glass vessels may be stored with both bronze vessels and ceramic commonwares’.⁵²⁴ Instead, the association enacted through packing up could have been due to the items’ destination for further petty trade. Non-canonical activities such as storage or petty trade in a *tablinum* would tie in with the functional re-designations of spaces and the mosaic of previously delineated activities during the last decades of Pompeii’s existence. This would also help to account for the relatively large number of pots: 90 bowls can hardly have been destined for use on a day-to-day basis, even in an extended household.

If the general hypothesis developed above is correct, then the Pompeii crate no longer offers a pristine window on a specialized trade flow of decorated sigillata and lamps. A series of implicit assumptions need to be questioned in the wake of this reinterpretation. Maybe production and distribution were not as adjusted to demand as scholars are inclined to think on the basis of modern consumer markets and the supply/demand balance of the neoclassical market mechanism.⁵²⁵ Instead, the Pompeii crate sheds light on the cross-sectioning of activities in a Pompeii that was revisiting its make-up.

4.3.6 REDEFINITION AND ECONOMIC NARRATIVES

If sigillata is no longer retrospectively assumed to have been the same thing always and everywhere, then we can start examining how its definition changed. This section continued the trajectory of sigillata pots fired at La Graufesenque in the 1st century AD through a series of points of turnover. Each of these settings brought different parameters to bear on sigillata. Requirements of space foregrounded volume on board Cala Culip; at Colchester sigillata pots had to be visibly stacked on shelves in multi-product retail setting; and at Pompeii sigillata vessels found themselves subject to the vagaries of earthquakes.

Attention to these redefinitions leads to new questions, with the potential to make important additions to sigillata’s use as history-teller, in particular as evidence for economic processes. For example, it inspired analysis to reconsider the well-established case of the Pompeii crate. The special selection of decorated bowls and lamps can no longer be read as a pristine, key example of trading mechanisms, but has been situated in local socio-historical dynamics at Pompeii. Consequently its status as template for (sigillata) trade networks should be revised. Moreover, the example of the Pompeii crate shows how many claims and assumptions that circulate widely in scholarship are based on contentious or unwarranted tropes that have acquired the status of historical ‘givens’. In retrospect, the Pompeii’s crate status as a ‘consumer-oriented’ selection is largely due to the decontextualized publication by Atkinson and the

⁵²³ Cf. assemblages discussed above; Willis 2005 for Britain.

⁵²⁴ Berry 1997b, 194.

⁵²⁵ Even in those modern ‘consumer markets’ it is questionable to what extent they are consumer-driven. Rather,

producers use various mechanisms (e.g. marketing) to shape and create consumers and their demands (Slater 2002a, 2002b; discussions Cambridge Social Ontology Group, Economics).

obscurity of the excavation report. These factors both contributed to and resulted from the creation of sigillata as a bounded, well-defined category, to be studied separately.

Further ramifications concern the organisation of trade in Roman times. The kiln load model enables approximate analysis of the rhythm of supply, and hence of the regularity of trading flows. The die curves for Colchester for example rule out both extremes of directional trade and highly fragmented trade, based on the rhythm and extent of ‘mixing in’ of older and newer consignments (kiln load derivatives). But comparison with the process of ‘stock in the making’ postulated for Port-la-Nautique in turn showed that the influx of new consignments would have been much more irregular at Colchester. This observation helps to come to terms with how sigillata was perceived, understood and defined at the consumer’s end.

Furthermore, the kiln load model indirectly provides a handle on the organisation of sigillata production. For example, detailed analysis of the stamp distributions per assemblage showed that specific combinations of die and form could be traced back to single kiln loads, but that these combinations did not recur throughout different kiln loads (the derivatives of which were mixed in a single assemblage). On this basis specialisation of production by form can be ruled out⁵²⁶: the allocation of tasks seems to have been an ad-hoc procedure. Similarly, the principles of the kiln load model revealed a situated but real asymmetry: paradoxically, the kiln load was the format for the rhythm and modalities of *production*, as the structuring principle of *investment* and ‘marketing’. This shows how the investment axis influenced enactments of sigillata in other fields of practice. Hence we can access power relations and asymmetries *in practice* rather than through abstract assumptions – even though the specific agents of power cannot be identified.

Similarly, interpretation of the misfired pots on board Culip IV was challenged. Within the confines of a neoclassical economic mould Nieto is at pains to ‘rationalize’ this apparently ‘irrational’ choice: demand for sigillata would have exceeded supply to such an extent that even ‘waste’ products could be sold, although at a lower price. This argument not only hinges on assumptions regarding the structure and performance of the economy, but also presupposes a universal parameter for evaluating sigillata – a sliding scale of values that are mapped onto (or represented by) sigillata. Attention to the shifting settings and the attendant parameters has shown that the organizing principle of volume on board Culip IV simply did not differentiate in practice between what had been ‘good’ and ‘misfired’ sigillata pots during production.

Finally, traditional concerns such as the issue of ‘risk’ can now be reformulated too. From the different parameters of the consecutive settings, it follows that there was no universal standard against which sigillata’s performance could be evaluated. This does not only mean that a factor such as ‘risk’ cannot always be calculated based on the same parameters, but that what risk *is* varies too. During firing, risk called upon the unaccountable (via raven/cross, *casidanos/flamen*) in an attempt to stabilize uncertainty. From La Graufesenque to Narbonne, risk resided solely in sigillata, and was clearly defined as an either/or outcome: either the kiln load reached Narbonne or it did not. Directionality was key in this enactment, even though it is not a factor accounted for in neoclassical risk calculations. On board Cala Culip IV, sigillata was transformed from a high-risk commodity to a low-risk or potentially risk-reducing lightweight ‘extra’. As a consequence, caution is needed when characterizing the Roman economy as for instance a ‘zero risk’ economy⁵²⁷, with structural constraints⁵²⁸ acting as a brake on risk-taking activity. Although such claims do attempt to model the Roman economy as a variable set of relations, their unquestioning acceptance of rigid parameters like ‘risk’ corrodes any veneer of actual contingency.

In sum, the sequence of assemblages studied in this section does not provide a new, encompassing reconstruction of the marketing and transport of sigillata. Instead, the case studies illustrate how to put

⁵²⁶ Similar conclusions have been arrived at by other means, e.g. Genin 2007; Mees 2013, 96.

⁵²⁷ Poblome 2013, 92.

⁵²⁸ E.g. Horden/Purcell 2000.

to work a non-retrospective model of material culture. As such they give a flavour of the kinds of social transactions and negotiations that such a different model of material culture can open up, negotiations that have hitherto been taken for granted or filtered out in studies of sigillata distribution. All of the listed contributions to sigillata's role as historical evidence (history-teller) were only made possible by abandoning the standard starting assumption that sigillata *always* was a homogeneous, stable, standardized category, with pots that can be represented as dots on a map.

4.4 A CATEGORY'S TRAJECTORY OF EXCHANGE

This chapter has shown how abandoning a retrospective approach to sigillata – and, by extension, material culture – can lead to real advances in existing debates based on sigillata: interpreting the firing lists, or getting to grips with trade mechanisms. This book's overall approach can thus help refine sigillata's role as history-teller. But this chapter has also shown sigillata at work as history-maker.

Each point of turnover in the sequence of sigillata trade discussed in this chapter came with its own requirements: craftsmanship, volume, shape, etc. This opened up scope to examine the different parameters to which sigillata had to conform in each of these stages. But despite the different settings and their requirements, sigillata flowed through these points of turnover as a singular commodity. How was this possible?

The discussion of firing lists concluded that sigillata's definition as a category in production (previous chapter) provided something of a template (binary boundaries, package of traits), which the firing lists further articulated by pinning down reference points for its traits. As a category, sigillata enabled comparison and competition. The firing lists helped the production sequence of sigillata reach closure, by positing 'good' sigillata as an end point of production. As a consequence, they cut the links between potter and pot. When sigillata pots left the production site at La Graufesenque (or, by extension, at Lezoux), they could enter into commodity exchange. And this was facilitated precisely by their flexibility to foreground certain traits from their identifying package in response to the requirements of certain settings. Sigillata's prior definition as a category assured that its different instantiations, emphasizing a selected number of traits from its package, did not lead to incongruity: a recognizable sigillata-as-a-category template assured continuity despite changes in parameters.

The category 'computer' again provides a helpful parallel. The previous chapter discussed how it is defined by a limited package of traits. As this package crystallizes, different traits can be foregrounded in adjustment to the requirements of a specific setting. For gaming fans, the size of the memory card will be decisive, but this does not mean that the other traits of the package disappear. Indeed, a gamer may well be primarily interested in the memory capacity of the device, but she will still have to make a choice about other traits such as keyboard, screen, or word processing software. Conversely, a large screen size may be paramount for a library terminal, but the computer will still come with keyboard, memory card, etc.

The continuity across the different steps in sigillata trade – the continuity of commodity trade – was thus an achievement facilitated by its category-ness and the resulting material agency. Sigillata itself set certain conditions for its exchange, as a history-maker shaping its own historical trajectory.

The resulting pattern of sigillata pots spreading widely can now be taken for what it is: a result, not a starting point. Harris claimed that '[i]t is (...) impossible to see how the potters of La Graufesenque can have been producing for anything other than a market system'⁵²⁹. But such a market-system, if existing,

⁵²⁹ Harris 1993, 16. But counterarguments can also be made.

E.g. why is La Graufesenque located in a steep-sloped valley if dictated by modern market principles?

was itself a historical outcome, which was actively given shape and facilitated by the products circulating within it. The 'global' reach of sigillata cannot fully be explained by its assumed links with Roman culture, or by its expected higher value. Instead, it was sigillata's specific definition as a category that allowed it to enter into commodity exchange and to travel smoothly through different points of turnover. As a history-maker, sigillata created the frame for the co-emergence of 'rational' economic actors on the one hand and 'trade-able', calculable commodities on the other.

5 The question of stability: sigillata and ‘Rhenish’ wares between Lezoux and Trier (2nd–3rd centuries AD)

If the starting point of historical research is terra sigillata as a homogeneous, widespread category, as is the case in retrospective accounts, then the question of that category’s stability never enters into the picture. Such stability is the necessary *a priori* to make the analysis work: one needs to assume that sigillata pots were the same thing always and everywhere in order to enter them into charts or distribution maps. The category is taken as ‘ready-made’, a historical given. Chapter 3 has shown how this starting point was actually the outcome of a situated process of negotiation and alignment of production practices, for example at Lezoux. Sigillata *became* defined as a homogeneous category, with a standardized package of traits, and clearly separate from other ceramic production sequences at the same site. Instead of undermining the kinds of big historical narratives that tend to be retrospectively built based on sigillata pots, this realization actually makes for advances in our use of terra sigillata for history-writing, as shown in chapter 4 with regard to the topics of trade and exchange (sigillata as history-teller). At the same time, it does justice to the role of sigillata itself in assuring smooth transitions between the different stages in its distribution chain (sigillata as history-maker).

But if we take seriously the notion that sigillata was only defined as a homogeneous category as the *outcome* of situated production practices at Lezoux, then it follows that this definition was subject to change. How could sigillata production at Lezoux remain a bounded, well-defined, and implicitly grasped kind of thing? This chapter looks into how the stability of production practices was maintained both at Lezoux and after transmission to another production site, Trier (Fig. 3.2).

It will do so through juxtaposing sigillata production with so-called ‘Rhenish’ wares (French *céramiques métallescentes*, German *Schwarzfirnisware*). First a note on vocabulary: the term ‘Rhenish’ wares is a historical misnomer, as examples were initially thought to have been produced exclusively in the Rhine area, but later discovered to have come from a wide range of ceramic centres in Central and East Gaul. In combination with considerable variability in the wares, this multiplicity of production sites is echoed by the fact that different scholars maintain different parameters for identifying ‘Rhenish’ wares: form, chronology, fabric, or surface finishing.⁵³⁰ The following discussion will emphasize patterns of mutual articulation between the production practices of sigillata and ‘Rhenish wares’. Consequently the single term ‘Rhenish’ wares will be retained.

Finally, the jury is still out on the precise chronology of the period under study – the late 2nd century and first half of the 3rd century. The argument developed below thus stands insofar as its chronological anchors remain unchallenged. Nevertheless, even if the specificities of the interpretation are open to reformulation on a chronological basis, the key conceptual and methodological arguments of this chapter (in particular the defining relationship between sigillata and ‘Rhenish’ wares, the changes this underwent, and their implications) hold true nonetheless.

⁵³⁰ Brulet/Symonds/Vilvorder 1999.

5.1 BOUNDARY WORK: SIGILLATA AND ‘RHENISH’ WARES AT LEZOUX

5.1.1 PRODUCTION OF FINE WARES AT LEZOUX, MID 2ND CENTURY

Based on the current state of evidence ‘Rhenish’ wares are likely to have originated around the middle of the 2nd century in Central Gaul and more specifically at Lezoux.⁵³¹ One criterion for dating is stylistic comparison with decorative styles on moulded sigillata⁵³², which testifies to the close interaction between these new ‘Rhenish’ wares and the by then established ‘category’ of sigillata. To understand this relation, we first need to ask which other products sigillata production had entered into a dialogue with.

So-called ‘black sigillata’ had pronounced similarities (calcareous clays, forms, decoration) to sigillata, but differed from the latter in colour and forms (liquid containers). The most common sigillata forms are as yet unknown in black sigillata (e.g. Drag. 37, 30, 18/31, 33).⁵³³ On the other hand, no forms were unique to black sigillata, in contrast to the later ‘Rhenish’ wares.⁵³⁴ This functional divergence can in turn be interpreted as a rapprochement between black sigillata and another product whose production was dwindling by the start of the 2nd century: colour-coated wares (French *céramiques engobées*). Fairly short-lived at Lezoux (from the middle of the 1st until the start of the 2nd century), these comprised a range of drinking beakers with non-calcareous clays and non-sintered coatings, resulting from mode A firing (reducing firing, oxidizing cooling).⁵³⁵ Black sigillata seems to have mediated the functional and technical boundaries between sigillata and colour-coated wares, with several of its technological choices cross-referencing both production sequences. It is tempting to see the later ‘Rhenish’ wares as taking up this role of mediator, but the fate of colour-coated wares in the first half of the 2nd century remains poorly documented.⁵³⁶

The thriving centre for all of these products was the *Maringues* group, driving the early 2nd century process of experimentation in sigillata production.⁵³⁷ ‘Rhenish’ ware production has been attested in slightly higher numbers at the *Saint Taurin* group, associated with the phase of standardisation of sigillata towards the middle of the 2nd century. Once sigillata had become a bounded ‘category’, other products would have been ‘Othered’⁵³⁸, in a conceptual and practical sense. The production sequence of sigillata was kept separate from that of other ceramic products – from clay fetching to firing – so that any other product clearly fell outside of this sequence and was entirely ‘other’ to it.

The spatial (same workshop group) and temporal (mid 2nd century) overlap between the stabilization of sigillata production as a ‘category’ and the start of ‘Rhenish’ ware production hints at close daily contacts between potters producing one or both kinds of pottery. ‘Rhenish’ wares contained in the kilns or deposits unearthed so far were always mixed with larger numbers of sigillata.⁵³⁹ Little is known about workshop organisation and infrastructure, whether there was a differentiation in structural lay-out, and to what extent the *chaîne opératoire* of these different products led to day-to-day encounters in the taskscape. It is probably not too far-fetched to imagine regular interaction, for instance during breaks or meals.

⁵³¹ Early ‘Rhenish’ wares are also attested at Les Martres-de-Veyre (Romeuf 2001, 22, Plates 134–139).

⁵³² Desbat/Vilvorder 2000, 177.

⁵³³ Symonds 1992, 10.

⁵³⁴ Delage in Brulet/Symonds/Vilvorder 1999, 126.

⁵³⁵ Bet/Gras 1999, 14–25; Brulet/Vilvorder/Delage 2010, 324–326

⁵³⁶ Notes of caution by Bet/Gras 1999, 25 and Desbat/

Vilvorder 2000, 177.

⁵³⁷ See section 3.4.

⁵³⁸ This terminology alludes to Said 1978. For ANT, see Bloomfield/Vurdubakis 1999; Munro 1997. For a critique that ANT does not leave space for an ‘Other’, see Lee/Brown 1994; Star 1991.

⁵³⁹ Bet/Gras 1999, 35.



Fig. 5.1. Lezoux 'Rhenish' ware (form Bet 312) with barbotine decoration beneath slip. Musée archéologique de Namur, Collections de la Société archéologique de Namur, N° Inv. A08896. Photo L. Baty © SPW archéo (with permission).

5.1.2 TECHNOLOGICAL CHOICES

There is a striking similarity in production practices between sigillata and 'Rhenish' wares. The use of the same types of calcareous clays⁵⁴⁰ stands out as meaningful given the importance of the switch from non-calcareous to calcareous clays for sigillata production at Lezoux.⁵⁴¹ The use of strictly calcareous clays was what differentiated sigillata production from other production sequences. Moreover the high aluminium contents of the clays resulted in a red fabric for 'Rhenish' wares akin to that of sigillata.⁵⁴² One could object that the use of the same clays was the result of a simple cost-benefit analysis: if the same workshops produced both products, why bother to arrange access to and transport from different clay beds? However, the respective ranges of CaO content

suggest that there was more at play than a mere consideration of efficiency: that of 'Rhenish' wares was consistently more variable than that of 2nd century sigillata (but less variable than that of later sigillata).⁵⁴³ This means that somewhere along the production process – possibly during preparation of the clay – a distinction was made, resulting in practical (clays for these different products have to be prepared differently) and conceptual (these are not the same products) distance between the two sequences.

In practices of stamping too, initial similarity between production of sigillata and 'Rhenish' wares was followed by divergence. To date only a single epigraphic signature has been attested on Lezoux 'Rhenish' wares: a small intra-decorative retrograde stamp reading LVCIM, unknown elsewhere.⁵⁴⁴ Anepigraphic stamps consisting of concentric circles are slightly more common and possibly relate to a metalworking feature.⁵⁴⁵ Whereas the very practice of stamping recalls sigillata, 'Rhenish' ware stamping was rare, anepigraphic, and lacks consistency as to types of stamp used or types of vessel stamped.

The use of barbotine trails underneath the slip was the most frequent among a range of different techniques employed in the decoration of 'Rhenish' wares (Fig. 5.1).⁵⁴⁶ Barbotine trailing required the clay to be in a more viscous state than was needed for slip.⁵⁴⁷ The materiality of this process not only necessitated a specific skill – distinct from sigillata mould making – but also set limits to the amount of detail and precision possible. As a consequence, while the contemporary decorative canons for moulded sigillata were characterized by plasticity and variety of figure-types, 'Rhenish' ware decoration was restricted to

⁵⁴⁰ Bocquet 1999, 216; Brulet/Vilvorder/Delage 2010, 345–346.

⁵⁴¹ See chapter 3.

⁵⁴² Desbat/Picon 1996, 493.

⁵⁴³ Bocquet 1999, 219.

⁵⁴⁴ Bet/Gras 1999, 33; Brulet/Vilvorder/Delage 2010, 346.

⁵⁴⁵ Bet/Gras 1999, 26, 33. Also attested at Jaulges-Villiers-Vineux (Séguier/Morize 1996, 158).

⁵⁴⁶ Bet/Gras 1999, 33–34; Brulet/Vilvorder/Delage 2010, 346–347; Symonds 1992, 17–26.

⁵⁴⁷ Symonds 1992, 13.

vegetal friezes (although figurative hunting scenes were being produced too). As such ‘Rhenish’ wares were differentiated from sigillata, both in terms of the practical skill required in their production process and in the possibilities of the end product.

But ‘difference’ is not the end of the story. Among the less frequently used decorative techniques were applied (e.g. for *mortaria* Drag. 45), incised⁵⁴⁸, and moulded decoration. The latter highlights the relation with decorated sigillata, which was consistently realized using moulds. At Jaulges-Villiers-Vineux (Mid Gaul) moulding on ‘Rhenish’ wares was employed only for the Drag. 37 bowl, a central form in the sigillata repertoire.⁵⁴⁹ In this case, form and decorative technique were thus borrowed as a package from the sigillata ‘category’. Nevertheless ‘Rhenish’ ware moulds were again differentiated from sigillata by a more limited decorative approach and lack of signature.⁵⁵⁰

The crucial aspect distinguishing ‘Rhenish’ wares from sigillata was their mode A firing⁵⁵¹, in a reducing atmosphere, followed by an oxidizing cooling phase. Practically, this meant that sigillata and ‘Rhenish’ wares could not conceivably have been fired in a single kiln load. Moreover, chemical analysis has shown that the slips applied to ‘Rhenish’ wares were of a different composition than those in contemporary use for sigillata.⁵⁵²

Visually, the different firing mode and slip resulted in a black colour for ‘Rhenish’ wares, in stark contrast to the bright red of sigillata (Fig. 5.1). Chapter 3 discussed the experimentation with black sigillata *before* sigillata had become a ‘category’. But this return to a black surface colour *after* sigillata production had crystallized as a bounded ‘category’ was more than an instance of experimentation. Because sigillata’s surface colour was now standardized as red, the black surface colour of ‘Rhenish’ wares was first and foremost marked out as ‘not red’, and thus ‘not sigillata’. Put differently, ‘Rhenish’ wares’ black surface worked as a boundary marker for the category of sigillata. What would at first glance appear to be the same instance of artefact variability⁵⁵³ (how black stands to red) thus has very different leverage depending on the products’ historical trajectories: black *and* red as experimental differences, or black *versus* red as categorical opposites. This is yet another example of how a non-retrospective approach to material culture allows for better history-writing.

This choice of black was directional: the black colour of ‘Rhenish’ wares should be interpreted in relation to the red colour of the ‘category’ of sigillata. This is rendered even more explicit by attestation of some forms exclusive to ‘Rhenish’ wares (Bet 310) but with a red exterior colour, which have also been found at consumption sites (e.g. Clermont-Ferrand).⁵⁵⁴ By using the sigillata surface colour (red), these ‘Rhenish’ ware forms established a reference to the category of sigillata. In contrast to these references outwards from ‘Rhenish’ wares, the production sequence of sigillata remained entirely self-referential.

As to the form repertoire it is generally held that ‘Rhenish’ wares comprise drinking vessels, in contrast to the dining and serving vessels produced in sigillata.⁵⁵⁵ As such ‘Rhenish’ wares are seen as heir to a longer tradition of ‘Italian style’ drinking services, ranging from thin-walled beakers to colour-coated wares.⁵⁵⁶ Symonds even hints at a system of colour coding for Roman pottery from the 1st century AD onwards which reserved red for serving and dining, and black or dark colours for drinking.⁵⁵⁷

But in the case of Lezoux, the contrast between sigillata or ‘Rhenish’ ware forms is not that stark. ‘Rhenish’ wares undeniably tapped into the established drinking repertoire previously associated with colour-coated wares, but also took on some forms derived from the by now standardized sigillata rep-

⁵⁴⁸ Cf. glass production (Greene 2007).

⁵⁴⁹ Séguier/Morize 1996, 165.

⁵⁵⁰ Brulet/Vilvorder/Delage 2010, 346.

⁵⁵¹ Picon 1973; Bocquet 1999, 223–225.

⁵⁵² Bocquet 1999, 223.

⁵⁵³ Cf. Hodder/Hutson 2003, 173 ff.

⁵⁵⁴ Ph. Bet in Brulet/Symonds/Vilvorder 1999, 125.

⁵⁵⁵ Vilvorder/Symonds 1999, 10. Dannell 2006; Monteil 2012 on the function of sigillata vessels.

⁵⁵⁶ Greene 1979; Desbat/Vilvorder/Delage 2010 for a summary.

⁵⁵⁷ Symonds 1992, 11.

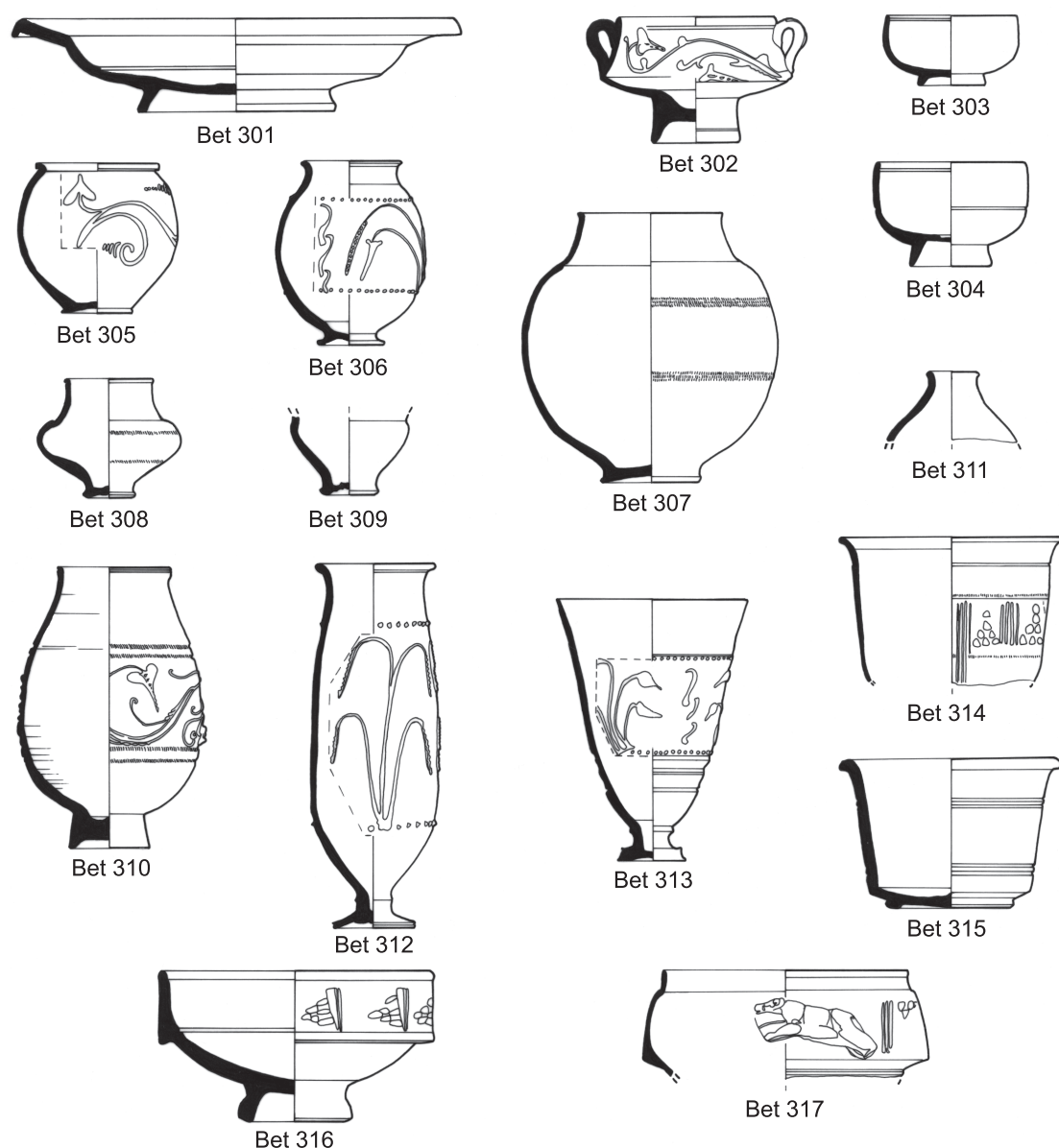


Fig. 5.2. Typology Lezoux 'Rhenish' wares (second half 2nd century AD). © Centre de Recherches d'Archéologie Nationale, UCL. From Brulet/Vilvorder/Delage 2010, 347 (with permission).

ertoire, such as Drag. 40 (Bet 304) and Drag. 45 (Bet 316) (Fig. 5.2).⁵⁵⁸ Desbat and Vilvorder emphasize this partial convergence with sigillata forms.⁵⁵⁹ In contrast to the preceding colour-coated wares, 'Rhenish' ware forms thus enacted a more complex dialogue of similarity and difference *in relation to* sigillata. Moreover, the choice of sigillata forms adopted in the 'Rhenish' ware production sequence varied across production sites.⁵⁶⁰ It follows that no standard set of 'Rhenish' ware forms existed across Gaulish production sites at that period, but that it was the relation with sigillata that was maintained and explicitly (re-)negotiated.

⁵⁵⁸ Bet/Gras 1999, 26–31; Brulet/Vilvorder/Delage 2010, 346–347.

⁵⁵⁹ Desbat/Vilvorder 2000, 178.

⁵⁶⁰ Bet/Gras 1999, 26. The 'Rhenish' ware repertoire at Jaulges-Villiers-Vineux (late 2nd-early 4th century)

included Drag. 37, in contrast to Lezoux 'Rhenish' wares, but no sigillata production has been attested at the site (Jacob/Leredde 1985, 1994; Joly 1999, 57–61; Séguier/Morize 1996).

Finally, where does this leave the definition of ‘Rhenish’ wares? One recurring feature is the latitude of variation in the respective technological choices, from the variable range of CaO contents to the different decorative techniques used. But these variable properties were united by their clear differentiation from sigillata practices. For example, the colour of ‘Rhenish’ wares could take on aspects of dark black, red, brown, or green⁵⁶¹ – but all of these shades stood in a relation of marked difference to the standardized red of sigillata. Therefore they served to delineate the external boundaries of the ‘category’ of sigillata – what was *not* sigillata – rather than positively defining a ‘category’ of ‘Rhenish’ wares. A similar observation can be made concerning sintering: ‘Rhenish’ wares were more or less sintered, like sigillata⁵⁶², but, in contrast to sigillata, never achieved the same shiny aspect. Hence latitude in a single technological choice did not preclude consistency in the *external* relation of difference to another product.

5.1.3 BOUNDARIES AND ‘OTHERING’

Discussion of the technological choices of ‘Rhenish’ ware production at Lezoux has demonstrated that these existed in a complex relation of similarity and difference to sigillata, that they enacted a marked one-way reference, and that this reference prevailed on any positive definition of ‘Rhenish’ ware itself. In other words, ‘Rhenish’ wares were defined by their relation of ‘Otherness’ to sigillata. This explains the impossibility of scholarship’s attempt at pinning down a limited set of parameters for the identification of ‘Rhenish’ wares – in contrast to terra sigillata.

Producing ‘Rhenish’ wares thus always also amounted to defining what sigillata was *not*. This illustrates the ‘boundary work’ needed to reaffirm the external boundaries of sigillata and to maintain its definition as a ‘category’.⁵⁶³ Indeed, a ‘category’ can attain a relative degree of stability, but this requires continuous effort.⁵⁶⁴ One could for example trace the career of the computer from a technological oddity with limited stakeholders to a bounded ‘category’ whose relational entanglement is as wide-ranging as it is obscure. On the one hand, the extent and regularity of the computer’s embeddedness in various fields of practice (e.g. education, administration, etc.), and the attendant adjustment of standards, render a sudden and dramatic reordering unlikely. On the other hand, the boundary between the computer and a wide range of other things is constantly challenged in practice: think about mobile phones with internet access and a keyboard instead of a number pad; notebooks; tablets; Skype; etc. If boundaries are to be maintained, practical work is to be done.

The boundary work for Lezoux sigillata was done through the production practices for ‘Rhenish’ wares. On the one hand, initial similarity in practices was necessary to indicate a directional reference to sigillata: they were produced in the same workshops, used the same clays, had some overlapping forms, could carry stamps, etc. On the other hand, marked difference in the implementation of the technological choices created a perception of difference *in relation to* sigillata: ‘Rhenish’ wares were black instead of red, tended to be decorated with barbotine instead of moulding, mostly comprised drinking forms instead of dining and serving vessels, carried anepigraphic stamps (if any) instead of epigraphic ones, had no strict rules for clay preparation in contrast to sigillata, etc. As a consequence, sigillata was re-affirmed as a homogeneous and bounded ‘category’ through repeated characterisation of the practices associated with ‘Rhenish’ wares as ‘Other’: as separate, but mutually implicated. This process was not concerned with freezing the actual contents of the sigillata ‘category’, but with preserving its definition as a ‘category’ by keeping its boundary active and well-defined.

⁵⁶¹ Symonds 1992, 18; Brulet/Vilvorder/Delage 2010, 346.

⁵⁶² Brulet/Symonds/Vilvorder 1999, 10.

⁵⁶³ Cf. Mol/Law 2005.

⁵⁶⁴ STS opinions on this diverge: Law 2004, 56 ff., 2010; Callon 1991.

5.2 ROOTED THINGS: FROM LEZOUX TO TRIER

5.2.1 SITUATING TRIER

To analyse how the stabilized ‘category’ of sigillata was transmitted to other production sites, we move northwards to Trier in East Gaul (Fig. 3.2).⁵⁶⁵ *Augusta Treverorum* was founded during the last quarter of the 1st century BC on the site of a Roman army camp in the territory of the *Treveri*, one of the most significant tribes in Gaul.⁵⁶⁶ Its foundation and history are testimony to political, military and commercial voluntarism: the city was built from scratch on a strategic location along the river Mosel, in between the previous strongholds of the *Treveri* (Titelberg and Martberg).⁵⁶⁷ Moreover, in 19/18 BC Agrippa established a privileged road link from the Mediterranean via Lyon to Trier and the military outposts along the Rhine.⁵⁶⁸

Hence it should cause no surprise to see Trier develop into the political and economic heart of the northern Roman empire. The presence of Italian merchants has been attested from early in the 1st century AD onwards, monumental building programmes took off during the 2nd century⁵⁶⁹ and continued into the first part of the 3rd century as Trier thrived through the input of landowners trading their products. Politically Trier entered a different type of organisation in the 3rd century, as it became capital of the Gaulish part of the later empire, taking over from Cologne in AD 270. Raids and invasions by the *Germani* abruptly put an end to this prominence in AD 275, but eventually Trier regained its position as the capital of the Western empire under Maximian from AD 286 onwards.

The oldest evidence of pottery activity at Trier – one among many crafts⁵⁷⁰ – dates to the Augustan period: five kilns containing misfired ceramics were discovered in the northwest area of the ancient town, and another kiln was found in the northern area. Both were short-lived⁵⁷¹ and from the middle of the 1st century AD onwards, a large area (400 x 200 m) south of the city was devoted to pottery activity. Here sigillata production has been identified around AD 130, followed by ‘Rhenish’ wares around the turn of the 2nd century.⁵⁷² Soon after their introduction, ‘Rhenish’ wares outnumbered sigillata in quantity and quality at Trier. Political or economic hypotheses for the demise of the Central Gaulish sigillata export and the flourishing of the East Gaulish centres remain hard to substantiate.⁵⁷³ Did the definition of sigillata as a ‘category’ change between Lezoux and Trier? How did this alter the possibilities of its ‘Other’, ‘Rhenish’ wares?

Before we proceed to investigate these questions, some chronological difficulties need introduction. Künzl has established a chronology of Trier ‘Rhenish’ wares on the basis of decorative elements, the dating of which is linked to a number of closed contexts.⁵⁷⁴ However the lack of appropriate assemblages and *comparanda* renders any attempt at dating between the end of the 2nd and the beginning of the 3rd century AD highly contentious. This study will claim a link between the changes in Trier sigillata production and the introduction of ‘Rhenish’ wares at the end of the 2nd century AD. The suggested date is of less importance to the argument, since the emphasis is on relative changes. But Künzl’s first group

⁵⁶⁵ Via production sites in Mid Gaul, e.g. the Argonne area (Chenet/Gaudron 1955).

⁵⁶⁶ Heinen 1985; Wightman 1970 for general historical and archaeological overviews.

⁵⁶⁷ Schindler 1972.

⁵⁶⁸ Luik 2001, 246.

⁵⁶⁹ Schindler 1972.

⁵⁷⁰ Luik 2001 summarizes craft activities in Roman Trier.

⁵⁷¹ Luik 2001, 253. Involvement of the military in the initial

transmission of crafts is likely but not supported empirically.

⁵⁷² Brulet/Vilvorder/Delage 2010, 191 ff., 351 ff. Earlier ‘Rhenish’ ware production is attested in Mid Gaul, e.g. at Jaulges-Villiers-Vineux.

⁵⁷³ E.g. Symonds 1992, 46 on the usurpation by Clodius Albinus and subsequent punitive measures by Septimius Severus.

⁵⁷⁴ Künzl 1997.

of decorated ‘Rhenish’ ware does not start until AD 255. This makes it difficult to weave her insights on decorative choices into the analyses of the other technological choices discussed below.

The dating of Künzl’s first group of decorated Trier beakers is based on an overlap in form with plain ‘Rhenish’ wares, the chronology of which is in turn anchored by their occurrence on the *limes* forts.⁵⁷⁵ But King’s work on the chronology of the 3rd century in the northwestern provinces has demonstrated that the concept of a dated site is a very fragile construct that at the very least needs support from closed deposits, preferably yielding associations with coin evidence.⁵⁷⁶ Moreover, it is generally held that barbotine, by far the commonest decorative technique on Trier ‘Rhenish’ wares, was introduced from Rheinzabern. Whereas the mechanisms of this process of craft interaction are unclear and should at the very least be contextualized, Künzl equates the start of decorated ‘Rhenish’ ware production at Trier with this supposed incursion of Rheinzabern potters: ‘*So wird die Gruppe I wohl unter dem persönlichen Einfluß oder durch die Hand eines oder mehrerer Rheinzaberner Töpfer entstanden sein*’.⁵⁷⁷ This supposedly took place at a time when Rheinzabern was faced with a declining export reach due to military developments. Because the chronology of the industry at Rheinzabern itself, however, does not stand firm, this event has been variously dated to around AD 233⁵⁷⁸ or to the period between AD 255 and 260⁵⁷⁹. It is not until the third group that Künzl’s dates are confirmed by closed context assemblages.

5.2.2 WORKSHOPS

In the southern production area at Trier more than 100 kilns and a number of other structures have been unearthed but remain largely unpublished.⁵⁸⁰ Production of so-called ‘Belgic’ and colour-coated wares (from the beginning of the 2nd century onwards) preceded the introduction of sigillata, which is dated to AD 130.⁵⁸¹ Given the indirectly continued dialogue between colour-coated wares and ‘Rhenish’ wares at Lezoux discussed above, it is significant that the start of sigillata production at Trier follows in the wake of colour-coated wares.⁵⁸² As such something of a package of tablewares took off, catering for both dining and drinking needs. Around the end of the 2nd or the beginning of the 3rd century ‘Rhenish’ ware production was introduced in the same southern production area, shortly after its development at Lezoux.⁵⁸³

What distinguishes Trier as a ceramic production centre from previous major rural pottery hubs such as Lezoux and La Graufesenque is its integration in the urban fabric.⁵⁸⁴ Consequently it seems a reasonable assumption that the potters would have had more direct knowledge of and involvement with the activities and needs of their investors and consumers (merchants, town residents and the military). Moreover, the southern production area consisted of a continuous strip including workshops and domestic structures, a layout more conducive to intra-craft encounters than the spatially distinct groups at Lezoux. This daily experience of place must have contributed to the creation of a community of practice, establishing the social ties crucial to partnerships and economic formations.⁵⁸⁵

This sense of place was challenged when the city wall was erected around AD 180, dividing the pottery area in an *intra muros* (Louis-Lintzstraße) and *extra muros* (Pacelli-Ufer⁵⁸⁶) part.⁵⁸⁷ The observation

⁵⁷⁵ Künzl 1997, 55.

⁵⁷⁶ King 1981.

⁵⁷⁷ Künzl 1997, 56.

⁵⁷⁸ Vilvorder 1999, 97.

⁵⁷⁹ Künzl 1997, 56.

⁵⁸⁰ Künzl 1997, 10–18; Luik 2001, 253 ff; Desbat/Vilvorder 2000, 179; Brulet/Vilvorder/Delage 2010, 191.

⁵⁸¹ Huld-Zetsche 1972, 1993.

⁵⁸² Vilvorder 1999, 73; Vilvorder/Symonds 1999.

⁵⁸³ Note the uncertainty concerning the chronology of ‘Rhenish’ ware production at Trier discussed above.

⁵⁸⁴ Production centres in Italy, however, included urban settings (Van Oyen 2015d).

⁵⁸⁵ Bang 2008; Frier/Kehoe 2007; Wenger 1998.

⁵⁸⁶ Cüppers 1984.

⁵⁸⁷ Luik 2001, 256; Wightman, 92–93 on the disputed date.

that the wall disturbed previous kilns⁵⁸⁸ hints at a top-down reorganisation. This new physical boundary would have initiated a changed experience of daily life and communication. These interventions were contemporary with, or slightly preceded, the introduction of ‘Rhenish’ ware production, but the chronology is too uncertain⁵⁸⁹ and the published structural evidence too fragmentary⁵⁹⁰ to link both observations (e.g. was the production of ‘Rhenish’ wares preferentially associated with one of the two areas created by the wall?). As far as can be judged from the mixed finds assemblages and the seemingly random disposition of very different types of kilns across the entire production area, it is unlikely that any specialisation formed through spatial segregation.⁵⁹¹ Attempts to link specific kilns to specific ceramic products remain contentious. A single kiln on the Pacelli-Ufer (outside the city wall) has been attributed to the production of ‘Rhenish’ wares.⁵⁹² The kiln has a large firing chamber, a flask-like shape with a central support wall and a series of bulges protruding from the southern wall.

5.2.3 EARLY TRIER SIGILLATA: ON ITS OWN TERMS

Upon introduction at Trier, sigillata used the same non-calcareous clays as the preceding colour-coated wares⁵⁹³ (average CaO contents 3 % with outliers).⁵⁹⁴ This is in stark contrast to what is presented in sigillata scholarship as the ‘sigillata package’ or to the ‘category’ of sigillata as it crystallized some decennia later at Lezoux. For early sigillata at Trier the later maxim ‘calcareous clays equal quality’ did not hold true. Indeed, products from the first sigillata workshops at Trier (*Werkstatt I* (AD 130–150/160) and *Werkstatt II* (AD 140/145–165/170)⁵⁹⁵) are generally characterised by fine, homogeneous clays, and thick, sintered and shiny slips.⁵⁹⁶ Hence Picon’s model, which posits the use of calcareous clays as a universal token of higher investment and hence higher quality, does not work for Trier (or East Gaulish) sigillata production.⁵⁹⁷ Meanwhile the reddish sigillata slips contrasted with the dark grey to black or brownish, non-sintered slips of colour-coated wares.⁵⁹⁸ It follows that early Trier sigillata enacted relations and parameters of its own, not in response to ‘sigillata’ as defined elsewhere.

The forms of this initial sigillata production have only been charted for stamped plain wares and decorated wares. Both series corresponded to the sigillata repertoire fashionable in contemporary production centres.⁵⁹⁹ But in addition a limited number of shapes, possibly derived from Mid-Gaulish examples, suggests experimentation with forms that were not exported.⁶⁰⁰ This gives yet another clue that initial Trier sigillata production was not defined as a ‘category’ in tune with Lezoux.

Huld-Zetsche has catalogued the decorative schemes and figure-types used during the early sigillata production at Trier.⁶⁰¹ The themes run parallel to those favoured at Lezoux: gladiatorial combat, hunting scenes, or erotic scenes. Initially little care was given to the decoration, and broken figure stamps for example were often reused.⁶⁰² This observation is again difficult to marry with the template of the ‘category’ of Lezoux sigillata. But because this was not how early Trier sigillata was defined and evaluated,

⁵⁸⁸ Cüppers 1973, 150.

⁵⁸⁹ Brulet/Vilvorder/Delage 2010, 355.

⁵⁹⁰ Künzl 1997 summarizes the excavation campaigns.

⁵⁹¹ Huld-Zetsche 1972, 16.

⁵⁹² Künzl 1997, 17.

⁵⁹³ Bocquet 1999.

⁵⁹⁴ Analyses by Picon in Huld-Zetsche 1978, 328–334, esp. nrs. 1–15. *Werkstatt II* had some outliers with a CaO content of 6 à 7 % (Huld-Zetsche 1978, 333 nrs 16–29; Brulet/Vilvorder/Delage 2010, 191, 193–194).

⁵⁹⁵ Huld-Zetsche 1972, 1993 for decorated sigillata. Little

research has been done on plain Trier sigillata, except for a single unpublished study on stamps.

⁵⁹⁶ Brulet/Vilvorder/Delage 2010, 193.

⁵⁹⁷ Picon 2002a.

⁵⁹⁸ Brulet/Vilvorder/Delage 2010, 329.

⁵⁹⁹ Brulet/Vilvorder/Delage 2010, 194; Huld-Zetsche 1972, 48–50, 1993.

⁶⁰⁰ Huld-Zetsche 1972, 49.

⁶⁰¹ Huld-Zetsche 1972, 1993.

⁶⁰² Huld-Zetsche 1972, 22.

‘careless’ decoration did not by definition stand in opposition to high quality slips and well-fired fabrics. Put differently, these were not mutually implied elements of a package of traits, whereby presence of one of these traits would imply presence of the entire package.

5.2.4 TRANSPOSITION OF A ‘CATEGORY’ AND ITS ‘OTHER’

Previous chapters discussed how sigillata became a ‘category’ at Lezoux around the middle of the 2nd century, closely followed by the introduction of ‘Rhenish’ wares. Through relations of similarity and difference, the technological choices of ‘Rhenish’ ware production helped maintain the homogeneity and boundedness of the sigillata package, including the use of calcareous clays and oxidizing firing. Despite the crude chronology it is significant that the same major changes took place in the pottery landscape at Trier around the second half of the 2nd century: ‘Rhenish’ wares using calcareous clays⁶⁰³ were introduced and sigillata production shifted to calcareous clays⁶⁰⁴. Trier sigillata of the second half of the 2nd century closely resembles contemporary Lezoux products, including matt and less adherent slips and a Central Gaulish form repertoire. Moreover, it was not until the later part of the 2nd century that the practice of signing sigillata moulds was taken up at Trier as in other sigillata centres. It is thus possible to suggest that sigillata production was transposed as a well-defined package of traits (a category) from Central Gaul to Trier. This would have been facilitated by the joint transposition of the category’s boundary marker: the relation of its production practices to ‘Rhenish’ ware production.

The ‘who’ and ‘why’ questions concerning this technological shift remain obscure. One possible piece of the jigsaw might be the gradual move of potters associated with *Werkstatt I* to Sinzig, deduced on the basis of a striking overlap between figure types and identical figure stamps.⁶⁰⁵ In any case a subsequent active process of negotiation between different ways of doing is suggested for Trier by sherds attributed to the same ‘style’ (e.g. Comitalis) but using either calcareous or non-calcareous clays.⁶⁰⁶ Unfortunately detail is insufficient to reconstruct the specificities as Chapter 3 did for Lezoux.

Nevertheless, evidence suggests that ‘Rhenish’ wares at Trier did indeed initially stand in a relation of ‘Otherness’ to the newly introduced sigillata production ‘à la Lezoux’. As in the case of Lezoux where the CaO contents of ‘Rhenish’ wares was more varied than that of contemporary sigillata, the use of similar clays for ‘Rhenish’ wares and sigillata at Trier did not entail a complete overlap of their production sequences. Whereas the CaO contents of sigillata in the second half of the 2nd century averaged 7 %, that of ‘Rhenish’ wares of the same period barely reached a level of 4,44 % CaO.⁶⁰⁷

With regard to slips and firing mode too a subtle balance between similarity (sintered slips) and difference (black/dark colour, mode A firing versus red colour, mode C firing)⁶⁰⁸ was enacted both in practice and in the resulting end products. Furthermore, it is likely that barbotine trailing – which later became the main decorative technique for Trier ‘Rhenish’ wares – was *perceived* as being part of the transmitted package of the ‘category’ sigillata and its ‘Other’ ‘Rhenish’ wares – even though this does not exclude other empirically traceable origins (e.g. Rheinzabern⁶⁰⁹). This interpretation is supported by the observation that the earliest ‘mottoes’ – short Latin inscriptions painted on ‘Rhenish’ ware vessels – were applied using a dotted barbotine technique already occasionally used in Central Gaul for both sigillata

⁶⁰³ Vilvorder 1999, 77; Bocquet 1999, 182.

Bocquet 1999, 167.

⁶⁰⁴ Analyses by Picon in Huld-Zetsche 1978, 334 nrs 41–54; Schneider 1993.

⁶⁰⁸ Bocquet 1999, 182–183.

⁶⁰⁵ Huld-Zetsche 1972, 25–27; Hartley 1977.

⁶⁰⁹ Künzl (1997, 119–120) emphasizes the Rheinzabern origins of this technique, but does not discuss how it was appropriated at Trier.

⁶⁰⁶ Brulet/Vilvorder/Delage 2010, 195.

⁶⁰⁷ Trier C group: Brulet/Vilvorder/Delage 2010, 195, 353;



Fig. 5.3. Trier 'Rhenish' wares with painted mottoes in barbotine. © Rheinisches Landesmuseum Trier (with permission).

and 'Rhenish' wares.⁶¹⁰ Finally, in practical terms white pipe-clay had to be imported to produce barbotine⁶¹¹, instigating a further difference with the production sequence of contemporary sigillata.

5.2.5 THIRD CENTURY SIGILLATA: A 'CATEGORY' DISSOLVED

By the early 3rd century this dotted technique was replaced by painted mottoes on 'Rhenish' wares (Fig. 5.3), which thus escaped their defining relation with the template of sigillata as a category imported from Central Gaul. How could this happen? There are indications that contemporary sigillata production was no longer maintained as a 'category' at Trier, but that its either/or boundaries dissolved and its package of traits was obliterated.

During the 3rd century, sigillata slips became rough, adhered badly, and showed considerable latitude of variation in the range of colours (bright red to dark red or even brownish hues) and in their aspect (matt to shiny).⁶¹² As to decoration⁶¹³, moulds dating back to the initial sigillata production of the 2nd century AD were being reused, as attested for the so-called *Massenfund* on the Pacelli-Ufer.⁶¹⁴ This implies at the very least that the making of new sigillata moulds was not a primary objective of the potters at Trier, and that the category's package of traits was being loosened.

⁶¹⁰ Künzl 1997, 99 (Group I only).

⁶¹¹ Künzl 1997, 92.

⁶¹² Brulet/Vilvorder/Delage 2010, 196.

⁶¹³ There is a lack of studies on Trier sigillata decoration after Fölzer 1913.

⁶¹⁴ Huld-Zetsche 1972, 81-88, 1978.

This is also demonstrated by a series of new sigillata forms establishing an idiosyncratic repertoire for Trier.⁶¹⁵ The influences on this repertoire are likely to have come from Rheinzabern, which was the only large sigillata production centre active in East Gaul after AD 200/210.⁶¹⁶ But just as I argued for the introduction of the barbotine technique, these ‘origins’ might not have determined how the resulting product was perceived and defined. Instead, what was emphasized by the creation of a formal repertoire at Trier itself seems to have been the ‘localness’ of ceramic production, in contrast to the ‘global’ currency of the previous sigillata ‘category’.

5.2.6 THIRD CENTURY ‘RHENISH’ WARES: VARYING TECHNOLOGICAL CHOICES

As the category of sigillata was dissolved, ‘Rhenish’ ware production gradually escaped the orbit of sigillata. This does not mean that their respective production sequences no longer had any relation, but that, if anything, the directionality of this relation shifted. To illustrate this with a modern parallel: the mobile phone was initially shaped by its recursive relation of similarity and difference to the ‘normal’ telephone – by what it ‘added’ to the already known package of ‘telephone’ – with which it shared most practices while adding the concept of mobility. Despite the continued visual and practical links, however, this relation has receded into the background, or at least shifted its directionality: the original telephone, what it can do, and what it cannot do now need to be discursively defined as a ‘mobile phone’ but wired and hence stationary. To refer to the mobile phone, on the other hand, no discursive reference back to the practices of the previous telephone is needed anymore. So too 3rd century ‘Rhenish’ wares were no longer defined ‘by implication’ based on sigillata’s production practices.

A number of technological choices underwrite this reversed relation and show how ‘Rhenish’ ware production now played with occasional but not-defining references to sigillata. For example a number of examples with a red exterior similar to sigillata have been attested in Künzl’s Group IV of decorated ‘Rhenish’ wares (AD 280–310/315).⁶¹⁷ These can be distinguished from the occasional sigillata with barbotine decoration since the former’s red colour was the result of reoxidation of non-sintered surfaces after reducing firing (mode A). Hence the surface of the end product was less smooth than that of sigillata fired in an oxidizing atmosphere, according to mode C. Another example concerns the crater Thomas 6, originally a sigillata form at Rheinzabern⁶¹⁸, but appropriated and rendered popular as a typical ‘Trier’ ‘Rhenish’ ware vessel. Finally, at Trier itself examples of Drag. 45 technically belonging to the sigillata production sequence have been noted with decoration indicative of ‘Rhenish’ wares.⁶¹⁹

Alongside this shifting directionality, ‘Rhenish’ ware production now developed relations to production sequences other than sigillata too. Meanwhile – and in contrast to the earlier category of sigillata – a lot of variation was tolerated within the technological choices of ‘Rhenish’ ware itself. For example, while the two identified groups of ‘Rhenish’ ware fabrics are related by their use of ‘slightly’ calcareous clays (Trier B 2,43 % CaO; Trier C 4,44 % CaO), the overall chemical composition of the Trier B ‘Rhenish’ ware fabrics is much more similar to that of the colour-coated fabric Trier A.⁶²⁰ While this might be in part a matter-of-fact result of the great diversity of geology and clay sources surrounding Trier⁶²¹, it goes to show the consistent space for variation allowed for in ‘Rhenish’ ware production.

⁶¹⁵ Brulet/Vilvorder/Delage 2010, 196.

⁶¹⁶ Vilvorder 1999, 75.

⁶¹⁷ Künzl 1997, 92.

⁶¹⁸ Brulet/Vilvorder/Delage 2010, 196.

⁶¹⁹ Künzl 1997, 37–38.

⁶²⁰ Bocquet 1999, 165, 166 figure 17, 167, tableau 8.

⁶²¹ Bocquet 1999, 184.

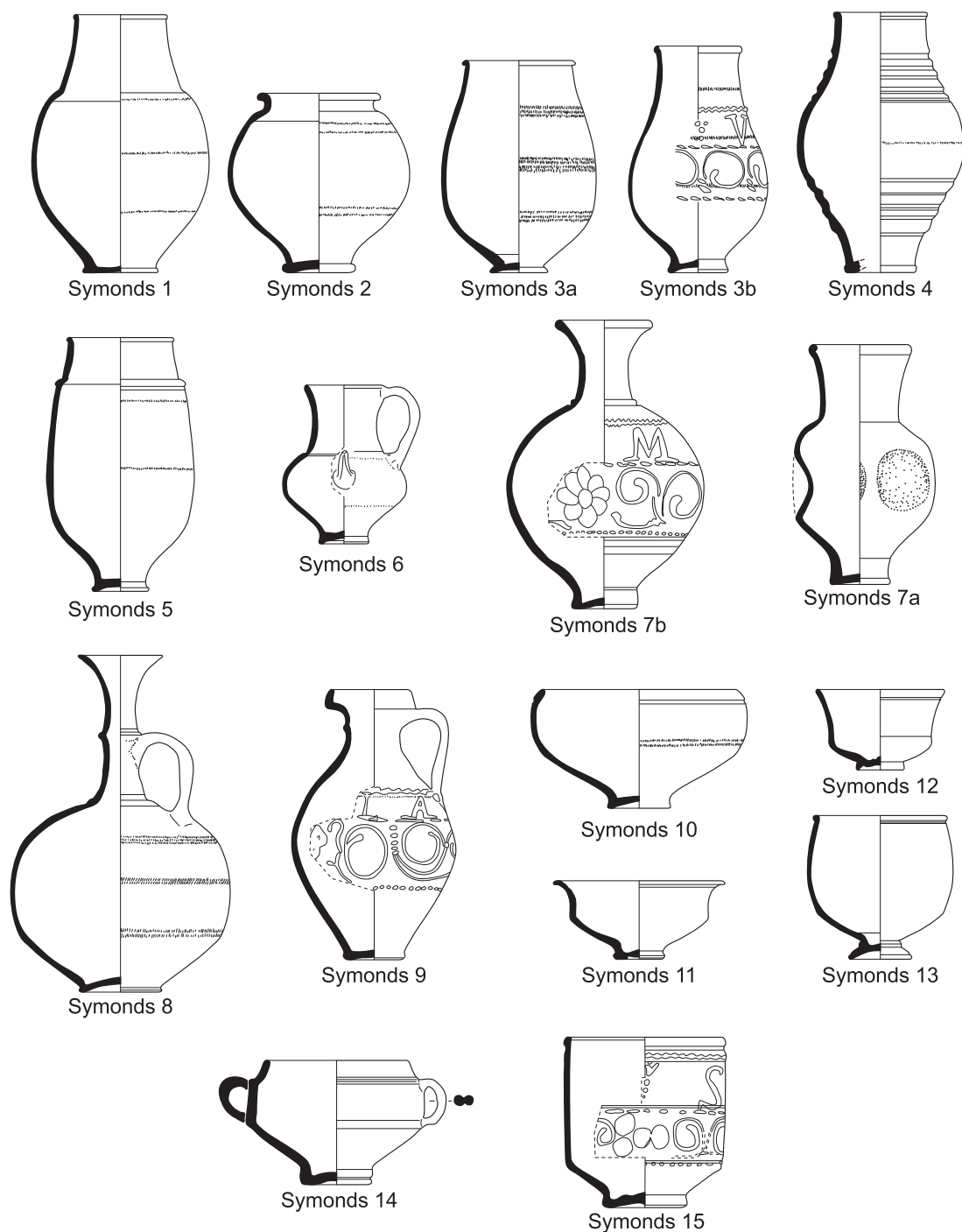


Fig. 5.4. Typology Trier 'Rhenish' wares. © Centre de Recherches d'Archéologie Nationale, UCL. From Brulet/Vilvorder/Delage, 354 (with permission).

And again in contrast to the category of *sigillata*, where vessels within a single 'type' tended to be identical to the extent that weights and dimensions were precisely matched from one vessel to another, standardisation of the formal repertoire of 'Rhenish' wares in the 3rd century (Fig. 5.4) did not preclude variation and experimentation. Firstly, variations existed between vessels of the same general form so that 'each vessel is unique'⁶²². Secondly, different sizes existed for a single vessel type, from miniature to extra

⁶²² Symonds 1992, 49.

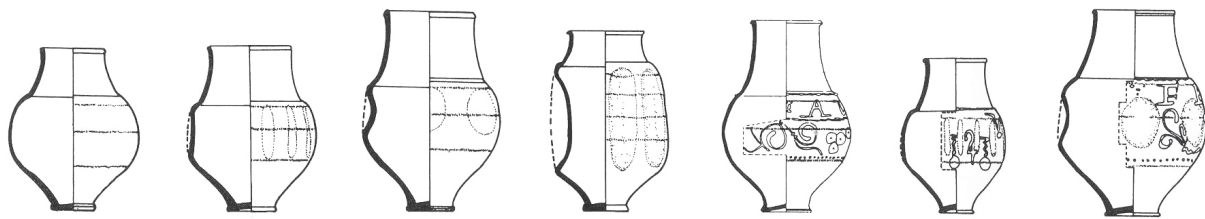


Fig. 5.5. Variations on 'Rhenish' ware type Niederbieber 33. Modified after Vilvorder 1999, 98 Fig. 13.

large; but no strict modules prevailed, as was the case for sigillata.⁶²³ Fig. 5.5 charts some of the variation in size and shape within the most popular 'Rhenish' ware form, Niederbieber 33. Thirdly, standardisation did not affect all 'Rhenish' wares equally: more variation is evident in the shapes of cups than in any other form.⁶²⁴

This leads to functionality, with the standard argument that 'Rhenish' wares were for drinking, while sigillata was for dining. Granted there was a tendency for sigillata and 'Rhenish' wares to preferentially include respectively dining and drinking forms, but this functional differentiation was not as watertight as had been the case at Lezoux. Apart from shared forms (e.g. crater Thomas 6, to be associated with drinking but also embracing cultic functions⁶²⁵), it is highly contentious to limit the function of the quintessential 'Rhenish' ware cups and bowls to drinking.⁶²⁶ Furthermore, the extreme ends of the scalar continuum of size variation – the miniature and extra large renderings – in all likelihood had an ornamental or symbolic role⁶²⁷, transgressing the rigid boundaries of functional classes.

For 'Rhenish' wares 'standardisation' was thus not coterminous with a process of category formation as described for Lezoux sigillata. In his typology of Trier 'Rhenish' wares, Symonds distinguishes between 28 vessel forms produced at Trier. Of these 28, a single form accounted for over 50 % of the recorded vessels: the type Niederbieber 33⁶²⁸ (Figs. 5.4 and 5.5), which moreover remained in use for more than 150 years⁶²⁹. Whereas this form was already present at Lezoux, there is no reason why it would have been inherently predisposed to becoming *the* quintessential 'Rhenish' ware form at Trier. So in contrast with the typological standardisation familiar from sigillata, where a series (sometimes even a 'service') of vessel forms was produced in substantial quantities, standardisation in 'Rhenish' wares meant the overt dominance of a single type of beaker.

Similarly, one dominant decorative technique (barbotine) existed against the background of a wide range of other possibilities (painting, appliqué, drawing⁶³⁰). Künzl explains the infrequent use of the latter options because these techniques would have thwarted a 'rational' (read: least-cost) procedure.⁶³¹ But not only is barbotine itself a highly demanding technique requiring specific preparation and skill, as explained in Chapter 4 it cannot be assumed that a neoclassical notion of 'rationality' as 'cost-benefit analysis' was applied for evaluating the procedures of 'Rhenish' ware production. Instead, this research shows how this pattern resonated with other technological choices to define 'Rhenish' wares in a specific way. As to decorative compositions, non-figurative schemes outnumber figurative hunting scenes.⁶³² But despite attempts at compiling figure-type catalogues as for sigillata, the manual application of barbotine and the continued experimentation⁶³³ resulted in unique figures.⁶³⁴

⁶²³ Künzl 1997, 128; Monteil 2012.

⁶²⁴ Symonds 1992, 59.

⁶²⁵ Künzl 1997, 28–30, 102 ff.

⁶²⁶ Symonds 1992, 59–60; Brulet/Vilvorder/Delage 2010, 354.

⁶²⁷ Symonds 1992, 53.

⁶²⁸ Symonds 1992, 47–49.

⁶²⁹ Künzl 1997, 19, 73 ('Tendenz zur Massenproduktion weniger Typen').

⁶³⁰ Künzl 1997, 78–91.

⁶³¹ Künzl 1997, 92.

⁶³² Künzl 1997, 39 ff, 78 ff.

⁶³³ Peaking with Künzl's (1997, 73–74) Group IV.

⁶³⁴ Künzl 1997, 9.

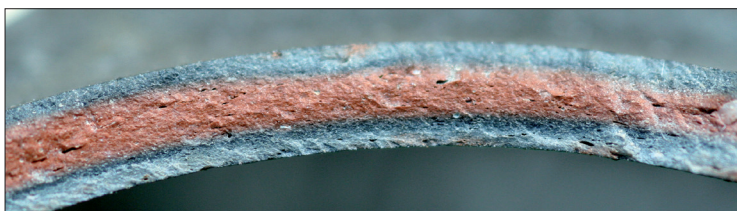


Fig. 5.6. Fabric of Trier 'Rhenish' wares (3rd century AD). © Centre de Recherches d'Archéologie Nationale, UCL. From Brulet/Vilvorder/Delage 2010, 352 (with permission).

'Rhenish' wares thus escaped the defining orbit of sigillata, and became the focus of attention in the Trier ceramic production landscape. Nevertheless, this interpretation does not imply a straightforward switch in predefined, static roles. 'Rhenish' ware did not become the new 'category': considerable variation characterized its technological choices, it was not defined by a limited package of traits, nor was it clearly separate from other production sequences. But if they were not defined as a 'category', and no longer functioned as sigillata's 'Other', then how to describe Trier 'Rhenish' wares?

5.2.7 'ROOTED' THINGS

Trier 'Rhenish' wares are renowned for the high quality of their slips⁶³⁵, a result of special care and skill deployed in firing. This created a 'sandwich effect' whereby the red inner core of the fabric is sided by two grey bands right underneath the slip (Fig. 5.6).⁶³⁶ This pattern is unique to Trier and points to a specific process of manipulating clay and firing. The fact that it characterizes all Trier 'Rhenish' wares highlights the connectedness of the community of practice at Trier that was already suggested by the spatial organisation of the production site.

The special care attributed to firing and slips did not preclude the recurrent manifestation of finger-prints on finished 'Rhenish' ware vessels, which were much more common than they had ever been on sigillata.⁶³⁷ It follows that the indexes of the physical and individual handling of the vessel did not need to be filtered away. The emphasis was on individual skill rather than repetition, and the contingency of the production practices was a defining characteristic (in contrast to the 'category' of sigillata in 2nd century Lezoux).

The product of 'Rhenish' wares was not only firmly anchored in the physicality of its production process, but also in the locality of its production site. With regard to the form repertoire, Symonds hypothesized that a number of short-lived forms were not favoured in the local market and hence preferentially exported.⁶³⁸ Even though other reasons may be listed to account for this pattern (e.g. the geographical limits of Symonds' sample) it does at the very least highlight the absence of global norms as to what 'Rhenish' ware pots should look like and what they could not look like. If anything, it seems that such norms were predominantly (or only) enacted at Trier itself, where also the most elaborate specimens⁶³⁹ and the greatest variety of forms were found. Other sites yielding Trier imports tapped into a limited repertoire: at Lyon for example Trier beakers were of form Niederbieber 33 only.⁶⁴⁰ This local anchorage of 'what was appropriate' is further emphasized by the fact that the most popular drinking form of Cologne colour-coated wares (with which 'Rhenish' wares had many similarities) – the so-called hunt cup – was not appropriated by the repertoire of Trier 'Rhenish' wares.⁶⁴¹

⁶³⁵ Bocquet 1999, 181; Symonds 1992, 46.

⁶³⁶ Symonds 1992, 49; Brulet/Vilvorder/Delage 2010, 352.

⁶³⁷ Symonds 1992, 49; Künzl 1997, 93.

⁶³⁸ E.g. form 5: Symonds 1992, 55 and *passim*.

⁶³⁹ Symonds in Brulet/Symonds/Vilvorder 1999, 408.

⁶⁴⁰ Desbat/Picon 1996.

⁶⁴¹ Harris 1986, 106.

A similar ‘local’ logic drives the issue of *what* was being contained in those ‘Rhenish’ ware vessels used in a drinking activity: beer or wine.⁶⁴² The Treveri and neighbouring tribes had been producing beer in the region⁶⁴³, while wine had to be imported before the 3rd century AD, presumably from South Gaul – although precise provenancing still awaits detailed analysis of the amphorae.⁶⁴⁴ From the 3rd century onwards, however, wine cultivation along the Mosel can be inferred on the basis of large vine presses. Hence, during the period when ‘Rhenish’ ware production enacted a *local* set of norms, both its possible types of contents – beer and wine – were being *locally* produced and anchored in agricultural regimes, dietary norms and consumption practices.

The mottoes on ‘Rhenish’ ware beakers offer more insight into this enactment of local ties (Fig. 5.3). The most common mottoes are VIVAS and MISCE, and overall the repertoire spans the realms of the pub, the whorehouse, and religion.⁶⁴⁵ Harris reminds us that these different themes need not necessarily be seen as distinct: wine, drinking and libations were an integral part of funerary and religious experience.⁶⁴⁶ The chronological trend is towards a reduction in the number of different mottoes in use.⁶⁴⁷ But most importantly, often a direct conversational mode is implied, between bartender and customer, vessel and consumer, pimp and girl, or devotee and religious figure. By ‘speaking *to*’ someone, the vessels and their producers actively created ties and relations within a close, locally based range. Sometimes the message was even of a personal character, as in greetings. Moreover, it is possible that some mottoes were commissioned. Adjustment between the number of indentations or impressions in a bowl and the number of letters in the motto⁶⁴⁸ suggests an integrated process of modelling and decorating.⁶⁴⁹ Harris reconstructs the sequence as follows: ‘the inscription was put on first, then the spacers and further decoration, with the appliqué apparently added at the end’.⁶⁵⁰ So commissioning did not involve the production of ‘*Halffabrikaten*’ to be adjusted to the customer’s demands, but instead took place at the very start of the production sequence.

A number of clever wordplays must have required in-depth knowledge of Latin, both on the part of the painter/potter and the consumer. Moreover, the puns and jokes rendered in some of the mottoes were anchored in the local knowledge system at Trier – that of the community of practice of potters and the different intersecting communities in the adjacent city centre (merchants, bartenders, soldiers etc.). One example reads BIBERT[AS] and has been linked to a passage in which Suetonius⁶⁵¹ relates that the emperor Tiberius received the nickname Biberius Caldius Mero upon entrance in the army, referring to his ability to drink warm and undiluted wine⁶⁵². Such a reading would have been evident within a community in close interaction with the soldiers stationed along the Rhine. So, in summary, the mottoes – more or less unique to Trier⁶⁵³ – again hint at a local understanding of ‘Rhenish’ wares with puns and jokes firmly anchored in the local knowledge system, with a more direct feedback loop between consumption and production than that of sigillata, and with a more coherent community of practice. The physicality of the process of writing mottoes as compared to that of stamping sigillata feeds

⁶⁴² Symonds (1992) argues that decorative details distinguish between wine and beer, while Künzl (1997, 96) notes that the mottoes mention wine much more often. Both arguments are debatable.

⁶⁴³ Luik 2001, 269; Binsfeld 1972a. Binsfeld (1972b) builds on an inscription mentioning a female beer (and pottery?) trader – but this reading and the authenticity of the inscription are debated. Wightman (1970, 189) cites inconclusive evidence in favour of earlier (late 1st century AD) wine production along the Mosel.

⁶⁴⁴ Luik 2001, 269.

⁶⁴⁵ Künzl 1997, 95 ff.

⁶⁴⁶ Harris 1986.

⁶⁴⁷ Künzl 1997, 97.

⁶⁴⁸ Künzl 1997, 92.

⁶⁴⁹ *Contra* Symonds 1992, 48 and Künzl 1997, 120 who argue that blank pots were ‘customized’ by specialist decorators.

⁶⁵⁰ Harris 1986, 109–110.

⁶⁵¹ Suetonius, *Tiberius* 42.

⁶⁵² Künzl 1997, 95.

⁶⁵³ Künzl 1997 lists other ceramic products carrying ‘mottoes’, but these are spread over a large spatio-temporal area and generally only yield a few examples.

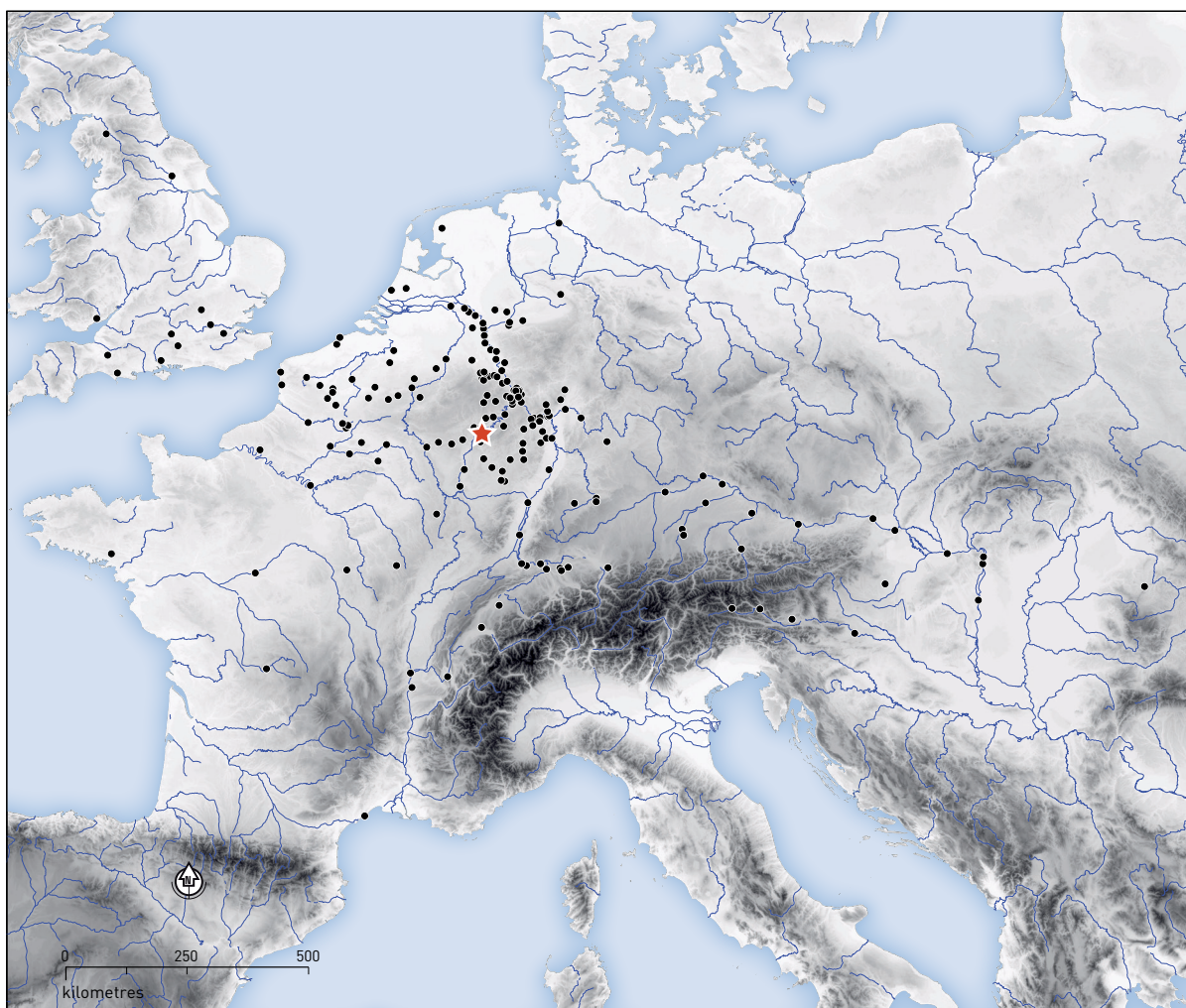


Fig. 5.7. Distribution map of Trier 'Rhenish' wares (3rd century AD). Based on data in Künzl 1997.

into this interpretation: a closer, more direct engagement of the skilled potter was readily made visible. Hence, in a similar vein as with the visible fingerprints indexing physical manipulation, a number of errors in the writing and use of Latin attest to direct handling by individual actors and to local language use and pronunciation.⁶⁵⁴

All of the above technological choices entertain a relation to Trier as an experienced and conceptual locality: the physicality of production, the community of potters and consumers, the routines (e.g. agriculture) and occasional events (e.g. military). This entanglement leads me to suggest the term 'rooted' as an apt description of how 3rd century Trier 'Rhenish' wares were defined, and what they were understood to do. Trier 'Rhenish' wares were rooted in the locality and physicality of their production.

5.2.8 DISTRIBUTION

Trier had easy access to transport infrastructure, by road (Trier-Bavay-Tournai-Kassel) and by river (Mosel and Rhine). The general distribution area of Trier sigillata⁶⁵⁵ covered the *limes* north of the Main,

⁶⁵⁴ Harris 1986, 109.

⁶⁵⁵ *Werkstatt I* products reached *Germania Superior* south of

the river Main, an area later taken over by Rheinzabern (Huld-Zetsche 1972, 78–79).

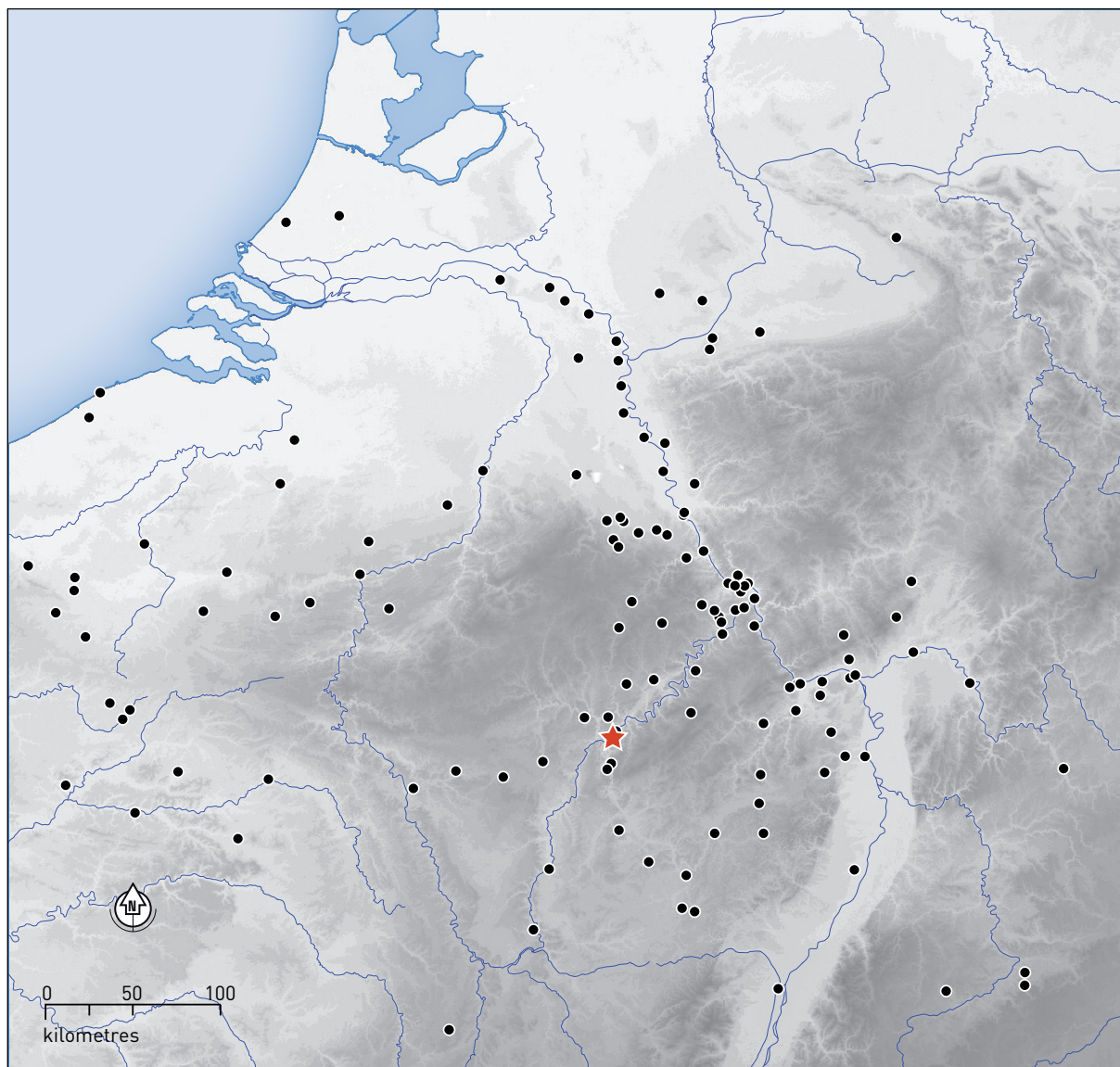


Fig. 5.8. Regional distribution of Trier 'Rhenish' wares (3rd century AD). Based on data in Künzl 1997.

running along the Rhine up to its estuary at the North Sea coast in Holland, and even crossing to Britain. Despite the success of 'Rhenish' wares, sigillata maintained a firm position along the major axes of distribution, in all likelihood accompanying the exports of 'Rhenish' wares.⁶⁵⁶ This is yet another indication of shifting directionality between both production sequences.

'Rhenish' wares had a larger distribution area than Trier sigillata, which leads Künzl to suggest that motto beakers travelled as souvenirs (Figs 5.7 and 5.8).⁶⁵⁷ Even if this sketches a somewhat romantic picture, it highlights the importance of social ties in the organisation of 'Rhenish' ware production at Trier. The discussion above already hinted at a close feedback loop between production and consumption, with the possibility of production to individual order.

Finally, a privileged distribution axis existed between Trier and Lyon⁶⁵⁸, but few 'Rhenish' wares have been found in between these centres.⁶⁵⁹ This direct trade link beyond the 'normal' reach of Trier prod-

⁶⁵⁶ Brulet/Vilvorder/Delage 2010, 198.

vorder 2000, 184.

⁶⁵⁷ Künzl 1997, 112.

⁶⁵⁹ Discussion in Brulet/Symonds/Vilvorder 1999, 407.

⁶⁵⁸ Desbat/Picon 1996; Desbat/Godard 1999; Desbat/Vil-

ucts emphasizes the importance of specific institutional relations (social, political, and administrative) in shaping the production and distribution of ‘Rhenish’ wares. Such ties are hinted at by a number of inscriptions found at Lyon that mention merchants originating from Trier but residing in Lyon. Krier recorded 13 inscriptions of *Treveri* at Lyon, 4 of which referred to merchants.⁶⁶⁰ Wine traders with ties to associations of shippers operating on the Saône are mentioned from the beginning of the 2nd century onwards – about a century prior to the first attestations of wine production at Trier – and would have been involved in shipment of South Gaulish wine to the northern *limes* area. One often cited example is a partially preserved inscription referring to a *n[ego/tia]ori vinar[io et / art]is cretar[iae]*, a trader of wine and pottery.⁶⁶¹ Interestingly, the top register of the epitaph is decorated with a number of ceramic pots that look like jugs but have been tentatively linked by some (e.g. Loeschcke) to ‘Rhenish’ wares. Krier undermines this association by dating the inscription to AD 125–150 – prior to the start of ‘Rhenish’ ware production at Trier.⁶⁶² But Krier’s dating is far from secure, and others have extended the possible date range of the inscription from the middle of the 2nd to the middle of the 3rd century, which would draw it within chronological reach of Trier ‘Rhenish’ ware production.⁶⁶³

Although the jury is still out on this example, the extraordinary number of attestations of merchants with links to both Trier and Lyon highlights the importance of social ties, networks of knowledge and communities of practice through which information was circulated and mediated. In this case a privileged link was established between two provincial capitals (Trier and Lyon), and was thus anchored in the structure of empire. But the observation that the vessels exported to Lyon were not the most elaborate examples (which were found at Trier itself) underscores the local discourse of ‘Rhenish’ ware production at Trier.

5.2.9 RELATIONS AND ROOTS

A phase of initial sigillata production at Trier (from ca. AD 130 onwards) did *not* tap into the Central Gaulish production practices discussed in the previous chapters. Consequently, the conditions of evaluation of the Central Gaulish ‘category’ of sigillata did not hold true: whereas sigillata vessels of this period attained a high quality, their fabrics used the same non-calcareous clays as a series of other products, their moulds were not signed, etc.

Given the rather imprecise chronological framework covering the end of the 2nd and the beginning of the 3rd century AD in the region under study, it is difficult to ascertain the relation between technological changes observed for sigillata production (calcareous clays, signed moulds, new decorative schemes etc.) and the introduction of ‘Rhenish’ ware production at Trier. By focusing on the longer history of the different technological changes, however, this study makes a case for the introduction of Central Gaulish practices of sigillata production. The previous section discussed how a ‘category’ is defined *on its own*, as separate from other things, only through its *relations of difference* with those other things. In the case of Lezoux sigillata, the most explicit ‘Other’ was ‘Rhenish’ ware production. To assure the transmission of sigillata production practices as a ‘category’, their ‘Other’ – ‘Rhenish’ ware production – had to keep defining the boundaries of ‘what (did not) count(ed) as sigillata’. Hence the ‘Other’ facilitated the global circulation of the ‘category’, allowing its production to be replicated at sites beyond Lezoux.⁶⁶⁴ But this exercise of replication – of keeping sigillata’s package of traits stable and well-defined – demanded a lot of effort.

⁶⁶⁰ Krier 1981, 28–58.

⁶⁶¹ CIL XIII 2033; Krier 1981, 54.

⁶⁶² Krier 1981, 55.

⁶⁶³ Krier 1981, 55.

⁶⁶⁴ Cf. Latour 1988 on replication of Pasteur’s discoveries in other labs and settings.

We can only speculate on the involvement of further agencies in this process: Trier was a city whose existence and make-up had been arranged by imperial authorities (e.g. road link with Lyon established by Agrippa), and where commercial interests intersected with political and military strategy (due to its location near the northern frontier zone). But the boundaries defining sigillata production at Lezoux did not persist long beyond initial transmission to Trier, and the ‘category’ they circumscribed dissolved. Sigillata production practices became open-ended and less rigidly defined, underscoring the fragility of a ‘category’, and the need for constant reaffirmation.

Meanwhile, ‘Rhenish’ ware production escaped its role as sigillata’s ‘Other’ and was singled out through special attention for and segregation of a number of its production stages. Whereas the relation with sigillata remained articulated, its directionality shifted somewhere along this process: ‘Rhenish’ wares were no longer defined *in relation to* sigillata. Nevertheless this does not imply a straightforward switch between ‘Rhenish’ wares and sigillata whereby the latter simply took on the former’s role as a homogeneous, bounded category.

Rather, ‘Rhenish’ ware production remained fundamentally anchored in the local practices at Trier. Such an experience of ‘localness’ was created in a number of ways: the spatial unity of the production area and the intense communication this would have entailed; the emphasis on the physicality of individual skill evident for instance in the traces of fingerprints and in the rendering of barbotine decoration and mottoes; the specific mixed geological signature of the clays around Trier; the puns woven into the mottoes which would have been fully comprehensible only to an ‘insider’ audience; the restriction of the most elaborate pieces and special forms to Trier itself; the directional links of distribution based on the administrative role of Trier and the personal ties of its citizens; etc. In other words, ‘Rhenish’ wares remained entangled with the contingencies of who they were produced by, where, how, etc. I introduced the metaphor of a ‘rooted’ thing to denote local entanglement as explicit and fundamental to the definition of a thing and its possibilities.

5.3 THING-THING RELATIONS AND HISTORICAL CHANGE

At the end of chapter 3, terra sigillata had become defined as a homogeneous, bounded category in production at Lezoux. This may make cynics doubt whether the narrative presented here is all that different from traditional, retrospective accounts. After all, the end result is the same – standardized sigillata. Put differently, the starting point of retrospective historical accounts has been questioned, but has been confirmed! No reason not to continue the way we sort sigillata, the way we publish it, or the way we use it as historical evidence for cultural and economic reconstructions?

Sigillata did indeed become a separate category, which makes its study today amenable to specialisation. But this chapter has argued that keeping the category of sigillata separate was a work in progress, which was never finished. Paradoxically, keeping sigillata *unrelated* to other production sequences depended on maintaining its *relations of difference* to those production sequences, in particular that of ‘Rhenish’ wares. Each of the technological choices for ‘Rhenish’ wares referred to sigillata and emphasized their difference.

This has repercussions for how we process, analyse, and study terra sigillata. This is not to say that typologies are wrong, and that we should never have sigillata processed separately by a specialist. But the relation between sigillata and ‘Rhenish’ wares does make us aware of the need to retain flexibility between artefact classes at every stage of their analysis and interpretation. If boundaries were contingently constructed in the past and could well have been constructed differently, then the same goes for the present.

More emphasis has to be put on thing-thing relations, relations between different ‘classes’ of artefacts. Such a call is not new for archaeology⁶⁶⁵, but the mutually defining relation between sigillata and ‘Rhen-

ish' wares shows that it needs to be extended beyond relations of direct causal or semantic dependency. While it is clear that clay depends on water, or cups need saucers, the mutual dependency between a category and its 'Other' stretches thing-thing relations into the conceptual domain. Nevertheless, the relation is still based on practice; in this case, on the practical similarities and differences between the production sequences of sigillata and 'Rhenish' wares. And just like the presence of water shapes the possibilities for clay to be formed into a pot, the relation with its 'Other' was crucial for sigillata to remain a category, and to maintain its possibilities for competition and exchange as discussed above.

Neglecting thing-thing relations has an impact on the kinds of historical narratives we can build on the basis of terra sigillata too. For instance, this chapter discussed that sigillata produced at Trier in the 3rd century no longer ticked all the boxes set by the Central Gaulish template. In a retrospective framework, it is tempting to link this observation to a supposed 'degeneration' of craftsmanship or production organisation, on a par with changed historical conditions, and a degeneration of Roman imperial culture itself. Such narratives of 'decadence' or 'failure' have implicitly moulded our approach to for instance the 3rd century in the northwestern provinces, subject to administrative reorganisation and Germanic incursions. Behind such interpretations lurks a problematic value judgment. But even more problematic is the fact that these value judgments are spurred by the use of a universal template of the category of sigillata as yardstick for empirical analysis. Third century Trier sigillata cannot but seem degenerate compared to a notional ideal of standardized sigillata with calcareous clays, shiny slips and a limited form repertoire, clearly separate from other products. This notional ideal can now be taken for what it was: a historically contingent development at 2nd century Lezoux. Third century Trier sigillata had cut its historical links with this development, and was no longer defined as a homogeneous and bounded category. Instead of locating the causal factors for this process in 'failing' external actors ('who', again: consumers, producers, investors, etc.), this can be rephrased as a shuffling of the relations between things – in this case between sigillata and 'Rhenish' wares. Again, acknowledging things and relations between things as history-makers will improve their use as history-tellers, leading to better historical narratives.

In a non-retrospective approach to material culture, not everything is *a priori* defined as a category.⁶⁶⁶ In this chapter, we have encountered Lezoux 'Rhenish' wares as a category's 'Other', maintaining the boundaries of the sigillata production sequence but not itself strictly bounded and homogeneous in its technological choices. As sigillata's 'Other', 'Rhenish' wares facilitated the former's transmission as-is (with the same package of traits and separate from other products) to other production sites, such as Trier. A couple of decades later, the relation shifted direction: increasing attention was paid to the 'Rhenish' ware production sequence, whereas sigillata's package of traits was loosened. Characterised by a large latitude of variation in technological choices and a lack of clear-cut boundaries, 'Rhenish' wares became defined through emphasis on the locality and the physicality of the production process. As 'rooted' things they created different possibilities for action compared to both the homogeneous category of 2nd century Lezoux sigillata and its 'Other' of Lezoux 'Rhenish' wares. How exactly did these possibilities differ for distribution and consumption? And how did these shape different historical trajectories? This is the question that the next chapter will tackle.

⁶⁶⁵ Knappett 2005, 2011; Hodder 2012; Thomas 1991.

⁶⁶⁶ Van Oyen 2015c.

6 Before meaning: reproduction and consumption of terra sigillata and ‘Rhenish’ wares in Essex (2nd–3rd centuries AD)

The trajectory of the category of 2nd century Lezoux sigillata continued beyond distribution and exchange as discussed in chapter 4. This final chapter explores how sigillata’s definition as a category set further possibilities for how its production knowledge could be transferred, and how the pots could be consumed. The previous chapter has introduced the importance of the relation between sigillata and ‘Rhenish’ wares, as well as the notion that not every product was defined as a homogeneous and bounded category. Third century Trier ‘Rhenish’ wares, for example, were not the same always and everywhere. Instead, they were characterised by variability, but also by a defining relation to the locality and physicality of the production place and process. This chapter will contrast how the ‘categorical’ 2nd century Central Gaulish sigillata and the ‘rooted’ 3rd century Trier ‘Rhenish’ wares shaped their respective possibilities for reproduction and consumption.

6.1 CONDITIONS FOR (RE)PRODUCTION

One way in which the trajectories of sigillata and ‘Rhenish’ wares developed was through the spread of the knowledge and standards of their production. How did their respective definition in production impinge on the process of technological transfer? The logical chronological and spatial extension of the previous chapters is to take into account multiplication to and in Britain, where local ceramic fine ware production appeared alongside imports around the middle of the 2nd century AD. Moreover, Britain offers a well-researched case study yielding a number of suitable assemblages.

6.1.1 (RE)PRODUCING A CATEGORY

The previous chapter discussed how transferring the production of sigillata as a category from Central Gaul to Trier required a lot of effort. Its definition by a standardized package of traits and a sharp boundary needed constant reaffirmation in order to be maintained.⁶⁶⁷ In the case of the sigillata category travelling from Central Gaul to Trier, this maintenance work was assured through pairing the sigillata production sequence with that of its ‘Other’, ‘Rhenish’ wares. How did this need for intensive maintenance work affect the overall production landscape of sigillata?

The lack of sigillata production in Britain has often been remarked upon, as this contradicts the expectations of ‘rational’ economic action. Indeed, given the huge amounts of sigillata being transported to and consumed in Britain, it is notable that sigillata production did not take off in the province itself. An attempt was made to install sigillata production at Colchester around AD 155, but this was not very successful.⁶⁶⁸ In light of the limited production output comparatively large numbers of wasters were

⁶⁶⁷ ‘Immutable mobiles’: Latour 1988; Law 1986; Law/Singleton 2005.

⁶⁶⁸ Tyers 1996, 114–116. The case of the ‘Aldgate-Pulborough’

potter, with decorative schemes derived from Central Gaulish products (Marsh 1979; Simpson 1952; Webster 1975), will not be discussed here, as too little evidence is available.

retrieved, either overfired, or – more rare on the Continent – underfired.⁶⁶⁹ As such the short-lived fate of sigillata production at Colchester (end date around AD 180) tends to be ascribed to deficiencies of the local clay, and problems with firing.⁶⁷⁰ Again, the search for a cause in retrospective approaches cannot but point to external actors: the clays were no good, or the potters did not master their crafts.

Nevertheless, there is evidence that the potters at Colchester came in with skilled expertise in East Gaulish sigillata production. Dies from the potters Lipuca and Miccio can be traced from the Gaulish sites of La Madeleine and Sinzig to Colchester, probably indicating their consecutive workplaces.⁶⁷¹ Based on stylistic affinities of moulds, it is generally held that a first phase of sigillata production at Sinzig was indeed brought about by a move from La Madeleine.⁶⁷² Minuso ii's stamp distribution in turn indicates successive activities at Trier and Colchester⁶⁷³, and it would seem likely that this transmission too occurred via Sinzig, where a second wave of new figure-types has been related to potters from *Werkstatt I* at Trier.⁶⁷⁴ Given the fact that these potters had gained considerable experience in producing sigillata, and in adapting their skills and product to different circumstances at different production sites, it is all the more curious that they would have been 'unable' to do so at Colchester.

Where does sigillata itself come in? Can the counterintuitive absence of sigillata production in Britain be explained better when placed (non-retrospectively) at the end of sigillata's historical trajectory? We have seen that the early sigillata production at Trier did not conform to the parameters set by the Lezoux category.⁶⁷⁵ The package of traits was loosened, and the presence of one trait no longer implied the entire package: for example, shiny slips could be achieved without using calcareous clays. Arguably the lack of these strictly defining 'either/or' parameters facilitated the multiplication of production sites in East Gaul: a wider latitude of variation and less rigid external boundaries within the production sequence assured a greater adaptability of East Gaulish sigillata to varying skills, clays, infrastructure, etc. This resulted in a mosaic of production sites as opposed to the more centralized Central Gaulish sigillata production landscape in the second half of the 2nd century.

Colchester sigillata production fits within a similar multiplication to Britain of this East Gaulish sigillata 'template' as initially observed at Trier: forms covered the contemporary East Gaulish repertoire, and wasters and moulds were associated with a single circular kiln⁶⁷⁶, which showed technical similarities to some East Gaulish sigillata kilns (e.g. Heiligenberg)⁶⁷⁷. Moreover, well-fired Colchester sigillata is often difficult to distinguish from imported 2nd century East Gaulish sigillata, with a red-brown fabric and (yellow-)brown slip.⁶⁷⁸ Moreover, Colchester sigillata production was closely associated with colour-coated wares, as illustrated by fragments of a barrel-shaped sigillata beaker, a form 'scarcely' known in sigillata outside Colchester, but common in colour-coated wares on the Continent.⁶⁷⁹ Similarly, compared to East Gaulish decorative canons⁶⁸⁰, hunt scenes typical for colour-coated wares abound on Colchester sigillata moulds, with running animals (especially deer and dogs)⁶⁸¹ and few human figures. This selective appropriation parallels the contemporary popularity of colour-coated 'hunt cups' (below), and was possible due to the loose East Gaulish sigillata template, which was not kept clearly separate from other production sequences.

But in Britain this fairly adaptable definition of sigillata encountered a rather different template in the mass of 2nd century imported Lezoux products. The latter had been defined as 'categories' in production,

⁶⁶⁹ Hull 1963, 33.

⁶⁷⁰ Hull 1963, 143.

⁶⁷¹ Hartley 1977, 256–257.

⁶⁷² Brulet/Vilvorder/Delage 2010, 198–201.

⁶⁷³ Hartley 1977, 257.

⁶⁷⁴ Brulet/Vilvorder/Delage 2010, 198–201; Huld-Zetsche 1972.

⁶⁷⁵ Section 5.2.3.

⁶⁷⁶ Kiln 21 (Hull 1963, 20 ff.).

⁶⁷⁷ Hull 1963, 27; Swan 1984, 92.

⁶⁷⁸ Tyers 1996, 114.

⁶⁷⁹ Hull 1963, 82.

⁶⁸⁰ E.g. Trier *Werkstatt I*s gladiatorial and erotic scenes (Huld-Zetsche 1972).

⁶⁸¹ Drawings in Hull 1963, 43 ff.

which, as discussed earlier, made them amenable to comparison based on their individual traits, without challenging the constituent relations between these traits. Questions such as ‘how shiny is the shiny slip’?, or ‘which clay bed yields the best calcareous clay?’ were promoted, while the fact that shiny slip *always* implies calcareous clays went unquestioned. Colchester sigillata was drawn into this comparison because of the visual (and, to a lesser extent, technical) similarities with these Central Gaulish imports.⁶⁸² But variability and adaptability rather than a fixed package of traits were constitutive of Colchester sigillata, which thus did not lend itself to a comparison of traits.

Colchester became a point of encounter and tension between different definitions of a ‘single’ thing, sigillata. The two different sigillata templates would have set parameters of evaluation that would have been incompatible.⁶⁸³ Colchester pots whose production practices were ‘a bit like sigillata’ but also ‘a bit like colour-coated wares’ would have been placed firmly outside of the either/or category boundary set by the imported Lezoux sigillata, despite their broadly similar appearance. Things, skills and possibilities that would have gone unquestioned at Colchester now became the subject of doubt. Incompatibility between the two definitions of sigillata production was exacerbated by the fact that the Lezoux sigillata-as-category came in as a finished product, far removed from the contingency of its production. Colchester potters were faced with the finished product, the commodity, without being able to link this to a particular production sequence and specific embodied skills, which would have been easier to ‘compare to’.

It is not difficult to imagine how the overlap between practices associated with colour-coated wares and sigillata at Colchester could not be aligned with the category’s binary standards (a pot could not be ‘a bit sigillata’ *and* ‘a bit colour-coated’), and how the adaptation of firing and technique to local clays became a less straightforward exercise than it had been in East Gaul. This is a case where the definition of sigillata as a category in production at Lezoux continued to cast its spell on the subsequent trajectory of the product (as it had arrived in Britain). The maintenance of rigid parameters for the category in production entailed possibilities of comparison and measurement that in turn compromised other production sequences and their products (Colchester sigillata).

Traditionally, historical explanations of the location of terra sigillata production sites point to external agents, such as migrating craftsmen, environmental constraints, and economic considerations.⁶⁸⁴ But these are always partial, and bound to remain elusive. Instead, part of the explanation why sigillata production at Colchester did not take off is to be found in the misalignment of two differently articulated trajectories: one of (Lezoux) sigillata defined as a category, with the particular conditions for action this created; and one of (East Gaulish) fine wares defined as skilled and flexible production practices, which struggled to fit its products in an either/or categorical frame. Lezoux sigillata’s definition as a category *itself* thwarted reproduction at Colchester, and resulted in a fairly centralized production landscape. Yet again, we find sigillata as a history-maker.

6.1.2 (RE)PRODUCING A SKILLED PRODUCTION PROCESS

Despite the issues with sigillata production, local production of dark-coloured beakers and flagons flourished in Britain from the mid 2nd century onwards. Chronologically, this overlapped with the peak period of (Central Gaulish) sigillata supply, and coincided with the start of ‘Rhenish’ ware production at Trier. The two important production areas were Colchester (from ca. AD 120)⁶⁸⁵ and the Nene Valley

⁶⁸² This would not have been the case for East Gaulish sigillata production sequences as imports of Central Gaulish sigillata in East Gaul were scarce.

⁶⁸³ Cf. Pickering 1984 on incommensurability between different scientific traditions.

⁶⁸⁴ Van Oyen 2015d, 287–288.

⁶⁸⁵ The small-scale pre-Flavian colour-coated production at Colchester (in response to Lyon ware imports) had no connection with the 2nd century phenomenon: Anderson 1980, 35; Symonds/Wade 1999, 233–237; Tyers 1996, 168.

(centred on Water Newton, a former Roman fort which became the small town *Durobrivae*; from ca. mid 2nd century). The very fact that the products of these sources are often confused⁶⁸⁶ attests both to their similarity and to their lack of internal cohesion.

The earlier start date of Colchester colour-coated wares⁶⁸⁷ places them in a different context: Central Gaulish 'Rhenish' ware production had not yet properly taken off⁶⁸⁸, and the production of Trier (and East Gaulish) sigillata was not yet modelled after the Central Gaulish category. Firstly, a link to Rhineland colour-coated ceramics can be discerned. The colour-coated repertoire consisted mainly of beakers (especially Cam 391, a bag-shaped beaker with cornice rim) – many similar to contemporary Cologne and Lower Rhineland products – alongside flagons and so-called 'Castor boxes'. Decoration included roughcasting, rouletting, and barbotine; the latter sometimes depicted hunt scenes inspired by Cologne hunt cups, but with subdivided panels and more elongated animals. Secondly, a considerable degree of variation was maintained, for example in firing, resulting in differences between fabrics and a colour-coat veering from matt red/brown to dark grey/black.⁶⁸⁹ Finally, as mentioned above, the production sequences of sigillata and colour-coated wares were closely interrelated at Colchester. This included occasional overlap in exterior reddish colour, and sporadic examples of a colour-coated beaker form (Anderson Form 5)⁶⁹⁰ executed 'as sigillata'. Hull also mentions a greyish-chocolate colour-coat beaker Cam 391 with traces of barbotine and an impression of a sigillata stamp (ACCEPTVSF) just below the rim.⁶⁹¹ This is proof that the same potter(s) and workshop(s) produced sigillata and colour-coated wares, and attests to these products' practical and conceptual linkage. Whether by mistake or not, it was possible to extend the 'sigillata' practice of stamping to colour-coated wares; such traits were not seen as belonging exclusively to a sigillata package, as was the case at Lezoux.

The colour-coated wares lasted longer and reached more widely than Colchester sigillata.⁶⁹² While the latter struggled by being drawn into a comparison with the imported sigillata category, colour-coated wares could thrive as an appropriation of a Lower Rhineland craft tradition. Definition of Colchester colour-coated production was centred on the embodied skills and expertise ('this is how *we* do it'), not on the finished product ('this is how *it* is done'), as with Central Gaulish sigillata. The 'sigillata' name stamp '*Acceptus f[ecit]*' occurring on a colour-coated beaker exemplifies the personalized nature of this tradition, and thus performed a different role from the 2nd century sigillata stamps. This is not unlike the 'rooted' definition of 3rd century Trier 'Rhenish' wares, with the exception that the site of Trier itself, its clay sources, its geography, and its institutional links proved crucial in that case. Moreover, Colchester colour-coated wares were not as much cast as sigillata's 'Other' (as 'Rhenish' wares had been in 2nd century Lezoux), but genealogically linked to them by a skilled set of expertise, which made them less reliant on the fate of sigillata production.

As Colchester colour-coated wares had taken off, several potters in the Nene Valley followed. Local coarse-ware production was established from the later 1st century onwards⁶⁹³, and continued after the onset of colour-coated production (which took up about one third of the total output⁶⁹⁴). Much like observed for Colchester, Nene Valley colour-coated production can be characterized as variable and personalized. The kilns were distributed alongside the river Nene, and organisational links can be posited to both the town of *Durobrivae* and its suburbs, and the interspersed remains of substantial domestic

⁶⁸⁶ Tyers 1996, 168.

⁶⁸⁷ Anderson 1980, 35–38; Symonds/Wade 1999, 267–278; Tyers 1996, 167–168.

⁶⁸⁸ Central Gaulish colour-coated production had been tailing off since the early 2nd century.

⁶⁸⁹ Tyers 1996, 167.

⁶⁹⁰ Anderson 1980, 36.

⁶⁹¹ Hull 1963, 91, 92 Fig. 50.1.

⁶⁹² Cf. Colchester grey wares, including cooking vessels, and *mortaria* (abundant in Scotland) (Hull 1963, 143–144; Hartley/Tomber 2006).

⁶⁹³ Anderson 1980, 40; Hartley 1960, 6.

⁶⁹⁴ Hartley 1960, 12; Perrin 1999, 19.

structures.⁶⁹⁵ Hence it is possible that investment in this mosaic-like production landscape was fragmented and occurred via multiple channels. Here too considerable latitude of variation was allowed for in fabric (white to orange-brown or greyish) and coating (matt dark brown to black, often mottled). The latter had a specially prepared iron-rich composition, in order to obtain a blackish (reducing firing) or brownish (oxidizing firing) appearance, in line with the contemporary vogue for beaker forms (cf. 'Rhenish' wares). Potters' fingerprints feature commonly on the slip, parading personalized ties. Marked structural differences existed between consecutive kilns.⁶⁹⁶ Hartley notes that 'there is little to suggest that the choice of kiln type was determined by the class of pottery to be fired'⁶⁹⁷, and both mixed and single-product kiln loads have been found *in situ*.⁶⁹⁸

This variability allowed for links to be established with various other products and production practices. Nene Valley kilns show similarities with 'the kilns in use in the smaller East-Gaulish samian factories'⁶⁹⁹ and more generally kilns used in the Rhineland; more than with examples at Colchester. A similar pattern emerges based on the decorative techniques: whereas roughcasting was prominent among Colchester colour-coated wares, it is almost unknown on Nene Valley products. Nevertheless, the use of rouletting and barbotine was shared between both centres. Barbotine was variably applied under (cf. Lezoux 'Rhenish' wares and Cologne colour-coated wares) or over (cf. Trier 'Rhenish' wares) the slip, and it is possible that this indicates a chronological difference⁷⁰⁰, reflecting successive sources of influence. Barbotine hunt scenes recall 2nd century Cologne beakers and contemporary Colchester products. The earliest of these scenes were applied on bag-shaped pedestal beakers⁷⁰¹ common in the Central Gaulish 'Rhenish' ware repertoire (Bet 310), even though hunt scenes were only rarely present on Central Gaulish products themselves (and only on form Bet 310!)⁷⁰². Later several variations of Niederbieber 33, the emblematic beaker for Trier 'Rhenish' ware production, were used (cf. Fig. 5.5). All the while, Castor boxes again tied into the Colchester repertoire instead of continental sources.

Around the beginning of the 3rd century AD, elements of sigillata production were adopted in the Nene Valley. Bowls (Drag. 37 and 38), dishes (especially Drag. 31) and flagons, sometimes stamped, were added to the repertoire⁷⁰³, but were 'based on the late East Gaulish variants, and not on the normal Central Gaulish type, which was always more common in Britain'⁷⁰⁴. Moreover, moulds were crude and often incised⁷⁰⁵ rather than figure-stamped. The reason for these sudden adoptions tends to be sought in the waning⁷⁰⁶ of sigillata supply to Britain. But the products' trajectories again shed more light on this issue. Both the chronology (3rd century) and the origins (East Gaul instead of Central Gaul) of these adoptions meant that they were played out in relation to a 'sigillata' that was no longer cast as a homogeneous category. As a consequence, its package of traits was no longer fully defining and bounded, and it became easier to select and appropriate separate elements from this package, without this entailing adoption of the entire package (e.g. *either* red colour *or* not; red *and* sintered slips). Moreover, colour-coated wares' incorporation of some sigillata traits would have been different enough to the imported Central Gaulish sigillata so as to escape direct comparison with them.⁷⁰⁷

⁶⁹⁵ Mosaics and baths have been signalled (Hartley 1960, 7; Mackreth 1984; Perrin 1999; Upex 2001), but it is unclear whether these structures served agricultural functions too.

⁶⁹⁶ Hartley 1960, 9–17.

⁶⁹⁷ Hartley 1960, 16.

⁶⁹⁸ Perrin 1999, 19 and *passim*.

⁶⁹⁹ Hartley 1960, 17; Swan 1984, 95–97.

⁷⁰⁰ Hartley 1960, 20; Howe/Perrin/Mackreth 1981, 8; Perrin 1999, 89 ff.

⁷⁰¹ Howe/Perrin/Mackreth 1981, 8; Perrin 1999, 89 ff.

⁷⁰² Brulet/Vilvorder/Delage 2010, 346–347.

⁷⁰³ Tyers 1996, 173; Hartley 1960, 20; Perrin 1999, 102.

⁷⁰⁴ Hartley 1960, 21.

⁷⁰⁵ Anderson 1980, 39.

⁷⁰⁶ Sigillata supply to Britain became infrequent but did not stop by the early 3rd century AD (Willis 2005, 6.7 *contra* Anderson 1980, 41).

⁷⁰⁷ A similar narrative works for Oxfordshire (from ca. AD 240) and Hadham red slipped wares (from mid 3rd century AD). Cf. 'derivatives' in East Gaul: Brulet/Bocquet/Laduron 1994.

To summarize, just like Colchester colour-coated wares, their Nene Valley counterparts were characterized by significant latitude of variation. Moreover, they maintained relations with various production landscapes: the Lower Rhineland and Cologne (hunt scenes), Central Gaulish ‘Rhenish’ wares (form Bet 310), Trier ‘Rhenish’ wares (white barbotine applied over slip), and East Gaulish sigillata (form Drag. 36, 3rd century). Elements from these sources were selectively appropriated and expanded. For example, hunt scenes appeared on pedestal beakers, a combination introduced but not widely developed at Lezoux, in contrast to the different beaker forms used for the more numerous hunt cups at Cologne and Colchester. As was the case for Colchester, there was not so much a transferral of a product, but of a set of embodied skills that could be recombined.

Again, this seemingly trivial observation has important consequences for historical interpretation. A dominant narrative in relation to the ‘success’ or ‘failure’ of various ceramic industries is that of rational economic competition.⁷⁰⁸ Fulford ascribed the different fate of sigillata and colour-coated production in Britain to a greater demand for the latter⁷⁰⁹, but there is no evidence to support this claim, on the contrary.⁷¹⁰ Distance from competitors on the Continent has also been invoked.⁷¹¹ But why were Colchester colour-coated wares more long-lived than Colchester sigillata, despite their equal geographical position?

The concept of competition begs remodelling, from blank verb insertable in between any two ‘actors’ (A competes with B) to a specific kind of relation that is only made possible by ‘actors’ defined in a certain way (A has to be comparable to B). When analysing competition, we need to ask which traits are being compared, based on which parameters.⁷¹² Colour-coated wares were not defined as categories with clearly defined attributes that could be measured as performing ‘better’ or ‘worse’ in relation to each other. Instead, historical narratives building on colour-coated wares should put more emphasis on craft knowledge and potters’ identities in their search for causal factors. This is not to say that 2nd century terra sigillata production at Lezoux was not skilled, quite the contrary, as previous chapters testify. But whereas this skilled engagement between pot, potter, and community of craftsmen was pushed to the background of how sigillata was defined (and the firing lists showed how this was achieved), it remained at the core of colour-coated wares’ definition, and thus of their historical role.

6.2 NICHES IN CONSUMPTION

6.2.1 IAN ESSEX CASE STUDY

A final way in which trajectories continue is through consumption. How did sigillata and ‘Rhenish’ wares shape their own possibilities for consumption? A potential study area to examine consumption practices needs to span the period from at least the middle of the 2nd century until the later 3rd century and yield the full gamut of products under study. Britain satisfies these criteria. More specifically, the following discussion will focus on what is now Essex, for two reasons: firstly, it is one of the most evenly researched and best published regions of Roman Britain⁷¹³, and secondly, continental imports (in particular East Gaulish sigillata⁷¹⁴ and ‘Rhenish’ wares) became scarcer further westwards.

⁷⁰⁸ Cf. Picon 2002a on Lezoux.

⁷⁰⁹ Fulford 1977, 307–309.

⁷¹⁰ Pollard 1988, 82 on Kent.

⁷¹¹ Fulford 1977, 309.

⁷¹² Cf. Gerrard 2002; Millett/Graham 1986, 90–91; Millett 1990, 172. It is also worth asking whether the long waves described by Going (1992) could be in part due to different product definitions: for example, a log phase with

rapid typological change (and a resulting fine-grained chronology), as in the sigillata peak periods, relies on the possibility of perceptible linear change in the product, and thus on its definition as a discrete (‘changeable’) entity at any given stage.

⁷¹³ E.g. Perring 2002.

⁷¹⁴ Willis 2005, 6.7.

Sherd count

site	CG RW	EG RW
Colchester	77	737
Chelmsford	36	5
Ivy Chimneys, Witham	4	58
Chignall	4	12
Rivenhall	7	
Coggeshall	1	
Rayne		2

Table 6.1. Sherd count of Central Gaulish (CG RW) and East Gaulish (EG RW) 'Rhenish' wares at published and quantified sites in Essex. Quantification at site level, except for Rivenhall (single stratified assemblage). Data based on site reports listed in Perring 2002, 73–79.



Fig. 6.1. Location map of consumption sites in Essex with 'Rhenish' wares and terra sigillata pottery. Site types after Perring 2002.

In general terms 'Rhenish' wares reached as widely as sigillata, but were always represented by a much thinner scatter.⁷¹⁵ This hampers the analysis, even in a well-supplied region like Essex. Table 6.1 lists published Essex sites (Fig. 6.1) where 'Rhenish' wares were present and quantified at the site level (number of sherds⁷¹⁶). Overall the presence of sigillata at these sites tends to be in the order of x50 to x100 times that of 'Rhenish' wares by number of sherds, and even higher if quantified by weight, given the often very thin walls of 'Rhenish' wares as compared to the later sigillata. Even on sites yielding comparatively many

⁷¹⁵ Brulet/Vilvorder/Delage 2010.

⁷¹⁶ Weight and EVE were rarely calculated.

site type	site	CG RW	EG RW	CG TS	EG TS	assemblage size
urban	Colchester	yes	yes (more)	yes	yes	
	Chelmsford	yes (more)	yes	yes	yes	total 600 kg, 45000 sherds
lesser nucleated	Great Chesterford	no	no	yes (88% of total TS)	yes (10% of total TS)	
	Braintree	yes	no	yes	yes ("fair proportion")	3 reports: 1100 sherds, 11000 g; 800 sherds, 10500 g; 3996 sherds, 54385 g
	Kelvedon	no	no	yes (relatively little 2nd century)	yes (less than 5%; exceptionally little)	
	Great Dunmow	no	no	yes	yes (low proportion; less than 10% of Antonine TS)	
	Billericay	yes	no	yes (majority)	yes (little)	
	Ivy Chimneys, Witham	yes	yes (more)	yes	yes (exceptionally much; esp. Trier)	total: 438 EVE; Group 4: 4036 g, 3.27 EVE; Group 10: 37445 g, 47.61 EVE; Group 11: 25790 g, 29.15 EVE
	Heybridge	yes	no	yes	yes (exceptionally much; 30% of Antonine TS)	> 181 kg; 15300 sherds
rural: villa	Chignall	yes	yes (slightly more)	yes	yes (9.8% of total weight TS)	total Iron Age and Roman: 245.5kg, 23000 sherds (TS total 3190 g; RW total 45 g)
	Boreham	no (?)	no (?)	yes	yes	
	Gestingthorpe	yes	yes	yes	yes (low proportion)	
	Nazeingbury	no	no	yes	no	
	Rivenhall	yes	yes	yes	yes	Period 3A: 5890 g, 713 sherds, 8.00 EVE
	Coggeshall	yes	no	yes	yes (late Antonine)	
	Brightlingsea	no	no	yes	?	1139 sherds, 18994g, 21.83 EVE
rural: lower status	Little Oakley	no (?)	no (?)	yes	yes	
	Orsett	no	no	yes	yes (some)	
	Hatfield Peverel	no	no	yes (?)	?	
	Rayne	no	yes (labelled as Trier colour-coated)	yes	yes (little: 4.6% of total weight, 15% EVE)	18312 sherds, 178054 g, 99.04 EVE
	Castle Hedingham	no	yes (1 sherd)	yes (2 pieces)	yes (more than CG, 6 pieces)	> 12 kg, 1192 sherds
	Tilbury	no	no	yes (2 sherds)	yes (1 sherd)	
	North Shoebury	?	?	yes	?	

Table: 6.2. Presence and absence of Central (CG) and East Gaulish (EG) sigillata (TS) and 'Rhenish' wares (RW) at published sites with appropriate chronological range in Essex. Data based on site reports listed in Perring 2002, 73–79.

'Rhenish' wares, patterning within and between individual contexts is tenuous. For example, the most substantial quantified group at Ivy Chimneys (Group 10) counted 37445g/47.61 EVE pottery overall, of which only 28g Central Gaulish and 23g/0.09 EVE East Gaulish 'Rhenish' wares.⁷¹⁷

One possible way round this would be to plot presences and absences of 'Rhenish' wares at site level (Central and/or East Gaulish sigillata is present on all sites). The results are represented in Table 6.2. However, the pattern is not that robust either: in the case of a thinly distributed product like 'Rhenish' wares, large assemblage sizes are needed to assure a representative pattern. Since most sites under study did not yield samples of

⁷¹⁷ Turner 1999.

sufficient size, arguments based on absence are statistically unwarranted. Hence the most suitable strategy might be to select individual instances – sites or contexts – of sufficient sample size worth exploring. The reverse side of this strategy, however, is the limited scope for extrapolating to more general patterns or comparisons.

Before continuing, the limits of the data, and by extension of the approach adopted in this book, need to be emphasized. The general methodological principle of this research is to analyse how a ‘single’ object is defined in different practices. For production, for instance, sigillata was defined as different from other pots both in the practice of clay fetching and in that of firing; and analysis of the production sequences could access these definitions. For consumption, however, various fields of practice can be theoretically distinguished, but are more difficult to disentangle empirically. This is in large part due to the nature and resolution of the evidence: assemblages are mixed, their formation processes complex, and their chronology often uncertain. Whereas the proverbial single potsherd can tell a whole story of production, it often only speaks to ‘presence’ in consumption contexts.

Despite these methodological difficulties, a general claim supported by the evidence of the Essex sites is that sigillata and ‘Rhenish’ wares were not mutually exclusive in consumption practices. This holds true both on the fine-grained level of individual contexts and on the coarser scale of site-wide quantifications by phase. For example the fabric incidence by ceramic phase at Chelmsford shows that the quantitative peak for both products coincides in phase 4 (AD 160/75–200/10)⁷¹⁸: not only did one product not replace the other, the more sigillata there was at the site level, the more ‘Rhenish’ ware. This positive correlation is probably due to shared supply mechanisms.

But does this correlation hold true across contexts at a single site? At the presumed ‘religious complex’ at Ivy Chimneys (Witham), for example, two quantified groups containing ‘Rhenish’ wares are of sufficient size to allow for this kind of analysis.⁷¹⁹ Group 11 (F3321; 29.15 EVE) filled a depression and was dated to the mid fourth century.⁷²⁰ It contained, among others, Nene Valley colour-coated wares (0.6 % weight), East-Gaulish ‘Rhenish’ wares (0.07 % weight) and East Gaulish sigillata (0.09 % weight). Both by weight and EVE, the ratio of ‘Rhenish’ ware to sigillata is higher than the overall signature for the site. The reverse is true for Group 10 (F2409; 47.61 EVE), a depression in which a font was based, yielding Central and East Gaulish ‘Rhenish’ wares and sigillata, and Nene Valley colour-coats.⁷²¹ Hence on the level of individual contexts, there often is an inverse relation between the representation of ‘Rhenish’ wares and sigillata – in contrast to supply levels to individual sites. Even allowing for issues of taphonomy and differential deposition, this may suggest that both products were catering for different contexts and actions.

6.2.2 ‘RHENISH’ WARES: CREATING TIES

During the phase of experimentation in the early 2nd century some one-off sigillata forms were produced at Lezoux but were not exported.⁷²² Once the sigillata production sequence became standardized, however, the entire repertoire was exported and generally reached all kinds of sites, be it in different proportions.⁷²³ What about its ‘Other’, Central Gaulish ‘Rhenish’ wares? For the redistribution hub at London, it was observed that ‘[t]he large number of Lezoux folded beakers at New Fresh Wharf is particularly significant as the type is comparatively rare in museum collections in Central and East France’.⁷²⁴ This points towards a model where ‘specials’ were preferentially targeted towards long-distance trade; in general accordance with Picon’s⁷²⁵ model for sigillata where long-distance trade was the primary incen-

⁷¹⁸ Going 1987, 107.

⁷¹⁹ Turner 1999.

⁷²⁰ Turner 1999, 168.

⁷²¹ Turner 1999, 167.

⁷²² See section 3.4.2.

⁷²³ Willis 2005 for supply to Britain by site type.

⁷²⁴ Miller/Schofield/Rhodes 1986, 119, referring to Symonds, pers. comm.

⁷²⁵ Picon 2002a.

tive for increased investment in production. As sigillata's 'Other', Central Gaulish 'Rhenish' wares were drawn into a similar model of 'marketing' for long-distance destinations.

For East Gaulish 'Rhenish' wares, however, a different pattern of destination can be discerned. In 1914 Oelmann already observed for 3rd century Trier 'Rhenish' wares that *'[d]urch Töpfereifunde ist sie bisher nur in Trier festgestellt, und zwar findet sie sich hier in ihrer glänzendsten entwicklung, in Gefäßen von außergewöhnlicher Größe und mit einem Reichtum der Dekoration, besonders in Weißbarbotine und buntem Applikenrelief'*.⁷²⁶ This preferential distribution of the most elaborate, highly decorated vessels in and around Trier itself suggests a model of targeted destination where long-distance trade was not a trigger for higher investment in production. Moreover, the difference between these elaborately decorated vessels, often of special forms (e.g. crater Thomas 6), and their 'normal' counterparts (largely dominated by form Niederbieber 33), was much larger – both quantitatively and qualitatively – than that between 'more' or 'less' elaborate sigillata or Central Gaulish 'Rhenish' wares. The patterning of the 'specials' is paralleled by the general distribution pattern of Trier motto beakers, which has a clear regional focus (Figs 5.7 and 5.8). These observations fit well with the above description of how local contingencies were defining for Trier 'Rhenish' ware production. If definition of these 'rooted' products was dependent upon locally salient associations (e.g. the puns on Trier motto beakers), then it should cause no surprise that especially elaborate examples that had these associations writ large were primarily targeted towards local consumption.

As a result, the thin scatter of 'Rhenish' wares is more than an analytical hurdle; it has interpretative leverage too. 'Rhenish' wares' reliance on local ties in production created a distribution pattern skewed towards its immediate locality of production. The resulting thin scatter of 'Rhenish' ware pots in Britain in turn itself set certain conditions for how it could be consumed. This is material culture at work as history-maker! Because there were few of them, 'Rhenish' ware pots would have been more easily associated or contrasted with other products in consumption, rather than other 'Rhenish' ware vessels. Moreover, the tall and irregular shapes of (especially Trier, to a lesser extent Central Gaulish) 'Rhenish' wares (e.g. jugs, in contrast to sigillata) would have made stacking difficult, and would have necessitated more individual criteria of storage and use for 'Rhenish' ware vessels. Think about how one teapot or one special beer glass both takes up more space and is more visible in your kitchen cupboard than six neatly stacked plates.

Is it possible to characterize these general possibilities of use of 'Rhenish' wares in more detail? At Billericay no quantification has been reported, but a single context warrants attention by its qualitative features: the fill of a deep, circular pit which possibly functioned as a well contained a Central Gaulish 'Rhenish' ware beaker (Bet 310).⁷²⁷ The beaker was decorated with a barbotine scroll and leaf pattern, and its sherds – with joints between the different fill layers – were significantly less abraded than other pottery in the same context. It is difficult to say whether the specifics of this beaker (elaborately decorated, possibly intentionally broken?) had any relation with a (ritual) closure of the well; and it has to be noted that other wells at the site contained sigillata and colour-coated wares but no 'Rhenish' wares. But a similar case can be cited from Neatham (Hampshire), where two pits (14 and 16) contained complete East Gaulish 'Rhenish' ware motto beakers in deposits associated with the beginning and ending of the use life of a well.⁷²⁸ At the same site two (almost) complete folded 'Rhenish' ware beakers were found in Wells 5 and 8 respectively.

At the Rivenhall 'villa site' a single but admittedly small (5890 g, 713 sherds, 8.00 EVE) stratified group (AD 190–220/230) was quantified, with a high overall ratio between 'Rhenish' wares (all origins: 3.50% EVE) and sigillata (all origins: 8.25% EVE). Moreover, for the same group an exceptionally large number of beakers were recorded.⁷²⁹ Beaker forms spanned several fabrics – including 'Rhenish' wares

⁷²⁶ Oelmann 1914, 36–37; Harris 1986.

⁷²⁷ Rudling 1990: Group 8, Trench A, Context 53.

⁷²⁸ Millett/Graham 1986, 72–75. Harris 1986 for other 'reli-

gious' contexts of 'Rhenish' ware deposition in Britain and on the Continent.

⁷²⁹ Rodwell/Rodwell 1985.

– but were dominated (80%) by British colour-coated fabrics. This hints at a pattern observed for other sites and contexts too, where colour-coated wares stand in the same relation to sigillata as ‘Rhenish’ wares, and can thus be assumed to have catered for the same consumption practices as ‘Rhenish’ wares.⁷³⁰ Unsurprisingly, form seems to have been the decisive criterion in shaping ‘Rhenish’ wares’ possibilities for use, and these forms were geared towards drinking practices, as were colour-coated wares.

The Antonine cremation grave assemblages from Great Dunmow further endorse this relation of colour-coated wares to sigillata.⁷³¹ Colour-coated wares made up 35,1% of the grave assemblages, a percentage similar to the 2nd century funerary assemblage from Skeleton Green, but much higher than contemporary non-funerary samples.⁷³² A slightly later Gravel Pit (857; AD 190–240) at the site yielded only 9,8% EVE colour-coats. Hence colour-coats were clearly targeted at this specific (funerary) field of practice. Even though we cannot account for the absence of ‘Rhenish’ wares in these same contexts⁷³³, we could tentatively suggest that in theory they would have fitted in with this enactment of colour-coated wares. It follows that this niche of consumption practices was not dependent on ‘external’ imports, but was in accordance with local practices. The large dominance of beakers within the graves⁷³⁴ as well as among the colour-coated repertoires hints at a specific role for drinking within these practices. Nevertheless, the ‘external’ imports – ‘Rhenish’ wares and continental colour-coated wares – had indirectly contributed by shaping the development of the British colour-coated industries.

Finally, Willis noted an association between what he calls ‘black sigillata’ – merging sigillata forms executed in black and Central Gaulish ‘Rhenish’ wares – and structured deposits.⁷³⁵ This could indicate an early development of an association between products ‘Other’ to sigillata (that were clearly *not* sigillata) and ritual, formalized kinds of actions.

However tenuous the precise characterization of these examples remains, all of them fit a description of ‘formalized’ or ‘focused’ action – whether ‘funerary’, ‘ritual’, or ‘religious’. I would tentatively suggest that these kinds of action were aimed at actively creating ties and relations. This could be played out in different ways, in relation to a community, to other places, to an event, to the otherworldly, to the deceased, etc. These fields of practice required a ‘thing’ that afforded, reinforced, or even triggered explicit, personalized relations. Both colour-coated and ‘Rhenish’ wares seem to have matched up to that requirement.

Why? In production and distribution⁷³⁶, these products relied heavily on local contingencies. This ‘rooted’ definition facilitated a process of reproduction and local adjustment of skills and know-how.⁷³⁷ The argument can now hypothetically be extended to include the possibilities for consumption and use. Relatively few products reached Britain, resulting in a thin scatter, which made ‘Rhenish’ ware pots stand out. At the same time, emphasis on local ties during production created a definition of these products that was amenable to practices of consumption aiming at the creation of explicit links and entanglements. How things are used is thus decided through adjustment between a thing’s trajectory (and the kinds of action it affords), and a context’s field of practice (and the kind of action it requires).

Finally, the specificity of the kinds of action for which ‘Rhenish’ wares and/or colour-coated wares were preferentially selected curtailed their economic possibilities: their niche was circumscribed, and could not easily be expanded. Even though actions ‘creating ties’ could occur on any site, it seems rea-

⁷³⁰ Cf. relation between ‘Rhenish’ wares and colour-coated wares in production (Chapter 5).

⁷³¹ Wickenden 1988.

⁷³² Wickenden 1988, 22.

⁷³³ Possible supply issues due to Great Dunmow’s western location; chronology rules out East Gaulish products.

⁷³⁴ 73% of the Great Dunmow cremations contained drinking implements (Wickenden 1988, 22). Pitts 2005, 2007a,

2010 for earlier periods.

⁷³⁵ Willis 2005, 6.5.3.

⁷³⁶ Resolution is insufficient to examine whether Central Gaulish ‘Rhenish’ wares’ different definition as sigillata’s ‘Other’ (Chapter 5) in production and distribution had any effect on their possibilities for consumption.

⁷³⁷ See section 6.1.2.

sonable to posit that this could only ever describe a limited range of a repertoire of action.⁷³⁸ This is confirmed by Pollard's observation for Kent that colour-coated and 'Rhenish' wares

'account for less than 4 per cent of quantified assemblages of second and mid-second to mid-third century dates (...), suggesting that the introduction of new pottery styles, and the emergence of the Nene Valley and Central Gaulish 'Rhenish' wares did not occasion an expansion of the market for colour-coated wares'.⁷³⁹

For the Essex sites 'Rhenish' and colour-coated wares similarly seem to have occupied an easily saturated consumption niche. For example, even on a site with a strong 'formalized' orientation and a relatively high representation of 'Rhenish' and colour-coated wares like Ivy Chimneys the share of contexts marked by this kind of assemblage remains limited.

6.2.3 SIGILLATA: THE JOKER

Sigillata was spread more densely and in greater numbers across sites in present-day Essex than 'Rhenish' wares.⁷⁴⁰ Following a retrospective template of material culture, causal explanations for this wide spread are sought with external actors. With regard to consumption, sigillata's archaeological pattern is attributed to a generalized 'taste for' these bright red shiny pots. Sigillata pots' distinctive visual (shiny red appearance versus a majority of greyish or buff wares) and economic (long-distance origin) characteristics are often implicitly bound up with presumed associations of 'Romanness': people in Britain 'desired' these pots because they reflected a 'Roman' identity.⁷⁴¹ But was sigillata really coming in with associations of 'Romanness' or 'long-distance origins'?

Because there were always more than a couple of sigillata pots in any one context, this product is likely to have been conceptualized in 'sets', especially as functional or formal services.⁷⁴² As a result, sigillata was more amenable to internal differentiation, whether based on form, size, or decoration. Even small assemblages in Essex (e.g. Billericay) show a wide range of sigillata forms⁷⁴³, and hence at least one axis for significant internal differentiation in consumption practices, with different settings requiring different shapes. Different traits could be emphasized (e.g. colour, form, decoration) in different contexts, entailing flexibility in use, and the potential of being inserted in many different kinds of practice. Differences between sigillata assemblages across contexts have long been noted, but the historical question has always focused on meaning: who selected this decoration and what did it stand for?, why were these shapes preferred in this context? The historical explanation is then, again, bound to reside in conscious, selecting, meaning-giving agents. Instead, following the historical trajectory of sigillata lends an insight to a more primary, generative role of sigillata 'before meaning': how these pots could be consumed across a wide range of contexts. Again, the answer lies in sigillata's definition as a category, defined by a package of traits, which could feature as axes of differentiation, and made sigillata a flexible object of consumption.

More specifically, sigillata was not excluded from those fields marked by the creation of ties, but it was not preferentially selected for these either. For example at the small rural site at Rayne curated South-Gaulish sigillata in 'unusually good condition' featured in 'grave shaped pits' dated to the later 2nd century and identified as 'ritual' contexts.⁷⁴⁴ At Great Dunmow sigillata featured equally prominently in funerary assemblages and in the context of a gravel pit, both of a same 2nd century date.⁷⁴⁵ Some of the

⁷³⁸ Cf. Felski 1999, 27, echoing Heidegger 1977.

⁷³⁹ Pollard 1988, 82.

⁷⁴⁰ Sometimes outnumbered by colour-coated wares.

⁷⁴¹ Gosden 2005, 198–199, based on Miller 2002b (below).

Also e.g. Woolf 1998, 190 ff.

⁷⁴² Monteil 2012; Vernhet 1976; Willis 2005.

⁷⁴³ Rudling 1990.

⁷⁴⁴ Smooty 1989, 15. One fragment of adult human skull was found; the remainder of the expected bone assemblages had possibly decayed.

⁷⁴⁵ Wickenden 1988.



Fig. 6.2. Great Dunmow, cremation burial with fractured terra sigillata plate at front (second half 2nd century AD). From Wickenden 1988, 17, Plate 2 (with permission).

sigillata fragments in the burials show signs of deliberate fractures (Fig. 6.2), and not all of the pieces appear to have been buried. The publication speaks of ‘killing’⁷⁴⁶ the vessels, but ‘fragmentation’⁷⁴⁷ might be a better term to describe the creation of relations as pieces of the former ‘whole’ could be carried away by participants. In other words, this practice aimed at forging ties, with the deceased, with the participants in the actions; and sigillata was insertable in the associated practices, but not preferentially selected for them. More generally Willis has shown for Britain that sigillata was not geared towards use in ritual contexts or around temples, but not banned from these situations either.⁷⁴⁸

Hence the suggestion that sigillata functioned as something of a ‘joker’ that could be inserted in various contexts and actions, and support those actions rather than impose its own specificities onto them.⁷⁴⁹

⁷⁴⁶ Wickenden 1988, 22–23.

⁷⁴⁷ *Sensu* Chapman 2000.

⁷⁴⁸ Willis 1998, 2005, 7.2.6. Cool/Leary 2012 for more detail on the possible (non-)uses of sigillata in burial rites

in Britain.

⁷⁴⁹ Hetherington/Lee 2000, after Michel Serres. But, in contrast to a joker, sigillata was among the best-represented ‘cards’ (*in casu* fine wares).

How did this general possibility of use feed into sigillata's definition as traced above through production and distribution? As a category, sigillata was clearly bounded, and defined by a limited and consistent package of traits whose instantiations could be compared one to another. The package of traits facilitated sigillata's flexibility across different contexts: different traits could be used as defining parameters (form, decoration, etc.). But sigillata's boundedness – how it was kept apart from other products, and from its contingencies of production and distribution – had its role to play too. It made sigillata into a thing that was void of ties, whose specific relations and contingencies did not prefigure its biography, and which, as a consequence, was amenable to being used for many different kinds of actions. Instead of coming in with 'special' associations, for instance to Roman culture or far-flung origins, sigillata entered consumption contexts in Britain without ties.

Insertion of a joker in a card game can either confirm the structure of the game or radically alter it. The limited resolution of the evidence makes it hard to further specify how the use of sigillata as a 'joker' in consumption could trigger unexpected change as well as stasis. At Orsett, for example, decorated sigillata sherds (Central and East (Rheinzabern) Gaulish) were abnormally well-represented in the later 2nd century AD (both in relation to other sites and to other phases at Orsett), and hunt scenes seem to have been preferentially selected for.⁷⁵⁰ This hints at an association with the hunt scenes that were much more commonly depicted (in barbotine instead of moulded) on colour-coated beakers (and, less often, on 'Rhenish' wares). Was sigillata locally appropriated, and was its flexibility exploited to reinforce pre-existing traditions?

Unfortunately no 'Rhenish' wares and very few colour-coated wares were reported. Here a combination of small sample size and (as a result) lack of full publication and quantification makes it impossible to follow through the relations on this micro-level. So even though the publication's assumption that the sigillata hunt scenes represented 'local taste'⁷⁵¹ is to be discredited on theoretical grounds, resolution is insufficient to come up with an alternative reading.

6.3 THE MAKING OF AN ARCHAEOLOGICAL PATTERN

The archaeological pattern of terra sigillata, then, was not just the result of the traders selling it, or the people consuming it. Terra sigillata made its own archaeological pattern. As a category, sigillata came with strict parameters for (re)production. It facilitated comparison, and was thus able to impose rigid standards and limited variability on attempts at reproduction. As a consequence, production sites of sigillata according to the Lezoux template of a category were few, resulting in a centralized production landscape. The production landscape of 3rd century East Gaulish sigillata, which were not defined in a similar way, instead consisted of a larger number of smaller production centres. Sigillata's definition as a category also shaped its archaeological pattern of a wide and dense presence on consumption sites. The different traits in its defining package provided axes of differentiation that could be called upon to suit the specifications of different consumption contexts. In addition to this flexibility, sigillata's boundedness meant that it did not rely on or impose prior associations. In sum, the archaeological pattern of sigillata does not just tell us about the activities and choices of investors, traders, and consumers. It also tells us about sigillata's role as history maker – how it shaped the possibilities for its own trajectory, including reproduction and consumption. This role preceded meaning in that sigillata created its conditions for action, but did not decide how these conditions would actually be filled in. As a category, it could be inserted in different kinds of practices 'before meaning' was actually attributed to it.

⁷⁵⁰ Carter 1998.

⁷⁵¹ Carter 1998, 94.

We can observe similar processes in the modern world. Miller has analysed how Coca-Cola is appropriated in Trinidad as a local ‘black sweet drink’ that found its way within the existing practices.⁷⁵² But while Miller uses this example to nuance the degree to which multinational concerns dictate the possibilities for using their products⁷⁵³ – Coca-Cola does not restructure Trinidadian society or impose an ‘Americanised’ identity – this argument can be turned around to illustrate the success that allowed Coca-Cola to become ‘globally’ taken for granted, albeit in very different ways and reflecting a wide range of values. And this success resides in part in its definition as a category, like *sigillata*. A similar claim has been made with regard to petrol stations as ‘global entities’, whose ‘very standardisation enables variation and heterogeneity of using the place’.⁷⁵⁴ And such an argument would equally suit Apple computers: the more clearly defined they get (in terms of design, software package, applications, etc.), the more seamlessly they are inserted in and appropriated by different niches, from the creative industry over business to education. This contrasts with the earlier, more fuzzily defined Apple products that catered for limited niches such as ‘technology adepts’ and ‘creative professionals’.

But where does this leave the traditional historical narratives accounting for *terra sigillata* consumption by reference to its associations with ‘Romanness’ or ‘Roman identity’? The creation and maintenance of *sigillata* as a category had a range of consequences: accountability, measurement, competition, difficult reproduction (and as a result centralization), possible insertion in various fields of practice. These facilitated a particular kind of power⁷⁵⁵, centralized but reaching widely, homogenizing material ambiances but not dictating their semantic relations. Conversely, the creation and maintenance of *sigillata* as a ‘category’ was also facilitated by exactly such an enactment of power.

Compare this to scientific facts as examples of categories in our contemporary world. Once created, verified, and stabilized, scientific facts are defined by the ‘either/or’ parameters that are defining of categories: they do not allow for grey zones or ambiguity in their identification and implementation. These characteristics allow scientific facts to travel widely (scientific laws hold sway over much of the world today) but to remain centralized (with a limited number of laboratories and institutes controlling definition of these facts). A category and its consequences are not neutral arrangements, but perpetuate a particular power structure; in the case of scientific laws, an ‘empire of science’.⁷⁵⁶

Woolf commented that ‘[u]nderstanding the nature of [the] linkage between empire and culture is the key to understanding the processes usually termed Romanization’.⁷⁵⁷ Even though the power structure of the Roman empire cannot be described in the same detail as the various processes and actors at work in modern scientific practice, we can begin to describe the nature of the flows of things resulting from and stabilizing that power structure. In particular, following through the distribution, reproduction, and consumption of *sigillata* has described exactly the kind of trajectory tied into an ‘empire-like’ structure. To be clear, this points to a specific configuration – arising from contingent processes such as the category formation of *sigillata* at Lezoux – and not to an underlying ‘Machiavellian’ strategy to accrue power or economic gain.⁷⁵⁸

The ‘rooted’ definition of (Trier) ‘Rhenish’ wares in turn created rather different dynamics.⁷⁵⁹ It enabled a sense of place, community, and embodied craftsmanship in production at Trier, and reinforced selective fields of consumption practice in Essex. This in turn helps make sense of the historical processes of the 3rd century AD. By that time, the power structure of the Roman Empire was increasingly depend-

⁷⁵² Miller 2002b.

⁷⁵³ Cf. de Certeau 1984.

⁷⁵⁴ Normark 2006, 242.

⁷⁵⁵ For the relation of some of these consequences (especially accountability and measurement) to power, see Foucault 1975.

⁷⁵⁶ Latour 1987; Law/Singleton 2005, 335.

⁷⁵⁷ Woolf 1998, 18.

⁷⁵⁸ Critique of Latour by de Laet/Mol 2000.

⁷⁵⁹ The distinction between a ‘category’ and a ‘rooted’ thing does not map onto that between ‘object’ and ‘thing’ derived from Heidegger (Gosden 2004, 35–38; Harman 2002): the former denote relational constellations, the latter degrees of ‘in-place-ness’.

ent on the personal ties of the emperor himself. During the last quarter of the 3rd century, Trier became the capital of the Gaulish part of the Later Empire, where the emperor and his court resided.⁷⁶⁰ It is thus no surprise to see the rooted constellation of ‘Rhenish’ wares coincide with a locality that epitomised the new, increasingly personalised, and selectively connected power structure. At the same time, the homogeneous material culture of the Western Roman provinces gradually receded to the background, making way for more regional differentiation in production and consumption. ‘Rhenish’ wares actively contributed to this pattern, by promoting specific kinds of consumption practices in which local and personalized ties were writ large.

The non-retrospective account of reproduction and consumption sketched in this chapter is thus ‘before meaning’ in two ways. First, it discusses the structuring role of sigillata and ‘Rhenish’ wares in creating conditions by which people in the past could give meaning to the pots they consumed. In the case of sigillata, this attribution of meaning was left virtually blank, whereas it was more narrowly steered by ‘Rhenish’ wares. Second, the account presented here is also ‘before meaning’ in that it precedes the meaning archaeologists read into a certain archaeological pattern. Whether the wide and dense spread of sigillata in Britain reflects aspiration to a ‘Roman identity’ or not, it did help create a material homogeneity and a recognisability despite (or through) a wide range of possible identities and meanings.⁷⁶¹

⁷⁶⁰ Wightman 1970.

⁷⁶¹ Pitts 2008; Pitts/Verluis 2015 for an exploration of the tension between homogeneity and heterogeneity through the lens of globalisation theory.

7 Things in history/things as history

Archaeology exists by virtue of ‘things in history’: it relies on things being part of history, changing as human behaviour or historical processes changed. Without this prerequisite, it would be impossible to reconstruct history based on objects. This book has placed things not only *in* history; it has also showed them *as* history, as themselves shaping historical trajectories. Terra sigillata became defined as a homogeneous and bounded category in production practices at Lezoux during the 2nd century AD. As a result, it became easier to compare sigillata pots one against another, which opened up prospects for competition. Comparability and competition in turn put up rigid standards for reproduction, resulting in a centralized production landscape with few and fairly large production sites. As a category, sigillata was fully defined by a limited number of traits (calcareous clays, oxidizing firing, shiny slips, etc.). Any one of these traits could be forwarded to fit the requirements of different stages in the distribution sequence (on board a ship, in a warehouse, etc.), and of different contexts of consumption (ritual, domestic, etc.). Nevertheless, the other traits were always mutually implicated (e.g. calcareous clays came with oxidizing firing), so that the different stages of the distribution sequence were made to hang together, or the different consumption contexts shared a material homogeneity that preceded meaning.

The historical trajectory thus shaped by the category of terra sigillata was not neutral. It fuelled a particular way of maintaining relations and channelling power; a way that resonates with the notion of ‘empire’ as centralized but wide-reaching, and as creating a structural homogeneity despite variable meanings and identities. Throughout this book, I have used active verbs such as ‘shaped’, ‘facilitated’, ‘created’ or ‘constrained’ to denote how sigillata impacted on history. Material culture was a causal force in history, but not in tune with templates of direct causation. A big challenge for material culture theory is to devise a more complex model of causality. This book coined the notion of trajectory as a first step towards getting to grips with material culture’s causal historical role. The workings of a trajectory are eloquently described by Annemarie Mol and John Law.

‘The point is not *who* has done it. Instead, what become more urgent are questions about *what* is happening. What do actors *do*? How are they creative? How do their underdetermined activities help to create or to destroy? What are the possibilities that they condition? Or, to speak as a walker in the Lake District hills: where does this path come from and where might it lead?’⁷⁶²

A thing’s trajectory is not the same as an artefact’s biography.⁷⁶³ The crucial difference is that a trajectory plots the generic possibilities of a kind of thing (in this case, the category of terra sigillata, or the rooted ‘Rhenish’ wares), not the actual events happening to a specific artefact. In that sense, trajectories are not unlike Gosden’s ‘genealogies’ that show how ‘[p]atterns of exchange or consumption derive partly from the nature of the objects themselves’.⁷⁶⁴

The notion of things being defined contextually, and therefore being redefined as they pass through different contexts was already central to biographical approaches and plays a key role in this study. With biographical approaches, however, the link between these different stages of redefinition is accounted for solely by human practices and choices. The shape of the biography is incidental to the object itself

⁷⁶² Law/Mol 2008, 74.

⁷⁶³ Appadurai 1986; Gosden/Marshall 1999; Hoskins 2006; Foster 2006; Kopytoff 1986.

⁷⁶⁴ Gosden 2005, 196. Gosden however focuses on ‘style’, as per Gell 1998. Compare to Olsen *et al.* 2012, 194, 170–171.

that was gifted, traded, or passed around. What material agency does for the framework of trajectories expounded in this book is to provide a non-trivial link between the different stages in a chain of redefinition. By shaping the possibilities for action at each stage, material agency always extends forwards in time. As a result, the historical logic is *in* the trajectory, and no longer merely impinging on it from the outside, as was the case with biographies.

To be clear, this material agency residing in the links making up trajectories is not on a par with the criteria of ‘commonsensical’ human-like agency. Most importantly, it does not imply intentionality. Instead of intentionality, however, there is a loose sense of directionality. With a twist to phenomenological speak, things with a certain kind of material agency are preferentially *directed* to certain kinds of actions: in consumption, for instance, the categoryness of terra sigillata facilitated widespread integration, whereas Trier ‘Rhenish’ wares were predisposed through their rootedness to special kinds of uses. Such directedness suggests a model of causation in which ‘there might exist many metaphysical shades between full causality and sheer inexistence’.⁷⁶⁵

Thinking in terms of different *kinds* of material agency, each developing different trajectories, significantly adds to the various conceptual studies of material agency with which this book started.⁷⁶⁶ The question is no longer ‘is material culture active or not?’, but ‘*how* is it active?’. The analyses presented here walk the line between generalized theoretical musings on the workings of material culture and idiosyncratic case studies of *a* particular artefact (as in biographical approaches). In the shape of trajectories, material agency transcends contextual specificity, yet remains indicative of historical processes. Such a mid-level scale provides scope for comparative study, for instance comparing ‘categories’ across time and space, as in the analogy between terra sigillata pottery and Coca-Cola.

This strikes a chord with a recent comparative trend in classical archaeology, not in the least focusing on empires.⁷⁶⁷ The model of trajectories promises important finetuning of current comparative studies, most importantly because of its adjusted model of causality. As a result, comparison is no longer a matter of isolating cross-context similarities and attributing them to ‘bigger’ processes (typically climate), while the differences are relegated to ‘historical specificities’. Comparison between Coca-Cola and terra sigillata pottery as categories does not proceed from a checklist of similarities and differences, but identifies processes and possibilities, such as standardisation, comparability, cross-context consumption, etc. It does not claim to come with conclusions about climate, economic organisation, or other big external invariables, but it does get at something over and above the specificity of modern capitalism or the Roman empire.

The main point is that recognising how things shaped historical trajectories leads to a better use of material culture in historical narratives. This is graphically illustrated in figure 7.1. A retrospective model of material culture, starting from sigillata as a homogeneous and wide-spread category, is bound to search for causal explanations in external actors (grey in Fig. 7.1). As a ‘ready-made’ type, sigillata was forced in production based on economic considerations by traders and investors, its production knowledge was carried around in the heads of migrating craftsmen, its consumption a choice of identity-building consumers. Through their actions and decisions, these external actors then affected historical developments, such as economic growth or cultural change. The main research question is one of ‘who’. But this is generally not a question that archaeology is equipped to answer. The unfortunate result is that material culture – and by extension archaeology – is underused in historical narratives, in particular of the Roman period. Archaeological evidence tends to come in only in a second stage, to prove or disprove models developed on the basis of other evidence (e.g. price lists for economic history⁷⁶⁸).

⁷⁶⁵ Latour 2005, 72.

⁷⁶⁷ E.g. Vasunia 2011.

⁷⁶⁶ Cf. Foucault 1986; Latour 2012 on different modes of existence; Law/Mol 2001; Mol/Law 1994; Van Oyen 2015c.

⁷⁶⁸ Bowman/Wilson 2009.

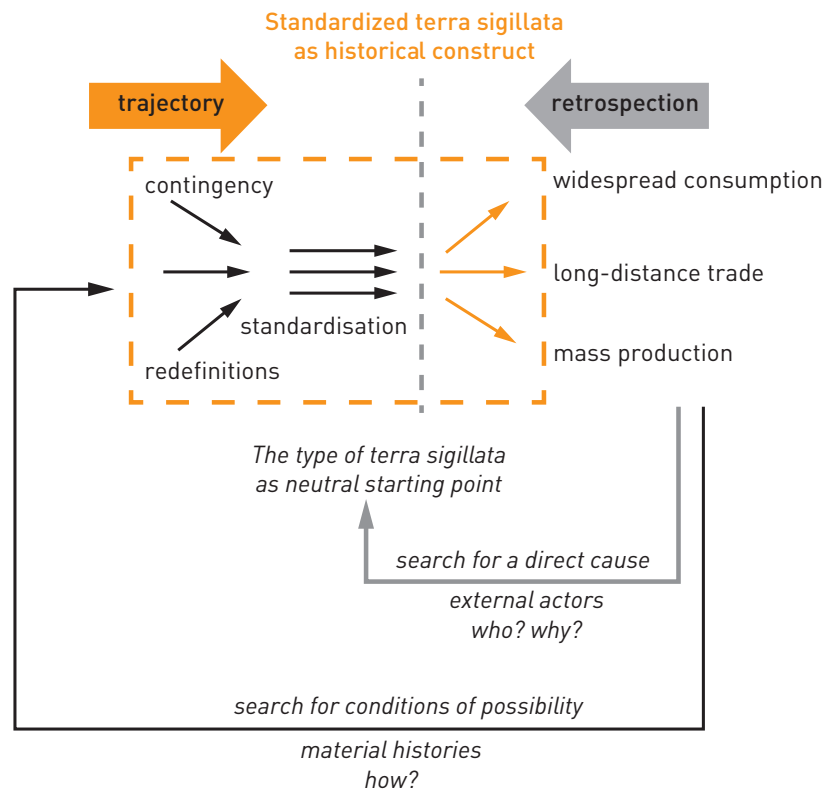


Fig. 7.1. Retrospection versus trajectories.

The research question throughout this book has been ‘how’ instead of ‘who’ (black in Fig. 7.1). How are things defined, and how do they shape the range of possible actions? This is a question that archaeology is actually very good at answering. *Chaîne opératoire* approaches have long described the ‘how’ of production sequences (how clays are prepared, how pots are fired), and contextual study details the ‘how’ of consumption practices (how different artefacts relate to each other, how pots were used). But the notion of trajectory – of things as history-makers – lends historical impact to the question of ‘how’. Description (‘how’) is no longer separated from explanation (‘why’); it becomes a necessary prerequisite for it.

Nevertheless, ‘material histories’ on the model of this book are not incompatible with more traditional histories.⁷⁶⁹ Throughout the preceding chapters, emphasis was placed on how a non-retrospective approach contributes to key questions relying on ‘things in history’. In addition, it helps contextualize the tools and questions of traditional histories. We can now state, for instance, that it does not make sense to include terra sigillata and ‘Rhenish’ ware pots in a single graph to examine economic growth: the same triggers did not result in comparable empirical patterns in either case. For example, investment resulted in long-distance trade and quantitative increase in production for sigillata *versus* selective regional focus and limited niche in consumption for ‘Rhenish’ wares. This difference in trajectory cannot be read off from a mere quantitative table or a simple bar chart.

At the same time, big questions such as empire also get reframed as trajectories for which the defining question is ‘how’, not ‘who’ or ‘why’. As discussed in the conclusion to the preceding chapter, empire becomes the *cumulative* effect of the trajectory of (terra sigillata as a) category (red in Fig. 7.1). This effect consisted of a centralized structure, reaching widely, in a recognizable but semantically open material environment. Empire therefore is no longer a causal chimera in and of itself, but is rooted deep in the possibilities for action of some of its signature material culture, like terra sigillata pottery for the Roman

⁷⁶⁹ Stahl 2010 for the term ‘material histories’.

empire. Empire was formed as terra sigillata pots were made – the one did not precede the other. And empire was no more or less stable or all-encompassing than was terra sigillata's categoryness: it relied on a continuous process of material and conceptual Othering, and its trajectory was paired with for instance rooted 'Rhenish' wares and their very different possibilities for action.

Because of their cumulative nature, material histories do not have a zero point, contrary to the long-standing archaeological fascination with origins. The history presented here sketches the material conditions and possibilities of empire in its (relatively) stable form; it does not touch on the earlier phases of imperialism. This was a necessary analytical move to do away with the retrospective approach to material culture, in which terra sigillata is always 'already made': even in this apparently stable period, terra sigillata was always *becoming*, being made and actively stabilized, both practically and conceptually. But in theory, trajectories can start and end anywhere and anytime.⁷⁷⁰ Their analytical decentralisation shares the concerns of recent post-colonial and globalisation studies with the old centralized, top-down, elite-focused Romanization models.⁷⁷¹ If this book would have traced terra sigillata production from Central Gaul to the Argonne area instead of to Trier, the resulting trajectories may well have had a different shape. Nevertheless, those alternative material histories would be historically related, because of the model of causality (as setting conditions of possibility) on which trajectories build. Different to recent 'decentralized' narratives, however, analytical decentralisation need not dictate interpretive decentralization. Based on a decentralized analytical framework, then, this study could still make a case for the importance of centralisation in the trajectory of terra sigillata and the related material history of the Roman empire. But such processes of centralisation then become emergent in nature.

Material histories thus build on descriptive trajectories. But the way in which sigillata is processed and studied sets limits to the kinds of descriptions possible, and thus also feeds into the historical explanations we can come up with.⁷⁷² This has several important repercussions for archaeological practice. In order to harness their explanatory potential, the descriptions in this book had to go into the detail of terra sigillata, discussing clays, the physical arrangement of production sites, or the contents and organisation of a ship's cargo. In current academic practice, however, the institutional structure is such that detailed, specialist artefact studies are kept separate from grand historical narratives. The idea is that one can talk about the latter by merely skimming over or summarizing the former, as if history proceeds on nested scales of abstraction. Historical narratives about the culture or economy of the (western) Roman world are published as monographs, while specialist artefact studies are hidden away in grey literature or site catalogues. Conferences will be either about big questions, such as 'Romanization' or 'economic growth', or they will discuss the minutiae of new pottery typologies and production sites. The institutional pathways are laid in such a way that description is forced to remain 'mere description'. A new, non-retrospective model of material culture as developed in this book can go part of the way towards mediating this, but will have to be met halfway by critical reflection on and change of such institutional pathways.

What stands out most perhaps at the end of this book is the resonance between how sigillata is maintained as a separate, homogenous category in present practices of study (Chapter 2), and how it became defined as a category in practices of production, distribution and consumption in Roman times (Chapters 3–6). Typologies, specialisation, and division of site reports by artefact class work remarkably well for processing sigillata precisely because sigillata pottery was indeed defined as a separate category with a limited package of traits in the past. Cutting through the different case studies in this book, however, were things that did not conform to this template: black-gloss wares, Lezoux 'Rhenish' wares as sigillata's Other, or the rooted Trier 'Rhenish' wares. Still, current practices of study impose the same typologies, specialisation, and division of site reports on those artefact classes. This is not to say that for instance typologies cannot be useful in these cases – they can play an important role in pointing out incongru-

⁷⁷⁰ Cf. Strathern 1996.

Webster 2001.

⁷⁷¹ Mattingly 2006; Pitts/Versluys 2015; Versluys 2014; J.

⁷⁷² Cf. Gosden 2010.

ences. It is indeed clear that the many attempts at pinning down identifying traits for 'Rhenish' wares are in vain or partial. But noting such incongruences cannot be the end point, and we somehow need to alter our practices of study or keep them flexible enough to accommodate things that were defined by different parameters and to avoid neglecting or misrepresenting them. Conversely, typologies and similar tools for analysis can no longer be considered as neutral mechanisms for organising data; they also say something about things' historical role.

This book has taken on the challenge of linking the insight that material culture is active with large-scale historical narratives. It has shown how terra sigillata, Roman archaeology's most emblematic type of pottery, itself facilitated its widespread and dense archaeological pattern, and led the way towards specific cultural and economic processes. The result is a truly archaeological or material history, not just telling us about things *in* history, but about things *as* history. The analytical trick to achieve this result has been not to approach material culture retrospectively, but to follow its emergence and historical trajectory. Although building on a long history of terra sigillata scholarship and material culture studies, this book aims to be a starting point for research, not an end point. Future work will need to expand the non-retrospective analytical trick to other material, periods, and regions, and couple it with actual changes in our practices of study.

Appendix 1. Stamp assemblages

TABLE I. LA NAUTIQUE

Potter	Die number	Transcription	Reference to Fiches et al. 1978	Drag. 24/25	Drag. 27	cups	Drag. 15/17	Drag. 18	Drag. 15/17 or 18	Drag. 29	Drag. 2/21	Drag. 16	Total
Acutus i	Acutus i 30b	ACVI	1		3								3
Acutillus	Acutillus 1a	OF ACVTIL	2						6				6
	Acutillus 2a	OFACVTIL	3					1	1				2
	unidentified	ALB	4	2	1								3
Albanus ii	Albanus ii 10b	ALBANI	5	2									2
Albinus iii	Albinus iii 4a	OFALBINI	6						9				9
	Albinus iii 5a	OFALBIN	7	5	10								15
	Albinus iii 4c	OFALBINI	8							1			1
Ardanus	Ardanus 4a	OARDAN	9	3			1						4
Bassus ii	Bassus ii 13b	BASSIO	10	1									1
	Bassus ii 7b	OFBAS	11	4									4
	Bassus ii 4c	OFBASSI	12		1								1
	Bassus ii 4j	OFBASSI	13		5								5
	Bassus ii 4g	OFBASSI	14						5				5
Bellicus i	Bellicus i 6a	OFBELIC	15	1									1
(Bionis)	? O.BI	O.BI	16	7	2								9
Capito i	Capito i 1a	CAPITO.VA	17							1			1
Carillus ii	Carillus ii 2a	CARLLI	18						1				1
Chrestus	Chrestus 8a	CHRES	19		1								1
Cocus i	Cocus i 11a	COCI.OFIC	20							7			7
Cocis	Cocis 1a	OFCCOCIS	21								1		1
Cosius Urap- pus	Cosius Urap- pus 1a	COSIVS.VRAP	22		9	1							10
Cotto i	Cotto i 6-a	COTO	23		6								6
	Cotto i 4b	COTTO	24	7									7
	Cotto i 3-a	COTTOF	25	6	3								9
Crobus	Crobus 1a	CROBI	26	9	3								12
Dab(i)us	Dab(i)us 1-a	OFDABI	27			1							1
Damonus	Damonus 15l	DAMO	28	2									2
	Damonus 14c	DAMON	29	5					2				7
	Damonus 13m	DAMONI	30		1								1
	Damonus 11e	DAMONUS	31									1	1
Darra(ntus)	Darra(ntus) 2a	DARRAFE	32			1							1
Dior- 2a	Dior- 2a	DIORIF	33		7								7

Potter	Die number	Transcription	Reference to Fiches et al. 1978	Drag. 24/25	Drag. 27	cups	Drag. 15/17	Drag. 18	Drag. 15/17 or 18	Drag. 29	Drag. 2/21	Drag. 16	Total
Esgen-	Esgen- 1a	ESGEN	34	16									16
Felix i	Felix i 24a	FELICISMA	35							4			4
Festus i	Festus i 6a	FESTVS	36					1	1				2
	Festus i 4a	FESTVSF	37		4								4
Firmo i	Firmo i [9-a]	FIRMO	38						1				1
Gallincanus ii	Gallincanus ii 10a	GALLICANI	39		6								6
Gallus ii	Gallus ii 6a	GALLI.MAN	40					3					3
Ingenuus ii	Ingenuus ii 13b	OF.INGEN	41						1				1
Iucundus ii	Iucundus ii 6c	IUCUND	42						1				1
Lartius	Lartius 1a	LARTIM	43					1	2				3
Licinus	Licinus 49b	LICNVS	44		2								2
	Licinus 25c	OF.LICN	45		1								1
	Licinus 39b	LICINI	46			1							1
Manertus	Manertus 3a	M()ERTVSF	47		1								1
Martialis i	Martialis i 11a	MARTIALISF	48						1				1
	Martialis i 6a	MARTIAL- ISVA	49				1						1
Quartus iii	Quartus iii 8a'	()ARTVSF	50						1				1
Melain-	Melain- 1a	MELAINIMA	51							1			1
illiterate	illiterate	MO	52		7								7
Modestus i	Modestus i 26b	MODE	53		5								5
	Modestus i 9g	OFMOD	54		5	2							7
	Modestus i 2d	OFMODES()	55							1			1
	Modestus i 4e	OFMODES	56						14				14
	Modestus i 4d	OFMODES	57			5							5
Paestor	Paestor 2a	PAESTOR	58		4	2							6
Primus iii	Primus iii 46i	PRIM	59	1									1
	(Primus iii 46)	PRIM	60		16								16
	Primus iii 12e	OFPRIMI	61							1			1
	Primus iii 12n	OFPRIMI	62					1					1
	Primus iii 12o	OFPRIMI	63						1				1
	Primus iii 18j	OFPRIM	64						1				1
	Primus iii 21j	OF.PRM	65	13	2								15
Quintus iii	Quintus iii 9a	QVI	66		12								12
Regenus	Regenus 3-a	REGENI	67					5	10				15
Sabinus iii	Sabinus iii 21a	O.SABI	68		24	2							26
G. Salarius Aptus	G. Salarius Aptus 10a	SAL.ARTI	69					1					1

Potter	Die number	Transcription	Reference to Fiches et al. 1978	Drag. 24/25	Drag. 27	cups	Drag. 15/17	Drag. 18	Drag. 15/17 or 18	Drag. 29	Drag. 2/21	Drag. 16	Total
Salvetus i	Salvetus i 11h	SALVI	70			5							5
Scotnus	Scotnus 4a	SCOTNVS	71							4			4
	Scotnus 3a	SCOTNI	72			2	2						4
Senecio	Senecio 8b	SENECI	73	3									3
	Senecio 8a	SENECI	74	21									21
Senilis i	Senilis i 2b	SENILISF	75		1								1
Silvanus i	Silvanus i 15b	SILVAN	76	1				1					2
	Silvanus i 17b	SILVAN	77	5									5
	Silvanus i 6b	SILVANI.OF	78							1			1
	Silvanus i 3c	OFSILVAN	79				2						2
Silvinus i	Silvinus i 1a	OFSILVAN	80				2						2
Successus ii	Successus ii 7a	SVCCES	81			1							1
(Tertius)	(TERTIUS.FE)	TERTIVS.F	82					2					2
(Virtus)	(IRTVS)	IRTVS	83			3							3
illiterate	illiterate	IVIIX	84	7	14								21
Labio	Labio 3a	OF.L.ABIO	85					1					1
	Labio 3b	OF.LABIO	86						1				1
unidentified	unidentified	unidentified	87		1								1
	unidentified	unidentified	88		1								1
	unidentified	unidentified	89		1								1
	unidentified	unidentified	90		1								1
				121	160	26	8	17	59	21	1	1	414

TABLE 2. CALA CULIP IV

Potter	Die number	Transcription	Reference to Nieto et al. 1989	Drag. 24/25	Drag. 27	Drag. 15/17	Drag. 18	Drag. 29	Hermet 1	Total
Albanus ii	Albanus ii 18a	ALBAN	1.1						2	2
Caius i	(Caius i/Gaius i)	OFCAIV	31.1				1			1
(C. Valerius Albanus)	(C.VAL.ALBAN)	C.VAL.ALBAN	34.1					2		2
Caius i	(Caius i/Gaius i)	CAI(I)	5.2				1			1
Calvus i	Calvus i	OFCAIVS	35.1					2		2
Cabucatus ii	Cabucatus ii a	CABVCATI	5.1				15			15
Logirrus	Logirrus 3a'	O CIRNI	4.1			68	20			88
	Logirrus 3a	IO CIRNIO	4.2				17			17
	Logirrus 5a	IO C(I)NI	4.3				2			2
Coelus ii	Coelus ii 1a	OFCOELI	36.1					1		1
cosius Rufinus	Cosius Rufinus 8a'	OSFRV	11.1				6			6
Germanus i	Germanus i 27c'	GERMANI	8.1				1			1
Im- i	Im-i 1-a	IM	24.1		1					1
Nivius	(Nivius 1a)	NIV?	28.1		8					8
lucundus iii	lucundus iii 5f	OF.IVCVN	2.1				162			162
	lucundus iii 5b	OF.IVCVN	2.2				267			267
	lucundus iii 5b	OF.IVCVN	2.3			8				8
	lucundus iii 5c	OF.IVCVN	2.4		220					220
	(lucundus iii)	(I)VCVN(I)	2.5		8					8
	lucundus iii 3b	OF.IVCVNDI	2.6	193	7					200
	lucundus iii 3b	OF.IVCVNDI	2.7	19	27					46
	lucundus iii 3a	OF.IVCVNDI	2.8					40		40
Mevius (Mevus)	Mevius (Mevus) 3a	MIIM	25.1		11					11
Mommo	Mommo 9i	OFMOM	9.1				46	2		48
Senicio	Senicio 6a'	(I)ENICI	15.1		1					1
	Senicio 5b	(I)ENICIO	15.2	3						3
Pass(i)enus	Passienus 5a	OFPASSEN	38.1					34		34
Patricius i	Patricius i 3d	OF.PATRICI	13.1			2				2
Peregrinus i	Peregrinus i 3a	PE(I)RIV	20.1				3			3
Ponteiuis	Ponteiuis 1a	OF.PONE(I)	21.1				2			2
Primus iii	Primus iii 12r	OFPRIMI	39.1					5		5
Primulus i	Primulus i 4b	PRIMVLI	7.1				11			11
Quintio i	Quintio i 1b	QVINTIO	40.1					2		2
Crispus iii	Crispus iii 7a'	RISPI.MA	41.1					2		2
Rufinus iii	Rufinus iii 2b	OF.RVFIN	42.1					4		4
	Rufinus iii 3a	OF.RVFNI	10.1				8			8
Sabinus iii	Sabinus iii 8b	OF.SABINI	12.1			7				7
Secundus ii	Secundus ii 11a''	OFSECV	43.1					1		1
	Secundus ii 10f	OFSECVN	3.1				2			2
lucundus iii	SEX.IVL.IVCVND	SEX.IVL.IVCVND	2.9					50		50
Silvius i	Silvius i 9a	OFSILV	16.1		5					5
(T)(II)(I)	(T)(II)(I)	T(II)(I)	30.1				1			1
(TABIVIMSS)	(TABIVIMSS)	TABIVIMSS	14.1	13	136					149
(VA?ON)	(VA?ON)	VA?ON	22.1				2			2
(VEEI?)	(VEEI?)	VEEI	17.1		10					10
(Virthus)	(Virthus)	VIRTHV	45.1					192		192
(Virtus)	(Virtus)	VIRTVTIS	6.1				7			7
(Vitalis)	(Vitalis)	OFVITA	37.1					4		4

Potter	Die number	Transcription	Reference to Nieto et al. 1989	Drag. 24/25	Drag. 27	Drag. 15/17	Drag. 18	Drag. 29	Hermet 1	Total
illiterate	illiterate	illiterate	46.1					1		1
	illiterate	illiterate	44.1					1		1
	illiterate	illiterate	18.1				2			2
	illiterate	illiterate	19.1				3			3
	illiterate	illiterate	23.1				2			2
	illiterate	illiterate	32.1				1			1
	illiterate	illiterate	26.1	4	1					5
	illiterate	illiterate	27.1		2					2
	illiterate	illiterate	33.1		2					2
	unidentified	unidentified	29.1				2	2		4
				232	439	85	584	345	2	1687

TABLE 3. COLCHESTER FIRST SHOP

Potter	Die number	Drag. 24/25	Drag. 27	Drag. 15/17	Drag. 18	Drag. 15/17 or 18	Total
Abitus	Abitus 1a	1					1
Aquitanus	Aquitanus 21a		1				1
Bassus i	Bassus i 15a	3					3
Bassus i-Coelus	Bassus i - Coelus 6b	1					1
Bio	Bio 10a		1				1
Chrestus	Chrestus 3a				1	1	2
Icdo	Icdo 1a		3				3
Masc(u)lus i	Masc(u)lus i 5b		1				1
	Masc(u)lus i 7a	1					1
Maso i	Maso i 1a					2	2
Modestus i	Modestus i 2e				1		1
Murranus	Murranus 10c					2	2
Nestor	Nestor 2a					1	1
Pass(i)enus	Pass(i)enus 50a					1	1
Paullus i	Paullus i 9a		1				1
Primus iii	Primus iii 12c			1	7	4	12
	Primus iii 12q	1	2				3
	Primus iii 18b	3					3
	Primus iii 20b					1	1
	Primus iii 21i	4	3				7
Tertius ii	Tertius ii 15a	3					3
Virtus i	Virtus i 11a	11					11
		28	12	1	9	12	62

TABLE 4. COLCHESTER SECOND SHOP

Potter	Die number	Drag. 24/25	Drag. 27	Drag. 15/17	Drag. 18	Drag. 15/17 or 18	Drag. 29	Ritt. 8	Total
Abitus	Abitus 9b				1				1
Albinus i	Albinus i 3a					1			1
Aquitanus	Aquitanus 6a		14						14
Bio	Bio 2b	1							1
Celer ii	Celer ii 8a				1				1
Chrestus	Chrestus 3a'				1				1
Felix i	Felix i 2d						4		4
	Felix i 6b		5						5
Iustus i	Iustus i 7a							2	2
Licinius	Licinius 7a				1				1
	Licinius 23a		5						5
Magnus i	Magnus i 1a				1				1
Marinus	Marinus i 4a						1		1
Max... i	Max... i 1a	4							4
Modestus i	Modestus i 4b'		1						1
Mommo	Mommo 26d		9						9
Montanus	Montanus i 4a				3				3
Nestor	Nestor 2a				3				3
Pass(i)enus	Pass(i)enus 50a					1			1
Primus iii	Primus iii 12c				2				2
	Primus iii 12r				1				1
	Primus iii 12v				1				1
	Primus iii 18b	1							1
	Primus iii 20b		1						1
	Primus iii 27a				1				1
Primus iii-Sco	Primus iii-Sco... 6a			1					1
Scotnus	Scotnus 5a				1				1
Virtus	Virtus i 11a	1							1
.MYV	.MYV (illiterate)		2						2
unknown	(i)N (incomplete)				1				1
	O(i) (incomplete)				1				1
		7	37	1	19	2	5	2	73

REFERENCES

- Adams, J.N., 2003: *Bilingualism and the Latin Language*, Cambridge.
- Alberti, B./Y. Marshall, 2009: Animating archaeology. Local theories and conceptually open-ended methodologies, *Cambridge Archaeological Journal* 19 (3), 344–356.
- Aldhouse-Green, M./P. Webster (eds), 2002: *Artefacts and Archaeology. Aspects of the Celtic and Roman World*, Cardiff.
- Allason-Jones, L. (ed.), 2011: *Artefacts in Roman Britain. Their Purpose and Use*, Cambridge.
- Allen, D. (ed.), 2005: *Frank O'Hara. Selected Poems*, Manchester: Carcanet Press.
- Anderson, A.C., 1980: *A Guide to Roman Fine Wares*, Highworth.
- Appadurai, A., 1986: Introduction: commodities and the politics of value, in A. Appadurai (ed.), *The Social Life of Things. Commodities in Cultural Perspective*, Cambridge, 1–63.
- Appadurai, A., 2012: The spirit of calculation, *Cambridge Anthropology* 30 (1), 3–17.
- Arcelin, P., 1991: Céramiques campaniennes et dérivées régionales tardives de Glanum (Saint-Rémy-de-Provence, B.-du-Rhône). Questions culturelles et chronologiques, *Documents d'archéologie méridionale* 14, 205–238.
- Arnaud, P., 2005: *Les routes de la navigation antique. Itinéraires en Méditerranée*, Paris.
- Atkinson, D., 1914: A hoard of Samian ware from Pompeii, *Journal of Roman Studies* 4, 26–64.
- Austin, J.L., 1962: *How to do Things with Words*, Oxford.
- Bang, P., 2008: *The Roman Bazaar. A Comparative Study of Trade and Markets in a Tributary Empire*, Cambridge.
- Bang, P., 2009: The ancient economy and New Institutional Economics. Review of W. Scheidel/I. Morris/R. Saller (eds), 2007: *The Cambridge Economic History of the Greco-Roman World*, Cambridge, *Journal of Roman Studies* 99, 194–206.
- Barry, A./D. Slater, 2002: Introduction: the technological economy, *Economy and Society* 31 (2), 175–193.
- Beard, M., 1991: Ancient literacy and the function of the written word in Roman religion, in M. Beard et al. (eds), *Literacy in the Roman World*, Ann Arbor (MI) (Journal of Roman Archaeology Supplementary Series 3), 35–58.
- Bémont, C., 1990: Sigillées de type italique et imitations de sigillée, in A. Duval/J.-P. Morel/Y. Roman (eds), *Gaule interne et Gaule méditerranéenne aux IIe et Ier siècles avant J.-C. Confrontations chronologiques*, Paris, 73–88.
- Bémont, C., 2004: L'écriture à La Graufesenque (Millau, Aveyron). Les vaisselles sigillées inscrites comme sources d'information sur les structures professionnelles, *Gallia* 61, 103–131.
- Bémont, C./J.-P. Jacob (eds), 1986: *La terre sigillée gallo-romaine. Lieux de production du Haut-Empire: implantations, produits, relations*, Paris (Documents d'Archéologie française 6).
- Bémont, C./G. Rogers, 1978: *Libertus* (ou *Liberti* ?). I, Les premiers décors à estampilles, *Gallia* 36, 89–141.
- Bémont, C./G. Rogers, 1979: *Libertus* (ou *Liberti* ?). II, Le style aux graffites, *Gallia* 37, 141–200.
- Bémont, C./A. Vernhet, 1992/3: La fournée des nones d'octobre, *Annales de Pegasus* 2, 19–21.
- Bénévent, C./L. Dausse/M. Picon, 2002: A propos des présigillées du nord de l'Aveyron. Observations sur la nature des argiles utilisées pour leur fabrication et pour celle des céramiques sigillées, in M. Genin/A. Vernhet (eds), *Céramiques de la Graufesenque et autres productions d'époque romaine: nouvelles recherches. Hommages à Bettina Hoffmann*, Montagnac (Archéologie et histoire romaine 7), 165–170.
- Bennett, J., 2010: *Vibrant Matter. A Political Ecology of Things*, Durham (NC)/London.
- Bergamini, M., 2004: Scoppieto (Terni). Scavo di un complesso produttivo di età romana (anni 1995–1998), *Notizie degli scavi di antichità*, 7–88.
- Berns, M., 1993: Art, history, and gender: Women and clay in West Africa, *The African Archaeological Review* 11, 129–48.

- Berry, J., 1997a: The conditions of domestic life in Pompeii in AD 79. A case-study of houses 11 and 12, insula 9, region 1, *Papers of the British School at Rome* 65, 103–125.
- Berry, J., 1997b: Household artefacts: towards a re-interpretation of Roman domestic space, in R. Laurence/A. Wallace-Hadrill (eds), *Domestic Space in the Roman World. Pompeii and Beyond* Portsmouth (RI) (Journal of Roman Archaeology Supplementary Series 22), 183–195.
- Berry, J., 2007: *Instrumentum domesticum* – a case study, in J.J. Dobbins/P.W. Foss (eds), *The World of Pompeii*, London, 293–301.
- Bet, P., 1988: Groupes d'ateliers et potiers de Lezoux (Puy-de-Dôme) durant la période gallo-romaine, *SFECAG Actes du congrès d'Orange*, 221–241.
- Bet, P./A. Delor, 2000: La typologie de la sigillée lisse de Lezoux et de la Gaule centrale du Haut-Empire: révision décennale, *SFECAG Actes du congrès de Libourne*, 461–484.
- Bet, P./A. Delor, 2002: Les premiers ateliers céramiques de type méditerranéen en Auvergne, l'exemple des officines de sigillée, in L. Rivet/M. Sciallano (eds), *Vivre, produire et échanger: reflets méditerranéens. Mélanges offerts à Bernard Liou*, Montagnac (Archéologie et histoire romaine 8), 235–242.
- Bet, P./R. Delage/A. Vernhet, 1994: Lezoux et Millau. Confrontation d'idées et de données, *SFECAG Actes du congrès de Millau*, 43–61.
- Bet, P./D. Gras, 1999: Parois fines engobées et céramique métallescente de Lezoux, in R. Brulet/R.P. Symonds/F.Vilvorder (eds), *Céramiques engobées et métallescentes gallo-romaines. Actes du colloque organisé à Louvain-la-Neuve le 18 mars 1995*, Oxford (Rei Cretariae Romanae Fautorum Acta Supplementum 8), 13–38.
- Bet, P./R. Gangloff/H. Vertet, 1987: *Les productions céramiques antiques de Lezoux et de la Gaule centrale à travers les collections du Musée archéologique de Lezoux*, Gonfaron.
- Bet, P./H. Vertet, 1986: Centre de production de Lezoux, in C. Bémont/J.-P. Jacob (eds), *La terre sigillée gallo-romaine. Lieux de production du Haut-Empire: implantations, produits, relations*, Paris (Documents d'Archéologie Française 6), 138–144.
- Bevan, A., 2010: Making and marking relationships. Bronze Age brandings and Mediterranean commodities, in A. Bevan/D. Wengrow (eds), *Cultures of Commodity Branding*, Walnut Creek (CA), 35–85.
- Biddulph, E., 2008: Form and function: the experimental use of Roman samian cups, *Oxford Journal of Archaeology* 27 (1), 91–100.
- Bignamini, I./C. Hornsby, 2010: *Digging and Dealing in Eighteenth-Century Rome*, New Haven (CT)/London.
- Binsfeld, W., 1972a: Moselbier, *Kurtrierisches Jahrbuch* 12, 135–137.
- Binsfeld, W., 1972b: *Eine Bierverlegerin aus Trier. Zu CIL. XIII 450**, *Germania* 50, 256–258.
- Birch, S., 1873: *History of Ancient Pottery: Egyptian, Assyrian, Greek, Etruscan and Roman. Volume 2*, London.
- Birch Aguilar, L., 2007: Metaphors, myths and making pots, *African Arts* 40 (1), 64–70.
- Blakely, S., 2006: *Myth, Ritual, and Metallurgy in Ancient Greece and Recent Africa*, Cambridge.
- Bloch, R., 1976: Interpretatio, in R. Bloch (ed.), *Recherches sur les religions de l'Italie antique*, Genève (Hautes études du monde gréco-romain 7), 1–42.
- Blom, A.H., 2012: Language at La Graufesenque. The evidence of the potters' graffiti, *Keltische Forschungen* 5, 7–47.
- Bloomfield, B.P./T. Vurdubakis, 1999: The outer limits. Monsters, actor networks and the writing of displacement, *Organization* 6 (4), 625–647.
- Blümner, H., 1875/87: *Technologie und Terminologie der Gewerbe und Künste bei Griechen und Römern*, Leipzig.
- Bocquet, A., 1999: La production et la distribution des céramiques fines engobées et métallescentes dans le nord de la Gaule. Approche minéralogique et géochimique, in R. Brulet/R.P. Symonds/F.Vilvorder (eds), *Céramiques engobées et métallescentes gallo-romaines. Actes du colloque organisé à Louvain-la-Neuve le 18 mars 1995*, Oxford (Rei Cretariae Romanae Fautorum Acta Supplementum 8), 129–286.

- Bocquet, A./M. Picon, 1994: La Graufesenque et les autres ateliers de la Gaule du sud. Problèmes d'analyses et de techniques, *SFECAG Actes du congrès de Millau*, 75–82.
- Boivin, N., 2010: *Material Cultures, Material Minds. The Impact of Things on Human Thought, Society, and Evolution*, Cambridge.
- Boldizzoni, F., 2011: *The Poverty of Clio. Resurrecting Economic History*, Princeton (NJ).
- Bonifay, M., 2004: *Études sur la céramique romaine tardive d'Afrique*, Oxford (British Archaeological Reports International Series 1301).
- Bourdieu, P., transl. R. Nice, 1977: *Outline of a Theory of Practice*, Cambridge (Cambridge Studies in Social Anthropology 16).
- Bourdieu, P., 1979: *La Distinction. Critique sociale du jugement*, Paris.
- Bouscaras, A., 1974: Les marques sur amphores de Port la Nautique, *Cahiers d'Archéologie subaquatique* 3, 103–131.
- Bowker, G.C./S.L. Star, 1999: *Sorting Things Out. Classification and Its Consequences*, Cambridge (MA).
- Bowman, A./A. Wilson (eds), 2009: *Quantifying the Roman Economy. Methods and Problems*, Oxford.
- Bradley, M., 2009: *Colour and Meaning in Ancient Rome*, Cambridge.
- Brown, B., 2001: Thing theory, *Critical Inquiry* 28 (1), 1–22.
- Bruet, R./A. Bocquet/D. Laduron, 1994: Mise en évidence d'un groupe de céramiques dérivées de la terre sigillée tardive dans le nord-ouest de la Gaule, *Acta Archaeologica Lovaniensia* 33, 37–50.
- Bruet, R./F.Vilvorder/R. Delage (eds), 2010: *La céramique romaine en Gaule du Nord. Dictionnaire des céramiques: la vaisselle à large diffusion*, Turnhout.
- Bruet, R./R.P. Symonds/F.Vilvorder (eds), 1999: *Céramiques engobées et métallescentes gallo-romaines. Actes du colloque organisé à Louvain-la-Neuve le 18 mars 1995*, Oxford (Rei Cretariae Romanae Fautorum Acta Supplementum 8).
- Bruni, S., 1995: Ateius e le sue fabbriche. La produzione di sigillate ad Arezzo, a Pisa e nella Gallia meridionale: presentazione, *Annali della scuola normale superiore di Pisa. Classe di lettere e filosofia* 25 (1/2), 271–276.
- Budden, S./J. Sofaer, 2009: Non-discursive knowledge and the construction of identity. Potters, potting and performance at the Bronze Age tell of Százhalombatta, Hungary, *Cambridge Archaeological Journal* 19 (2), 203–220.
- Bushe-Fox, J.P., 1913: The use of Samian pottery in dating the early Roman occupation of the north of Britain, *Archaeologia* 64, 295–314.
- Callon, M., 1991: Techno-economic networks and irreversibility, in J. Law (ed.), *A Sociology of Monsters. Essays on Power, Technology, and Domination*, London (Sociological Review Monograph 38), 132–161.
- Callon, M., 1998a: Introduction: the embeddedness of economic markets in economics, in M. Callon (ed.), *The Laws of the Markets*, Oxford (Sociological Review Monograph 45), 1–57.
- Callon, M., 1998b: An essay on framing and overflowing. Economic externalities revisited by sociology, in M. Callon (ed.), *The Laws of the Markets*, Oxford (Sociological Review Monograph 45), 244–269.
- Callon, M., 1999: Actor-network theory – the market test, in J. Law/J. Hassard (eds), *Actor Network Theory and After*, Oxford, 181–195.
- Callon, M., 2005: Why virtualism paves the way to political impotence. A reply to Daniel Miller's critique of *The Laws of the Markets*, *European Newsletter for Economic Sociology* 6 (2), 3–20.
- Callon, M./B. Latour, 2011: Thou shall not calculate! Or how to symmetricalize gift and capital, *Athenea Digital* 11 (1), 171–192.
- Callon, M./J. Law, 2005: On qualculation, agency and otherness, *Environment and Planning D. Society and Space* 23, 717–733.
- Carter, G.A., 1998: *Excavations at the Orsett 'Cock' enclosure, Essex, 1976*, Chelmsford (East Anglian Archaeology 86).

- Cau, M.A./P. Reynolds/M. Bonifay (eds), 2011: *LRFW1. Late Roman Fine Wares. Solving the Problems of Typology and Chronology: a Review of the Evidence, Debate, and New Contexts*, Oxford (Roman and Late Antique Mediterranean Pottery 1).
- Chapman, J., 2000: *Fragmentation in Archaeology. People, Places and Broken Objects in the Prehistory of South-Eastern Europe*, London.
- Charlier, F., 2004: La pratique de l'écriture dans les tuileries gallo-romaines, *Gallia* 61, 67–102.
- Chenet, G./G. Gaudron, 1955: *La céramique sigillée d'Argonne des IIe et IIIe siècles*, Paris (Supplément à Gallia 6).
- Cherubini, L./A. Del Rio, 1996: Appunti su fabbriche del territorio pisano e volaterrano, *Annali della scuola normale superiore di Pisa. Classe di lettere e filosofia* 25 (1/2), 351–388.
- Childe, V.G., 1929: *The Danube in Prehistory*, Oxford.
- Childs, S.T., 1999: "After all, a hoe bought a wife". The social dimensions of ironworking among the Toro of East Africa, in M.-A. Dobres/C.R. Hoffman (eds), *The Social Dynamics of Technology. Practice, Politics and Worldviews*, Washington (DC)/London, 23–45.
- Chua, L./M. Elliott (eds), 2013: *Distributed Objects. Meaning and Mattering After Alfred Gell*, New York.
- Chuniaud, K., 2002: Le groupe des ateliers de potiers de Ligonnes à Lezoux (Puy-de-Dôme). Un champ d'étude pour les questions relatives à l'organisation de la production céramique en Gaule romaine, in L. Rivet/M. Sciallano (eds), *Vivre, produire et échanger: reflets méditerranéens. Mélanges offerts à Bernard Liou*, Montagnac (Archéologie et histoire romaine 8), 243–248.
- Clark, A., 2008: Where brain, body and world collide, in C. Knappett/L. Malafouris (eds), *Material Agency. Towards a Non-Anthropocentric Approach*, New York, 1–18.
- Collis, J.R., 1980: Aulnat and urbanization in France: a second interim report, *Archaeological Journal* 137, 40–49.
- Collis, J.R./A. Duval/R. Perichon (eds), 1983: *Le Deuxième Age du Fer en Auvergne et en Forez et leurs relations avec les régions voisines*, Sheffield.
- Comfort, H., 1962: Late Ateius signatures, *Rei Cretariae Romanae Fautorum Acta* 4, 5–25.
- Cool, H.E.M., 2006: *Eating and Drinking in Roman Britain*, Cambridge.
- Cool, H.E.M./R.S. Leary, 2012: Aspects of the use of samian pottery in Romano-British funerary practices, in D. Bird (ed.), *Dating and Interpreting the Past in the Western Roman Empire. Essays in Honour of Brenda Dickinson*, Oxford, 305–318.
- Costall, A., 2006: On being the right size. Affordances and the meaning of scale, in G. Lock/B.L. Molyneux (eds), *Confronting Scale in Archaeology. Issues of Theory and Practice*, New York, 15–26.
- Costin, C. L., 1991: Craft specialization: issues in defining, documenting, and explaining the organisation of production, *Journal of Archaeological Method and Theory* 3 (1), 1–56.
- Costin, C. L./M. Hagstrum, 1995: Standardisation, labor investment, skill, and the organization of ceramic production in late pre-Hispanic highland Peru, *American Antiquity* 60 (4), 619–639.
- Crummy, N./H. Eckardt, 2004: Regional identities and technologies of the self. Nail-cleaners in Roman Britain, *The Archaeological Journal* 160, 44–69.
- Cuomo di Caprio, N., 2007: *La ceramica in archeologia, 2. Antiche tecniche di lavorazione e moderni metodi di indagine*, Rome.
- Cüppers, H., 1973: Die Stadtmauer des römischen Trier und das Gräberfeld an der Porta Nigra, *Trierer Zeitschrift* 36, 133–222.
- Cüppers, H., 1984: Funde aus dem Töpfereigebiet am Pacelliufer, in *Trier, Kaiserresidenz und Bischofssitz. Die Stadt in spätantiker und frühchristlicher Zeit (Ausstellung 4. Mai bis 10. November 1984 Rheinisches Landesmuseum Trier)*, Mainz am Rhein, 89–91.
- Dannell, G.B., 2002: Law and practice. Further thoughts on the organization of the potteries at la Graufesenque, in M. Fulford/E. Durham (eds), *Céramiques de la Graufesenque et autres productions d'époque*

- romaine: nouvelles recherches. *Hommages à Bettina Hoffmann*, Montagnac (Archéologie et histoire romaine 7), 211-242.
- Dannell, G.B., 2006: Samian cups and their uses, in R.J.A. Wilson (ed.), *Romanitas. Essays on Roman Archaeology in Honour of Sheppard Frere on the Occasion of his Ninetieth Birthday*, Oxford, 147–176.
- Dannell, G.B./A.W. Mees, 2013: New approaches to samian distribution, in M. Fulford/E. Durham (eds) *Seeing Red. New Economic and Social Perspectives on Terra Sigillata*, London, 165–187.
- Daugas, J.-P./F. Malacher, 1976: Les civilisations de l'Âge du Fer dans le Massif-Central, in J. Guilaine (ed.), *La préhistoire française. Tome II. Les civilisations néolithiques et protohistoriques de la France*, Paris, 734–752.
- Daugas, J.-P./J.-P. Raynal/L. Tixier, 1982: Variations du milieu physique et occupation du sol au Second Âge du Fer en Grande Limagne d'Auvergne, in J.R. Collis/R. Duval/R. Périchon (eds), *Le deuxième Âge du Fer en Auvergne et en Forez et leurs relations avec les régions voisines*, Sheffield, 10–20.
- David, P.A., 1985: Clio and the economics of QWERTY, *American Economic Review* 75 (2), 332–337.
- Davis, J.A. (ed.), 2000: *Italy in the Nineteenth Century. 1796-1900*, Oxford.
- Dean, S., 1994: The world of pottery. A conversation with Marian Naranjo, *Callaloo* 17 (1), 285–289.
- de Casas, C./J. Fernandes, 2002: La cuisson gallo-romaine en four à tubulures: un essai d'expérimentation, in M. Genin/A. Vernhet (eds), *Céramiques de la Graufesenque et autres productions d'époque romaine: nouvelles recherches. Hommages à Bettina Hoffmann*, Montagnac (Archéologie et histoire romaine 7), 191–193.
- de Certeau, M., transl. S. Randall, 1984: *The Practice of Everyday Life*, Berkeley/Los Angeles (CA).
- Déchelette, J., 1904: *Les vases céramiques ornés de la Gaule romaine*, Paris.
- de Laet, M./A. Mol, 2000: The Zimbabwe Bush Pump. Mechanics of a fluid technology, *Social Studies of Science* 30 (2), 225–263.
- Delage, R., 1998: Première approche de la diffusion des céramiques sigillées du centre de la Gaule en occident romain, *SFECAG Actes du congrès d'Istres*, 271–313.
- Delage, R., 2004: L'écrit en "représentation". Les marques de grand format au sein des décors sur sigillée du Centre de la Gaule, *Gallia* 61, 145–152.
- DeMarrais, E./C. Gosden/C. Renfrew (eds), 2004: *Rethinking Materiality. The Engagement of Mind With the Material World*, Cambridge.
- Desbat, A., 2001: L'artisanat céramique à Lyon durant l'époque romaine, *Rei Cretariae Romanae Fautorum Acta* 37, 17–35.
- Desbat, A., 2004: Le début des importations de sigillées en Gaule: le cas de Lyon, in J. Poblome et al. (eds), *Early Italian Sigillata: the Chronological Framework and Trade Patterns. Proceedings of the First International ROCT-Congress Leuven, May 7 and 8, 1999*, Leuven, 221–225.
- Desbat, A. et al., 1997: Prospections et inventaire des ateliers de potiers de Lezoux (Puy-de-Dôme), *Rei Cretariae Romanae Fautorum Acta* 35, 143–149.
- Desbat, A./C. Godard, 1999: La chronologie des céramiques métallescentes. L'exemple de Lyon, in R. Brulet/R.P. Symonds/F. Vilvorder (eds), *Céramiques engobées et métallescentes gallo-romaines. Actes du colloque organisé à Louvain-la-Neuve le 18 mars 1995*, Oxford (*Rei Cretariae Romanae Fautorum Acta Supplementum* 8), 377–391.
- Desbat, A./M. Genin/J. Lasfargues (eds), 1996: Les productions des ateliers de potiers antiques de Lyon, 1ère partie. Les ateliers précoces, *Gallia* 53, 1–249.
- Desbat, A./M. Picon, 1992: Les importations précoces de sigillées à Saint-Romain-en-Gal (Rhône), *Rei Cretariae Romanae Fautorum Acta* 31/32, 391–414.
- Desbat, A./M. Picon, 1996: Les céramiques métallescentes de Lyon. Typologie, chronologie et provenance, *SFECAG Actes du congrès de Dijon*, 475–490.
- Desbat, A./F. Vilvorder, 2000: Die Trierer Schwarzfirnisware. Produktion und Handel, in K. Strobel (ed.), *Forschungen zur römischen Keramikindustrie. Produktions-, Rechts- und Distributionsstrukturen. Akten des 1. Trierer Symposiums zur antiken Wirtschaftsgeschichte*, Mainz am Rhein (*Trierer historische Forschungen* 42), 177–191.

- Descola, P., 2005: *Par-delà nature et culture*, Paris.
- De Simone, A., 1995: I terremoti precedenti l'eruzione. Nuove attestazione da recenti scavi, in T. Fröhlich/L. Jacobelli (eds), *Archäologie und Seismologie. La regione vesuviana dal 62 al 79 D.C.: problemi archeologici e sismologici. Colloquium Boscoreale 26.-27. November 1993*, München, 37–43.
- Dietler, M./I. Herbich, 1998: *Habitus*, techniques, style. An integrated approach to the social understanding of material culture and boundaries, in M.T. Stark (ed.), *The Archaeology of Social Boundaries*, Washington (DC)/London, 232–263.
- Di Giuseppe, H., 2012: *Black-gloss Ware in Italy. Production Management and Local Histories*, Oxford (British Archaeological Reports International Series 2335).
- Dobres, M.-A., 2000: *Technology and Social Agency. Outlining a Practice Framework for Archaeology*, Oxford.
- Dobres, M.A., 2010: Archaeologies of technology, *Cambridge Journal of Economics* 34 (1), 103–114.
- Dobres, M.-A./C.R. Hoffman, 1994: Social agency and the dynamics of prehistoric technology, *Journal of Archaeological Method and Theory* 1 (3), 211–258.
- Dobres, M.-A./J.E. Robb (eds), 2000: *Agency in Archaeology*, London/New York.
- Dobres, M.-A./J.E. Robb, 2005: “Doing” agency: introductory remarks on methodology, *Journal of Archaeological Method and Theory* 12 (3), 159–166.
- Dolwick, J.S., 2009: ‘The social’ and beyond. Introducing Actor-Network Theory, *Journal of Maritime Archaeology* 4, 21–49.
- Dornan, J.L., 2002: Agency and archaeology. Past, present, and future directions, *Journal of Archaeological Theory and Method* 9 (4), 303–329.
- Dragendorff, H., 1895: Terra Sigillata, *Bonner Jahrbücher* 96/97, 18–155.
- Dragendorff, H./C. Watzinger, 1948: *Arretinische Reliefkeramik. Mit Beschreibung der Sammlung in Tübingen*, Reutlingen.
- Drinkwater, J.F., 1983, *Roman Gaul. The Three Provinces, 58 BC–AD 260*, London.
- Duncan-Jones, R., 1990: *Structure and Scale in the Roman Economy*, Cambridge.
- Dunnett, B.R.K., 1966: Excavations on North Hill, Colchester, *The Archaeological Journal* 123, 27–62.
- Eckardt, H., 2002: *Illuminating Roman Britain*, Montagnac (Monographies instrumentum 23).
- Eckardt, H., 2014: *Objects and Identities. Roman Britain and the North-Western Provinces*, Oxford.
- Edmonds, M., 1990: Description, understanding and the *chaîne opératoire*, *Archaeological Review from Cambridge* 9 (1), 55–70.
- Ettlinger, E. et al. (eds), 1990: *Conspectus Formarum Terrae Sigillatae Italico Modo Confectae*, Bonn.
- Fabroni, A., 1841: *Storia degli antichi vasi fittili aretini*, Arezzo.
- Felski, R., 1999: The invention of everyday life, *New Formations* 39, 15–31.
- Fernandes, J./M. Fernandes/C. de Casas, 2005: Cuisson de sigillée rouge dans un four à tubulures à la Graufesenque, *SFECAG Actes du congrès de Blois*, 447–450.
- Fiches, J.-L./M. Guy/L. Poncin, 1978: Un lot de vases sigillés des premières années du règne de Néron dans l'un des ports de Narbonne, *Archaeonautica* 2, 185–219.
- Fölzer, E., 1913: *Die Bilderschüsseln der ostgallischen Sigillata-Manufakturen*, Bonn (Römische Keramik in Trier 1).
- Foster, R.J., 2006: Tracking globalization. Commodities and value in motion, in C. Tilley et al. (eds), *Handbook of Material Culture*, London, 285–302.
- Foucault, M., 1975: *Surveiller et Punir. Naissance de la Prison*, Paris.
- Foucault, M., 1986: Of other spaces, *Diacritics* 16, 22–27.
- Frier, B.W./D.P. Kehoe, 2007: Law and economic institutions, in W. Scheidel/I. Morris/R. Saller (eds), *The Cambridge Economic History of the Greco-Roman World*, Cambridge, 113–143.
- Fulford, M., 1977: The location of Romano-British pottery kilns. Institutional trade and the market, in J.

- Dore/K. Greene (eds), *Roman Pottery Studies in Britain and Beyond. Papers Presented to John Gillam, July 1977*, Oxford (British Archaeological Reports Supplementary Series 30), 301–316.
- Fulford, M., 2013: Gallo-Roman sigillata: fresh approaches, fresh challenges, fresh questions, in M. Fulford/E. Durham (eds), *Seeing Red. New economic and social perspectives on terra sigillata*, London, 1–17.
- Fulford, M./E. Durham (eds), 2013: *Seeing Red. New economic and social perspectives on terra sigillata*, London.
- Fülle, G., 1997: The internal organization of the Arretine terra sigillata industry. Problems of evidence and interpretation, *Journal of Roman Studies* 87, 111–155.
- Fülle, G., 2000a: Die Organisation der Terra sigillata-Herstellung in La Graufesenque. Die Töpfergraffiti, *Münstersche Beiträge zur antiken Handelsgeschichte* 19 (2), 62–99.
- Fülle, G., 2000b: Die Organisation der Terra sigillata-Herstellung in La Graufesenque. Die Herstellersignaturen, *Laverna* 11, 44–70.
- Fülle, G., 2000c: Scherben und Strukturen. Zu methodischen Grundproblemen der Sigillataforschung, in K. Strobel (ed.), *Forschungen zur römischen Keramikindustrie. Produktions-, Rechts- und Distributionsstrukturen. Akten des 1. Trierer Symposiums zur antiken Wirtschaftsgeschichte*, Mainz am Rhein (Trierer historische Forschungen 42), 24–41.
- Gardner, A., 2003: Seeking a material turn. The artefactuality of the Roman empire, in G. Carr/E. Swift/J. Weekes (eds), *TRAC 2002. Proceedings of the Twelfth Annual Theoretical Roman Archaeology Conference. Canterbury 2002*, Oxford, 1–13.
- Gardner, A., 2007: *An Archaeology of Identity. Soldiers and Society in Late Roman Britain*, Walnut Creek (CA).
- Gassner, V., 1986: *Die Kaufläden in Pompeii*, Vienna (Dissertationen der Universität Wien 178).
- Gell, A., 1992: The technology of enchantment and the enchantment of technology, in J. Coote/A. Shelton (eds), *Anthropology, Art and Aesthetic*, Oxford, 40–66.
- Gell, A., 1998: *Art and Agency. An Anthropological Theory*, Oxford.
- Genin, M. (ed.), 2007: *La Graufesenque (Millau, Aveyron). Volume II. Sigillées lisses et autres productions*, Pessac.
- Genin, M./B. Hoffmann/A. Vernhet, 2002: Les productions anciennes de la Graufesenque, in M. Genin/A. Vernhet (eds), *Céramiques de la Graufesenque et autres productions d'époque romaine: nouvelles recherches. Hommages à Bettina Hoffmann*, Montagnac (Archéologie et histoire romaine 7), 45–104.
- Genin, M./A. Vernhet, 2002: Importations de sigillées italiques et parois fines de type italique à la Graufesenque, in M. Genin/A. Vernhet (eds), *Céramiques de la Graufesenque et autres productions d'époque romaine: nouvelles recherches. Hommages à Bettina Hoffmann*, Montagnac (Archéologie et histoire romaine 7), 31–43.
- Gerrard, J., 2002: Pots for cash? A critique of the role of the 'free market' in the Late Roman economy, in M. Carruthers et al. (eds), *TRAC 2001. Proceedings of the Eleventh Annual Theoretical Roman Archaeology Conference, Glasgow 2001*, Oxford, 13–23.
- Gibson, J.J., 1979: *The Ecological Approach to Visual Perception*, Boston.
- Giddens, A., 1984: *The Constitution of Society. Outline of the Theory of Structuration*, Cambridge.
- Giles, M., 2007: Making metal and forging relations. Ironworking in the British Iron Age, *Oxford Journal of Archaeology* 26 (4), 395–413.
- Going, C.J., 1987: *The Mansio and Other Sites in the South-Eastern Sector of Caesaromagus: the Roman Pottery*, London (Council for British Archaeology Research Report 62).
- Going, C.J., 1992: Economic 'long waves' in the Roman period? A reconnaissance of the Romano-British ceramic evidence, *Oxford Journal of Archaeology* 11 (1), 93–117.
- Gomart, E./A. Hennion, 1999: A sociology of attachment. Music amateurs, drug users, in J. Law/J. Has-sard (eds), *Actor Network Theory and After*, Oxford, 220–247.
- González-Ruibal, A./A. Hernando/G. Politis, 2011: Ontology of the self and material culture. Arrow-making among the Awá hunter-gatherers (Brazil), *Journal of Anthropological Archaeology* 30 (1), 1–16.
- Gordon, R., 1999: Imagining Greek and Roman magic, in B. Ankarloo/S. Clark (eds), *Witchcraft and Magic in Europe. Ancient Greece and Rome*, Philadelphia (PA), 159–275.

- Gosden, C., 2004: *Archaeology and Colonialism. Cultural Contact from 5000 BC to the Present*, Cambridge.
- Gosden, C., 2005: What do objects want?, *Journal of Archaeological Method and Theory* 12 (3), 193–211.
- Gosden, C., 2008: Social ontologies, *Philosophical Transactions of the Royal Society* 363, 2003–2010.
- Gosden, C., 2010: Words and things. Thick description in archaeology and anthropology, in D. Garrow/T. Yarrow (eds), *Archaeology and Anthropology. Understanding Similarity, Exploring Difference*, Oxford, 110–116.
- Gosden, C./Y. Marshall, 1999: The cultural biography of objects, *World Archaeology* 31 (2), 169–178.
- Gosselain, O., 1998: Social and technical identity in a clay crystal ball, in M.T. Stark (ed.), *The Archaeology of Social Boundaries*, Washington (DC)/London, 78–106.
- Gosselain, O., 1999: In pots we trust: The processing of clay and symbols in sub-Saharan Africa, *Journal of Material Culture* 4 (2), 205–30.
- Gosselain, O., 2011: Technology, in T. Insoll (ed.), *The Oxford Handbook of the Archaeology of Ritual and Religion*, Oxford, 243–260.
- Goudineau, C., 1968: *La céramique arétine lisse. Fouilles de l'Ecole Française de Rome à Bolsena (Poggio Moscino) 1962-1967, tome 4*, Paris (Mélanges d'archéologie et d'histoire. Suppléments 6).
- Goudineau, C., 1996, 2nd edn.: Gaul, in A.K. Bowman/E. Champlin/A. Lintott (eds), *The Cambridge Ancient History. Volume 10: the Augustan Empire, 43 BC-AD 69*, Cambridge, 462–495.
- Greene, K., 1979: *The pre-Flavian fine wares. Report on the Excavations at Usk 1965-1976*, Cardiff.
- Greene, K., 1992: *Roman Pottery*, Berkeley/Los Angeles (CA).
- Greene, K., 2005: Roman pottery. Models, proxies and economic interpretation, *Journal of Roman Archaeology* 18 (1), 34–56.
- Greene, K., 2006: Archaeological data and economic interpretation, in P.F. Bang/M. Ikeguchi/H. Ziche (eds), *Ancient Economies, Modern Methodologies*, Bari.
- Greene, K., 2007: Late Hellenistic and Early Roman invention and innovation: the case of lead-glazed pottery, *American Journal of Archaeology* 111 (4), 653–671.
- Haaland, R., 2004: Technology, transformation and symbolism. Ethnographic perspectives on European ironworking, *Norwegian Archaeological Review* 37 (1), 1–19.
- Hampe, R./A. Winter, 1962: *Bei Töpfer und Töpferinnen in Kreta, Messenien und Zypern*, Mainz.
- Harding, J., 2005: Rethinking the great divide. Long-term structural history and the temporality of the event, *Norwegian Archaeological Review* 38, 88–101.
- Harman, G., 2002: *Tool-Being. Heidegger and the Metaphysics of Objects*, Chicago/La Salle (IL).
- Harman, G., 2009: *Prince of Networks. Bruno Latour and Metaphysics*, Melbourne.
- Harman, G., 2010: Technology, objects and things in Heidegger, *Cambridge Journal of Economics* 34 (1), 17–25.
- Harris, E., 1986: Words and meanings. *ACCIPE ET VTERE FELIX*, in M. Henig/A. King (eds), *Pagan Gods and Shrines of the Roman Empire*, Oxford (Oxford University Committee for Archaeology Monograph 8), 105–111.
- Harris, W.V., 1993: Between archaic and modern. Some current problems in the history of the Roman economy, in W.V. Harris (ed.), *The Inscribed Economy. Production and Distribution in the Roman Empire in the Light of Instrumentum Domesticum*, Ann Arbor (MI) (Journal of Roman Archaeology Supplementary Series 6), 11–29.
- Hartley, B.R., 1960: *Notes on the Roman Pottery Industry in the Nene Valley*, Peterborough (Peterborough Museum Society Occasional Papers 2).
- Hartley, B.R., 1977: Some wandering potters, in J. Dore/K. Greene (eds), *Roman Pottery Studies in Britain and Beyond. Papers Presented to John Gillam, July 1977*, Oxford (British Archaeological Reports Supplementary Series 30), 251–261.
- Hartley, B.R., 2005: Pots for tables; tables awaiting pots. An exercise in speculative archaeoeconomy, *Journal of Roman Pottery Studies* 12, 112–116.

- Hartley, B.R./B.M. Dickinson (eds), 2008–12: *Names on Terra Sigillata. An Index of Makers' Stamps and Signatures on Gallo-Roman Terra Sigillata (Samian Ware)*, 9 vols, London (*Bulletin of the Institute of Classical Studies Supplement*).
- Hartley, K./R. Tomber, 2006: *A Mortarium Bibliography with Reference to Roman Britain*, Oxford (*Journal of Roman Pottery Studies* 13).
- Haverfield, F.J., 1905: The Romanization of Roman Britain, *Proceedings of the British Academy* 2, 185–217.
- Haverfield, F.J., 1911: An inaugural address delivered before the First Annual General Meeting of the Society, 11th May 1911, *Journal of Roman Studies* 1, xi–xx.
- Hayes, J.W., 1972: *Late Roman Pottery*, London.
- Hayes, J.W., 1980: *A Supplement to Late Roman Pottery*, London.
- Hayes, J.W., 1985: Sigillate orientali, in *Atlante delle forme ceramiche 2. Ceramica fine romana nel bacino mediterraneo (tardo ellenismo e primo imperio)*, Rome, 1–96.
- Heidegger, M., transl. W. Lovitt, 1977: *The Question Concerning Technology and Other Essays*, London.
- Heinen, H., 1985: *Trier und das Trevererland in römischer Zeit*, Trier.
- Henare, A./M. Holbraad/S. Wastell, 2007: Introduction: thinking through things, in A. Henare/M. Holbraad/S. Wastell (eds), *Thinking Through Things. Theorizing Artefacts Ethnographically*, London, 1–31.
- Hennion, A., 2001: Music lovers. Taste as performance, *Theory, Culture and Society* 18 (1), 1–22.
- Herbert, E., 1993: *Iron, Gender and Power. Rituals of Transformation in African Society*, Bloomington (IN).
- Hermet, F., 1934: *La Graufesenque (Condatomago). I. Vases sigillés, II. Graffites*, Paris.
- Hetherington, K., 1997: In place of geometry. The materiality of place, in K. Hetherington/R. Munro (eds), *Ideas of Difference. Social Spaces and the Labour of Division*, Oxford, 182–199.
- Hetherington, K./N. Lee, 2000: Social order and the blank figure, *Environment and Planning D. Society and Space* 18, 169–184.
- Heywood, P., 2012: Anthropology and what there is. Reflections on 'ontology', *Cambridge Anthropology* 30 (1), 143–151.
- Hicks, D./M.C. Beaudry (eds), 2010: *The Oxford Handbook of Material Culture Studies*, Oxford.
- Hingley, R., 2000: *Roman Officers and English Gentlemen. The Imperial Origins of Roman Archaeology*, London.
- Hodder, I., 2011: Human-thing entanglement. Towards an integrated archaeological perspective, *Journal of the Royal Anthropological Institute* 17, 154–177.
- Hodder, I., 2012: *Entangled. An Archaeology of the Relationships between Humans and Things*, Malden (MA)/Oxford.
- Hodder, I./S. Hutson, 2003, 3rd edn.: *Reading the Past. Current Approaches to Interpretation in Archaeology*, Cambridge.
- Hoffmann, B., 1995: A propos des relations entre les sigillées de La Graufesenque et les sigillées d'Italie, *Annali della scuola normale superiore di Pisa. Classe di lettere e filosofia* 25 (1/2), 389–402.
- Hoffmann, B./H. Juranek, 1982: Bestätigung der Zusammenhänge von La Graufesenque und Lezoux durch chemische und töpferische/technische Analyse des Abdrucks eines Bildstempels, *Rei Cretariae Romanae Fautorum Acta* 21/22, 79–87.
- Hofmann, B., 1971: Les relations entre potiers, fabricants de moules et artistes producteurs de poinçons, *Rei Cretariae Romanae Fautorum Acta* 8, 5–20.
- Hofmann, B., 1992: Rappel de quelques marques italiques précoces trouvées en Gaule, *Rei Cretariae Romanae Fautorum Acta* 31/32, 255–259.
- Holbraad, M., 2007: The power of powder. Multiplicity and motion in the divinatory cosmology of Cuban Ifá (or *mana*, again), in A. Henare/M. Holbraad/S. Wastell (eds), *Thinking Through Things. Theorizing Artefacts Ethnographically*, London, 189–225.
- Holbraad, M., 2009: Ontology, ethnography, archaeology. An afterword on the ontography of things, *Cambridge Archaeological Journal* 19 (3), 431–441.

- Hölder, O., 1889: *Die römischen Thongefässe der Altertumssammlung in Rottweil*, Stuttgart.
- Holtorf, C., 2002: Notes on the life history of a pot sherd, *Journal of Material Culture* 7 (1), 49–71.
- Hopkins, K., 1980: Taxes and trade in the Roman Empire, 200 B.C. – A.D. 400, *Journal of Roman Studies* 70, 101–125.
- Horden, P./N. Purcell, 2000: *The Corrupting Sea. A Study of Mediterranean History*, Oxford.
- Hornsby, C., 2000: Introduction, or why travel?, in C. Hornsby (ed.), *The Impact of Italy. The Grand Tour and Beyond*, London, 1–28.
- Hoskins, J., 2006: Agency, biography and objects, in C. Tilley et al. (eds), *Handbook of Material Culture*, London, 74–84.
- Howe, M.D./J.R. Perrin/D.F. Mackreth, 1981: *Roman Pottery from the Nene Valley. A Guide*, Peterborough (Peterborough City Museum Occasional Paper 2).
- Huld-Zetsche, I., 1972: *Trierer Reliefsigillata. Werkstatt I*, Bonn (Materialien zur Römisch-Germanischen Keramik 9).
- Huld-Zetsche, I., 1978: Spät ausgeformte römische Bilderschüsseln, *Bonner Jahrbücher* 178, 315–334.
- Huld-Zetsche, I., 1993: *Trierer Reliefsigillata. Werkstatt II*, Bonn (Materialien zur Römisch-Germanischen Keramik 11).
- Hull, M.R., 1958: *Roman Colchester*, Oxford.
- Hull, M.R., 1963: *The Roman Potters' Kilns of Colchester*, Oxford.
- Ihde, D., 1990: *Technology and the Lifeworld*, Bloomington.
- Ingold, T., 2000: *The Perception of the Environment. Essays in Livelihood, Dwelling and Skill*, London.
- Ingold, T., 2007a: Materials against materiality, *Archaeological Dialogues* 14 (1), 1–16.
- Ingold, T., 2007b: Writing texts, reading materials. A response to my critics, *Archaeological Dialogues* 14 (1), 31–38.
- Ingold, T., 2008: When ANT meets SPIDER. Social theory for arthropods, in C. Knappett/L. Malafouris (eds), *Material Agency. Towards a Non-Anthropocentric Approach*, New York, 209–215.
- Ingold, T., 2010: The textility of making, *Cambridge Journal of Economics* 34 (1), 91–102.
- Jacob, J.-P./H. Leredde, 1982: Un aspect de l'organisation des centres de production céramique. Le mythe du "cartel", *Rei Cretariae Romanae Fautorum Acta* 21/22, 89–94.
- Jacob, J.-P./H. Leredde, 1985: Jaulges-Villiers-Vineux (Yonne). Etude d'un centre de production gallo-romain, *Gallia* 43, 167–192.
- Jacob, J.-P./H. Leredde, 1994: Jaulges-Villiers-Vineux, in J.-P. Petit/M. Mangin (eds), *Atlas des agglomérations secondaires de la Gaule Belgique et des Germanies*, Paris, 79–80.
- Jenkins, I./K. Sloan, 1996: *Vases and Volcanoes. Sir William Hamilton and His Collection*, London.
- Joly, M., 1999: Les ateliers de Bourgogne et de Franche-Comté, in R. Brulet/R.P. Symonds/F. Vilvorder (eds), *Céramiques engobées et métallescentes gallo-romaines. Actes du colloque organisé à Louvain-la-Neuve le 18 mars 1995*, Oxford (Rei Cretariae Romanae Fautorum Acta Supplementum 8), 39–68.
- Jones, A., 2007: *Memory and Material Culture*, Cambridge.
- Jones, A./G. MacGregor (eds), 2002: *Colouring the Past. The Significance of Colour in Archaeological Research*, Oxford.
- Kenrick, P., 1993: Italian terra sigillata. A sophisticated Roman industry, *Oxford Journal of Archaeology* 12 (2), 235–242.
- Kenrick, P., 1997: Cn. Ateius – The inside story, *Rei Cretariae Romanae Fautorum Acta* 35, 179–190.
- Kenrick, P., 2004: Signatures on Italian sigillata: a new perspective, in J. Poblome et al. (eds), *Early Italian Sigillata. The Chronological Framework and Trade Patterns. Proceedings of the First International ROCT-Congress Leuven, May 7 and 8, 1999*, Leuven, 253–262.

- Killick, D., 2004: Social constructionist approaches to the study of technology, *World Archaeology* 36 (4), 571–578.
- King, A.C., 1981: The decline of samian ware manufacture in the north west provinces. Problems of chronology and interpretation, in A. King/M. Henig (eds), *The Roman West in the Third Century. Contributions from Archaeology and History*, Oxford (*British Archaeological Reports International Series* 109), 89–126.
- Knappett, C., 2002: Photographs, skeuomorphs and marionettes. Some thoughts on mind, agency and object, *Journal of Material Culture* 7 (1), 97–117.
- Knappett, C., 2005: *Thinking through Material Culture. An Interdisciplinary Perspective*, Philadelphia (PA).
- Knappett, C., 2011: *An Archaeology of Interaction. Network Perspectives on Material Culture and Society*, Oxford.
- Knappett, C./L. Malafouris (eds), 2008: *Material Agency. Towards a Non-Anthropocentric Approach*, New York.
- Knorr, R., 1919: *Töpfer und Fabriken verzierter Terra-Sigillata des ersten Jahrhunderts*, Stuttgart.
- Knorr, R., 1952: *Terra-Sigillata-Gefässe des ersten Jahrhunderts mit Töpfernamen*, Stuttgart.
- Kopytoff, I., 1986: The cultural biography of things. Commoditization as a process, in A. Appadurai (ed.), *The Social Life of Things. Commodities in Cultural Perspective*, Cambridge, 64–91.
- Krier, J., 1981: *Die Treverer außerhalb ihrer Civitas. Mobilität und Aufstieg*, Trier (*Trierer Zeitschrift Beiheft* 5).
- Krippner, G.R./A.S. Alvarez, 2007: Embeddedness and the intellectual projects of economic sociology, *Annual Review of Sociology* 33, 219–240.
- Künzl, S., 1997: *Die Trierer Spruchbecherkeramik. Dekorierter Schwarzfirniskeramik des 3. und 4. Jahrhunderts n. Chr.*, Trier (*Trierer Zeitschrift Beiheft* 21).
- Lambert, P.-Y., 2002: *Recueil des Inscriptions Gauloises (R.I.G.). Volume II, fascicule 2. Textes gallo-latins sur Instrumentum*, Paris (*Gallia Supplément* 45).
- Lamboglia, N., 1952: Per una classificazione preliminare della ceramica campana, in *Atti del I Congresso Internazionale di Studi Liguri*, Bordighera, 139–206.
- Latour, B., 1987: *Science in Action. How to Follow Scientists and Engineers through Society*, Cambridge (MA).
- Latour, B., 1988: *The Pasteurization of France*, Cambridge (MA).
- Latour, B., 1991: Technology is society made durable, in J. Law (ed.), *A Sociology of Monsters. Essays on Power, Technology, and Domination*, London (*Sociological Review Monograph* 38), 103–131.
- Latour, B., 1993: *We Have Never Been Modern*, Cambridge (MA).
- Latour, B., 1994: On technical mediation, *Common Knowledge* 3 (2), 29–64.
- Latour, B., 1999: *Pandora's Hope. Essays on the Reality of Science Studies*, Cambridge (MA).
- Latour, B., 2005: *Reassembling the Social. An Introduction to Actor-Network-Theory*, Oxford.
- Latour, B., 2012: *Enquête sur les modes d'existence. Une anthropologie des Modernes*, Paris.
- Latour, B./G. Harman/P. Erdélyi, 2011: *The Prince and the Wolf. Latour and Harman at the LSE*, Winchester/Washington (DC).
- Lavizzari Pedrazzini, M.P., 1972: *La terra sigillata tardo-italica decorata a rilievo nella collezione Pisani Dossi del Museo archeologico di Milano*, Milan (*Collana di testi e documenti per lo studio dell'antichità* 37).
- Lavizzari Pedrazzini, M.P., 2004: La terre sigillée en Italie du nord, in J. Poblome et al. (eds), *Early Italian Sigillata. The Chronological Framework and Trade Patterns. Proceedings of the First International ROCT-Congress Leuven, May 7 and 8, 1999*, Leuven, 263–269.
- Law, J., 1986: On the methods of long distance control. Vessels, navigation and the Portuguese route to India, in J. Law (ed.), *Power, Action and Belief. A New Sociology of Knowledge?*, London (*Sociological Review Monograph* 32), 234–263.
- Law, J., 2002: *Aircraft Stories. Decentering the Object in Technoscience*, Durham (NC)/London.
- Law, J., 2004: *After Method. Mess in Social Science Research*, London.
- Law, J./A. Mol, 2001: Situating technoscience. An inquiry into spatialities, *Environment and Planning D. Society and Space* 19, 609–621.

- Law, J./A. Mol, 2008: The actor-enacted. Cumbrian sheep in 2001, in C. Knappett/L. Malafouris (eds), *Material Agency. Towards a Non-Anthropocentric Approach*, New York, 57–77.
- Law, J./V. Singleton, 2005: Object lessons, *Organization* 12 (3), 331–355.
- Lechtman, H., 1999: Afterword, in M.-A. Dobres/C.R. Hoffman (eds), *The Social Dynamics of Technology. Practice, Politics and Worldviews*, Washington (DC)/London, 223–232.
- Lee, N./S. Brown, 1994: Otherness and the actor network. The undiscovered continent, *American Behavioral Scientist* 37 (6), 772–790.
- Lemonnier, P., 1986: The study of material culture. Toward an anthropology of technical systems, *Journal of Anthropological Archaeology* 5, 147–186.
- Lemonnier, P., 1993: Introduction, in P. Lemonnier (ed.), *Technological Choices. Transformation in material cultures since the Neolithic*, London, 1–35.
- Loeschke, S., 1909: Keramische Funde in Haltern. Ein Beitrag zur Geschichte der augusteischen Kultur in Deutschland, *Mitteilungen der Altertums-Kommission für Westfalen* 5, 101–322.
- Loney, H.L., 2007: Prehistoric Italian pottery production. Motor memory, motor development and technological transfer, *Journal of Mediterranean Archaeology* 20 (2), 183–207.
- Luik, M., 2001: Römische Wirtschaftsmetropole Trier, *Trierer Zeitschrift* 64, 245–282.
- Mackreth, D., 1984: Castor, *Durobrivae. A Review of Nene Valley Archaeology* 9, 22–25.
- Malafouris, L., 2008: At the potter's wheel. An argument for material agency, in: C. Knappett/L. Malafouris (eds), *Material Agency. Towards a Non-Anthropocentric Approach*, New York, 19–36.
- Malafouris, L., 2013: *How Things Shape the Mind. A Theory of Material Engagement*, Cambridge (MA).
- Malfitana, D./J. Poblome/J. Lund, 2005: Eastern sigillata A in Italy. A socio-economic evaluation, *BABesch* 80, 199–212.
- Mangin, M., 1988: Les mines et la métallurgie du fer en Gaule romaine. Travaux et recherches, *Latomus* 47, 74–89.
- Marichal, R., 1988: *Les Graffites de La Graufesenque*, Paris (Supplément à Gallia 47).
- Marquardt, J., 1867: *Römische Privataltherthümer. Zweite Abtheilung*, Leipzig.
- Marsh, G., 1979: Three vessels by the Aldgate-Pulborough potter from London, *Transactions of the London and Middlesex Archaeological Society* 30, 185–187.
- Marsh, G., 1981: London's samian supply and its relationship to the development of the Gallic samian industry, in A.C. Anderson/A.S. Anderson (eds), *Roman Pottery Research in Britain and North-West Europe. Papers Presented to Graham Webster. Part I*, Oxford (British Archaeological Reports International Series 123 (i)), 173–238.
- Martin, T., 2001: Potiers et décorateurs augusto-tibériens de Montans, *Rei Cretariae Romanae Fautorum Acta* 37, 229–239.
- Martin, T., 2005: Présigillées languedociennes de Narbonne et de Bram à Bordeaux. L'apport des fouilles récentes, *SFECAG Actes du congrès de Blois*, 427–446.
- Mattingly, D. J., 2004: Being Roman. Expressing identity in a provincial setting, *Journal of Roman Archaeology* 17, 5–25.
- Mattingly, D. J., 2006: *An Imperial Possession. Britain in the Roman Empire*, London.
- Mauss, M., transl. B. Brewster, 1979: *Sociology and Psychology. Essays*, London, 97–123.
- Mayet, F., 1984: *Les céramiques sigillées hispaniques. Contribution à l'histoire économique de la Péninsule Ibérique sous l'Empire romain*, Paris.
- Mees, A., 2012: The portrait of the potter Calus. A potter priest at La Graufesenque?, in: D. Bird (ed.) *Dating and Interpreting the Past in the Western Roman Empire. Essays in Honour of Brenda Dickinson*, Oxford, 41–57.
- Mees, A., 2013: The internal organisation of terra sigillata (samian) workshops, in M. Fulford/E. Durham (eds), *Seeing Red. New economic and social perspectives on terra sigillata*, London, 66–96.

- Melius, J., 2011: Connoisseurship, painters and personhood, *Art History* 34 (2), 288–309.
- Menchelli, S., 2005: La terra sigillata, in D. Gandolfi (ed.), *La ceramica e i materiali di età romana. Classi, produzioni, commerci e consumi*, Bordighera (Scuola interdisciplinare delle metodologie archeologiche 2), 155–168.
- Mennessier-Jouannet, C., 1991: Un four de potier de La Tène Finale à Lezoux (Puy-de-Dôme), *Revue archéologique du Centre de la France* 30, 113–126.
- Meskell, L., 2004: *Object Worlds in Ancient Egypt. Material Biographies Past and Present*, Oxford.
- Middleton, P., 1979: Army supply in Roman Gaul. An hypothesis for Roman Britain, in: B.C. Burnham/H. Johnson (eds) *Invasion and Response. The Case of Roman Britain*, Oxford (*British Archaeological Reports British Series* 73), 81–97.
- Middleton, P., 1980: La Graufesenque. A question of marketing, *Athenaeum* 58, 186–191.
- Middleton, P., 1983: The Roman army and long distance trade, in P. Garnsey/C.R. Whittaker (eds), *Trade and Famine in Classical Antiquity*, Cambridge (*Proceedings of the Cambridge Philological Society Supplement* 8), 75–83.
- Miller, D., 1985: *Artefacts as Categories. A Study of Ceramic Variability in Central India*, Cambridge.
- Miller, D., 2000: Introduction: the birth of value, in P. Jackson *et al.* (eds), *Commercial Cultures. Economies, Practices, Spaces*, Oxford, 77–83.
- Miller, D., 2002a: Turning Callon the right way up, *Economy and Society* 31 (2), 218–233.
- Miller, D., 2002b: Coca-Cola. A black sweet drink from Trinidad, in R. Buchli (ed.), *The Material Culture Reader*, Oxford, 245–263.
- Miller, D., 2005: Introduction, in D. Miller (ed.), *Materiality*, Durham (NC)/London, 1–50.
- Miller, D., 2010: *Stuff*, Cambridge/Malden (MA).
- Miller, P., 2008: Calculating economic life, *Journal of Cultural Economy* 1 (1), 51–64.
- Miller, L./J. Schofield/M. Rhodes (eds), 1986: *The Roman Quay at St Magnus House, London. Excavations at New Fresh Wharf, Lower Thames Street, London 1974-78*, London (Special Paper of the London and Middlesex Archaeological Society 8).
- Millett, M., 1983: *A Comparative Study of Some Contemporaneous Pottery Assemblages from Roman Britain*, unpublished Ph.D. dissertation, University of Oxford.
- Millett, M., 1987a: A question of time? Aspects of the future of pottery studies, *University of London Institute of Archaeology Bulletin* 24, 99–108.
- Millett, M., 1987b: Boudicca, the first Colchester potters' shop, and the dating of Neronian samian, *Britannia* 18, 93–123.
- Millett, M., 1990: *The Romanization of Britain. An Essay in Archaeological Interpretation*, Cambridge.
- Millett, M., 1993: Samian from the sea. Cala Culip shipwreck IV. Review of J. Nieto Preto *et al.*, 1989: *Excavacions arqueològiques subaquàtiques a Cala Culip 1*, Girona (Centre d'Investigacions Arqueològiques de Girona, Sèrie Monogràfica 9), *Journal of Roman Archaeology* 6, 415–419.
- Millett, M./D. Graham, 1986: *Excavations on the Romano-British Small Town at Neatham, Hampshire, 1969-1979*, Winchester.
- Mills, N., 1985: Iron Age settlement and society in Europe. Contributions from field surveys in Central France, in S. Macready/F.H. Thompson (eds), *Archaeological Field Survey in Britain and Abroad*, London, 74–100.
- Minar, C.J./P.L. Crown, 2001: Learning and craft production. An introduction, *Journal of Anthropological Research* 57, 369–380.
- Mol, A., 2002: *The Body Multiple. Ontology in Medical Practice*, Durham (NC)/London.
- Mol, A./J. Law, 1994: Regions, networks and fluids. Anaemia and social topology, *Social Studies of Science* 24, 641–671.
- Mol, A./J. Law, 2005: Guest editorial. Boundary variations. An Introduction, *Environment and Planning D. Society and Space* 23, 637–642.

- Monteil, G., 2012: The sizes of samian vessels and dining. Evidence from Roman London, in D. Bird (ed.), *Dating and Interpreting the Past in the Western Roman Empire. Essays in Honour of Brenda Dickinson*, Oxford, 330–345.
- Morel, J.-P., 1978: A propos des céramiques campaniennes de France et d'Espagne, *Archéologie en Languedoc* 1, 149–168.
- Morel, J.-P., 1981: *Céramique campanienne. Les formes*, Rome (Bibliothèque des Écoles françaises d'Athènes et de Rome 244).
- Morley, N., 2004: *Theories, Models and Concepts in Ancient History*, London.
- Mullen, A., 2013: The language of the potteries. Communication in the production and trade of Gallo-Roman terra sigillata, in M. Fulford/E. Durham (eds), *Seeing Red. New economic and social perspectives on terra sigillata*, London, 97–110.
- Munn, N.D., 1986: *The Fame of Gawa. A Symbolic Study of Value Transformation in a Massim (Papua New Guinea) Society*, Cambridge.
- Munro, R., 1997: Ideas of difference. Stability, social spaces and the labour of division, in K. Hetherington/R. Munro (eds), *Ideas of Difference. Social Spaces and the Labour of Division*, Oxford, 3–24.
- Nappo, S.C., 1995: Evidenze strutturali, restauri e rifacimenti nelle insulae gravitanti su Via Nocera a Pompei, in T. Fröhlich/L. Jacobelli (eds), *Archäologie und Seismologie. La regione vesuviana dal 62 al 79 D.C.: problemi archeologici e sismologici. Colloquium Boscoreale 26.-27. November 1993*, München, 45–56.
- Nieto, J., 1986: El pecio Culip IV. Observaciones sobre la organización de los talleres de terra sigillata de la Graufesenque, *Archaeonautica* 6, 81–115.
- Nieto, J. et al., 1989: *Excavacions arqueològiques subaquàtiques a Cala Culip 1*, Girona (Centre d'Investigacions Arqueològiques de Girona, Sèrie Monogràfica 9).
- Noble, J.V., 1966: *The Techniques of Painted Attic Pottery*, London.
- Normark, D., 2006: Tending to mobility. Intensities of staying at the petrol station, *Environment and Planning A* 38 (2), 241–252.
- North, D. C., 1990: *Institutions, Institutional Change and Economic Performance*, Cambridge.
- North, D. C., 2005: *Understanding the Process of Economic Change*, Princeton (NJ)/Oxford.
- Notet, J.-C., 1996: Ultimes recherches sur l'officine céramique du Vieux-Fresne à Gueugnon (Saône-et-Loire). Présentation de quelques résultats remarquables, *SFECAG Actes du Congrès de Dijon*, 51–62.
- Oelmann, F., 1914: *Die Keramik des Kastells Niederbieber*, Frankfurt-am-Main (*Materialien zur römisch-germanischen Keramik* 1).
- Olcese, G., 2004: Italian terra sigillata in Rome and the Rome area. Production, distribution and laboratory analysis, in J. Poblome et al. (eds), *Early Italian Sigillata: the Chronological Framework and Trade Patterns. Proceedings of the First International ROCT-Congress Leuven, May 7 and 8, 1999*, Leuven, 279–298.
- Olsen, B., 2010: *In Defense of Things. Archaeology and the Ontology of Objects*, Lanham (MD)/Plymouth.
- Olsen, B. et al., 2012: *Archaeology: the Discipline of Things*, Berkeley (CA).
- Ortner, S.B., 1984: Theory in anthropology since the sixties, *Comparative Studies in Society and History* 26 (1), 126–166.
- Oswald, F., 1931: *Index of Potters' Stamps on Terra Sigillata ("Samian Ware")*, East Bridgeford.
- Oswald, F., 1936/7: *Index of Figure-Types on Terra Sigillata ("Samian Ware")*, Liverpool (*Annals of Archaeology and Anthropology Supplement* 33).
- Oswald, F./T.D. Pryce, 1920: *An Introduction to the study of Terra Sigillata. Treated from a Chronological Standpoint*, London.
- Oxé, A., 1933: *Arretinische Reliefgefäße vom Rhein*, Frankfurt-am-Main (*Materialien zur Römisch-Germanischen Keramik* 5).

- Oxé, A., 1934: *Frühgallische Reliefgefäße vom Rhein*, Frankfurt-am-Main (Materialien zur Römisch-Germanischen Keramik 6).
- Oxé, A./H. Comfort, 1968: *Corpus Vasorum Arretinorum. A Catalogue of the Signatures, Shapes and Chronology of Italian Sigillata*, Bonn.
- Oxé, A./H. Comfort/P. Kenrick, 2000, 2nd edn.: *Corpus Vasorum Arretinorum. A Catalogue of the Signatures, Shapes and Chronology of Italian Sigillata*, Bonn.
- Passelac, M., 1986a: Les ateliers du sud de la France. Les premiers ateliers, in C. Bémont/J.-P. Jacob (eds), *La terre sigillée gallo-romaine. Lieux de production du Haut-Empire. Implantations, produits, relations*, Paris (Documents d'Archéologie Française 6), 35–38.
- Passelac, M., 1986b: Bram, in C. Bémont/J.-P. Jacob (eds), *La terre sigillée gallo-romaine. Lieux de production du Haut-Empire. Implantations, produits, relations*, Paris (Documents d'Archéologie Française 6), 48–51.
- Passelac, M., 1992: Formes et techniques italiques dans les productions céramiques augustéennes du bassin de l'Aude. Mise en évidence d'un groupe d'ateliers, *Rei Cretariae Romanae Fautorum Acta* 31/32, 207–229.
- Passelac, M., 2001: Deux fours de potiers augustéens du *Vicus Eburomagus* (Bram, Aude), in F. Laubheimer (ed.), *20 Ans de recherches à Sallèles d'Aude*, Paris, 143–162.
- Passelac, M., 2007: Imitations et fabrications de céramiques fines de type italique en Languedoc occidental en Roussillon à la période tardo-républicaine et au début de l'empire, in M. Roca Roumens/J. Principal (eds), *Les imitations de vaixella fina importada a la Hispania Citerior (segles I aC – I dC)*, Tarragona (Serie documenta 6), 17–45.
- Passelac, M., 2009: La production de céramique et de matériaux en terre cuite, in P. Ournac/M. Passelac/G. Rancoule (eds), *L'Aude. Carte Archéologique de la Gaule 11/2*, Paris, 106–112.
- Passelac, M./Y. Léon/Ph. Sciau, 2008: L'utilisation d'hématite broyée dans les revêtements de présigillées de Bram, première approche, *SFECAG, Actes du congrès de L'Escala-Empúries*, 567–576.
- Peacock, D.P.S., 1982: *Pottery in the Roman World. An Ethnoarchaeological Approach*, London.
- Pedroni, L., 1995: Riflessioni sulla nascita dell'aretina, *Ostraka* 4, 195–204.
- Perrin, J.R. (ed.), 1999: *Roman pottery from excavations at and near to the Roman small town of Durobrivae, Water Newton, Cambridgeshire, 1956-58*, Oxford, (Journal of Roman Pottery Studies 8).
- Perring, D., 2002: *Town and Country in England. Frameworks for Archaeological Research*, York (Council for British Archaeology Research Report 134).
- Pfaffenberger, B., 1992: Social anthropology of technology, *Annual Review of Anthropology* 21, 491–516.
- Pfaffenberger, B., 1999: Worlds in the making. Technological activities and the construction of intersubjective meaning, in M.-A. Dobres/C.R. Hoffman (eds), *The Social Dynamics of Technology. Practice, Politics and Worldviews*, Washington (DC)/London, 147–164.
- Picon, M., 1973: *Introduction à l'étude technique des céramiques sigillées de Lezoux*, Lyon (Université de Dijon. Faculté des sciences humaines, Centre des recherches sur techniques gréco-romaines 2).
- Picon, M., 1986: Analyse de céramiques de l'épave *Culip IV* et corrections d'altération, *Archaeonautica* 6, 116–119.
- Picon, M., 2002a: A propos des sigillées, présigillées et imitations des sigillées. Questions de “coûts” et de marchés, *SFECAG, Actes du congrès de Bayeux*, 345–356.
- Picon, M., 2002b: Les modes de cuisson, les pâtes et les vernis de la Graufesenque. Une mise au point, in M. Genin/A. Vernhet (eds), *Céramiques de la Graufesenque et autres productions d'époque romaine: nouvelles recherches. Hommages à Bettina Hoffmann*, Montagnac (Archéologie et histoire romaine 7), 139–163.
- Picon, M., 2006: Autour de la standardisation des techniques dans les ateliers de céramiques sigillées, *SFECAG Actes du congrès de Pézenas*, 431–439.
- Picon, M./J. Garmier, 1974: Un atelier d'Ateius à Lyon, *Mélanges d'archéologie et d'histoire ancienne à la mémoire d'Adrien Bruhl, Revue archéologique de l'Est* 25 (1), 71–76.

- Picon, M./J. Lasfargues, 1974: Transfert de moules entre les ateliers d'Arezzo et ceux de Lyon, *Mélanges d'archéologie et d'histoire ancienne à la mémoire d'Adrien Bruhl*, *Revue archéologique de l'Est et du Centre-Est* 25, 60–69.
- Picon, M./H. Vertet, 1970: La composition des premières sigillées de Lezoux et le problème des céramiques calcaires, *Revue archéologique de l'Est et du Centre-Est* 21, 207–218.
- Picon, M./M. Vichy, 1974: Recherches sur la composition des céramiques de Lyon, *Mélanges d'archéologie et d'histoire ancienne à la mémoire d'Adrien Bruhl*, *Revue archéologique de l'Est* 25 (1), 37–59.
- Picon, M./M. Vichy/E. Meille, 1971: Composition of the Lezoux, Lyon and Arezzo samian ware, *Archaeometry* 13 (2), 191–208.
- Pickering, A., 1984: *Constructing Quarks. A Sociological History of Particle Physics*, Edinburgh.
- Pitts, M., 2005: Pots and pits. Drinking and deposition in Late Iron Age South-East Britain, *Oxford Journal of Archaeology* 25 (2), 143–161.
- Pitts, M., 2007a: Consumption, deposition and social practice: a ceramic approach to intra-site analysis in late Iron Age to Roman Britain, *Internet Archaeology* 21, URL: <http://dx.doi.org/10.11141/ia.21.2>. Accessed on 20/02/2011.
- Pitts, M., 2007b: The emperor's new clothes? The utility of identity in Roman archaeology, *American Journal of Archaeology* 111, 693–713.
- Pitts, M., 2008: Globalizing the local in Roman Britain. An anthropological approach to social change, *Journal of Anthropological Archaeology*, 493–506.
- Pitts, M., 2010: Artefact suites and social practice. An integrated approach to Roman provincial finds assemblages, *Facta* 4, 125–152.
- Pitts, M./M.J. Versluys (eds), 2015: *Globalisation and the Roman World. World History, Connectivity and Material Culture*, Cambridge.
- Plicque, A.E., 1887: *Etude de céramique arverno-romaine*, Caen.
- Poblome, J., 2013: Money makes pottery go round, in J. Poblome (ed.) *Exempli Gratia. Sagalassos, Marc Waelkens, and Interdisciplinary Archaeology*, Leuven, 81–95.
- Poblome, J./R. Brulet, 2005: Production mechanisms of sigillata manufactories. When East meets West, in M. Berg Briese/L.E. Vaag (eds), *Trade Relations in the Eastern Mediterranean from the Late Hellenistic Period to Late Antiquity. The Ceramic Evidence*, Odense (Halicarnassian Studies 3), 27–36.
- Poblome, J./R. Brulet/O. Bounegru, 2000: The concept of sigillata. Regionalism or integration?, *Rei Cretariae Romanae Fautorum Acta* 36, 279–283.
- Poblome, J. et al. (eds), 2004: *Early Italian Sigillata: the Chronological Framework and Trade Patterns. Proceedings of the First International ROCT-Congress Leuven, May 7 and 8, 1999*, Leuven.
- Polak, M., 1989: Some observations on the production of terra sigillata at La Graufesenque, *Archäologisches Korrespondenzblatt* 19, 145–154.
- Pollard, R.J., 1988: *The Roman Pottery of Kent*, Maidstone.
- Principal, J., 1998: *Las importaciones de vajilla fina de barniz negro en la Cataluña sur y occidental durante el siglo III a.C. Comercio y dinámica de adquisición en las sociedades indígenas*, Oxford (British Archaeological Reports International Series 729).
- Principal, J., 2006: Late Hellenistic black-gloss wares in the north-eastern Iberian Peninsula. Production traditions and social practices, in D. Malfitana/J. Poblome/J. Lund (eds), *Old Pottery in a New Century. Innovating Perspectives on Roman Pottery Studies. Atti del Convegno Internazionale di Studi. Catania, 22-24 Aprile 2004*, Catania (Monografie dell'Istituto per I Beni Archeologici e Monumentali 1), 41–56.
- Pucci, G., 1973: La produzione della ceramica aretina. Note sull' "industria" nella prima età imperiale romana, *Dialoghi di archeologia* 7, 255–293.
- Pucci, G., 1983: Pottery and trade in the Roman period, in P. Garnsey/K. Hopkins/C.R. Whittaker (eds), *Trade in the Ancient Economy*, London, 105–117.

- Pucci, G., 1985: Terra sigillata italica, in *Atlante delle forme ceramiche 2. Ceramica fine romana nel bacino mediterraneo (tardo ellenismo e primo imperio)*, Rome, 361–406.
- Pucci, G., 1990: A sigillata kiln in Valdichiana (Central Etruria), *Rei Cretariae Romanae Fautorum Acta* 27, 15–23.
- Pucci, G., 1993: I bolli sulla terra sigillata. Fra epigrafia e storia economica, in W.V. Harris (ed.), *The Inscribed Economy. Production and Distribution in the Roman Empire in the Light of instrumentum domesticum*, Ann Arbor (MI) (Journal of Roman Archaeology Supplementary Series 6), 73–79.
- Radder, H., 1992: Normative reflections on constructivist approaches to science and technology, *Social Studies of Science* 22 (1), 141–173.
- Ramin, J., 1974: L'espace économique en Gaule. Les documents historiques concernant les mines, in R. Chevallier (ed.), *Mélanges offerts à Roger Dion. Littérature gréco-romaine et géographie historique*, Paris (Caesarodunum 9 bis), 417–437.
- Rhodes, M., 1989: Roman pottery lost en route from the kiln site to the user – a gazetteer, *Journal of Roman Pottery Studies* 2, 44–58.
- Rhodes, M., 2004: Smith, Charles Roach (1806–1890), in H.G.C. Matthew/B. Harrison (eds), *Oxford Dictionary of National Biography. From the Earliest Times to the Year 2000*, Oxford, 67–69.
- Rice, P.M., 1984: Change and conservatism in pottery-producing systems, in S.E. van der Leeuw/A.C. Pritchard (eds), *The Many Dimensions of Pottery. Ceramics in Archaeology and Anthropology*, Amsterdam, 231–293.
- Ricken, H./C. Fischer, 1963: *Die Bilderschüsseln der römischen Töpfer von Rheinzabern. Textband mit Typenbildern zu Katalog VI der Ausgrabungen von Wilhelm Ludowici in Rheinzabern 1901–1914*, Bonn.
- Ricken, H./M. Thomas, 2005: *Die Dekorationsserien der Rheinzaberner Reliefsigillata. Textband zum Katalog VI der Ausgrabungen von Wilhelm Ludowici in Rheinzabern 1901–1914*, Bonn.
- Ritterling, E., 1913: *Das frührömische Lager bei Hofheim im Taunus*, Wiesbaden (*Annalen des Vereins für Nassauische Altertumskunde* 40).
- Robb, J. E., 2004: The extended artefact and the monumental economy. A methodology for material agency, in E. DeMarrais/C. Gosden/C. Renfrew (eds), *Rethinking Materiality. The Engagement of Mind With the Material World*, Cambridge, 131–139.
- Robb, J.E., 2010: Beyond agency, *World Archaeology* 42 (2), 493–520.
- Rodwell, W.J./K.A. Rodwell, 1985: *Rivenhall: Investigations of a Villa, Church, and Village, 1950–1977*, London (Council for British Archaeology Research Report 55).
- Rogers, E.M., 1983, 3rd edn.: *Diffusion of Innovations*, London.
- Rogers, G., 1977: A group of wasters from Central Gaul, in J. Dore/K. Greene (eds), *Roman Pottery Studies in Britain and Beyond. Papers Presented to John Gillam, July 1977*, Oxford (British Archaeological Reports Supplementary Series 30), 245–250.
- Romeuf, A.-M., 2001: *Les Martres-de-Veyre (Puy-de-Dôme). Le quartier artisanal gallo-romain*, 2 vol., Lezoux (Cahier du Centre Archéologique de Lezoux 2).
- Ross, A., 1967: *Pagan Celtic Britain. Studies in Iconography and Tradition*, London.
- Roth-Rubi, K., 1997: Silber und Terra Sigillata im Vergleich. Zur Herkunft einiger glattwandiger Gefäße aus dem Hildesheimer Silberschatz, in M. Boetzkes et al. (eds), *Der Hildesheimer Silberfund. Original und Nachbildung, vom Römerschatz zum Bürgerstolz. Katalog zur Ausstellung*, Hildesheim, 142–150.
- Rudling, D.R., 1990: Late Iron Age and Roman Billericay: excavations 1987, *Essex Archaeology and History* 21, 19–47.
- Said, E., 1978: *Orientalism*, London.
- Saller, R., 2002: Framing the debate over growth in the ancient economy, in W. Scheidel/S. von Reden (eds), *The Ancient Economy*, Edinburgh, 251–269.

- Sanchez, C., 2002: Au carrefour des influences méditerranéennes et continentales. Le rôle de Narbonne dans le commerce antique, in E. Dellong (ed.), *Carte archéologique de la Gaule. Narbonne et le Narbonnais* 11/1, Paris, 117–123.
- Sanchez, C., 2009: *Narbonne à l'époque tardo-républicaine. Chronologies, commerce et artisanat céramique*, Montpellier (*Revue Archéologique de Narbonnaise Supplément* 38).
- Sanial, B./M. Vaginay/P. Valette, 1983: Les céramiques italiques à vernis noir (C.I.V.N.) et leurs imitations en Forez et Roannais au I^{er} siècle avant notre ère, in J.R. Collis/R. Duval/R. Périchon (eds), *Le deuxième Age du Fer en Auvergne et en Forez et leurs relations avec les régions voisines*, Sheffield, 237–255.
- Santos, A.C./J. Rodrigues, 2009: Economics as social engineering? Questioning the performativity thesis, *Cambridge Journal of Economics* 33, 985–1000.
- Schaad, D. (ed.), 2007: *La Graufesenque (Millau, Aveyron). Volume I. Condatomagus. Une agglomération de confluent en territoire rutène IIe s. a.C. – IIIe s. p.C.*, Pessac.
- Scheidel, W., 2009: In search of Roman economic growth, *Journal of Roman Archaeology* 22 (1), 46–70.
- Scheidel, W./I. Morris/R. Saller (eds), 2007: *The Cambridge Economic History of the Greco-Roman World*, Cambridge.
- Schindler, R., 1972: Augusta Treverorum, *Bonner Jahrbücher* 172, 258–270.
- Schlanger, N., 1994: Mindful technology. Unleashing the *chaîne opératoire* for an archaeology of mind, in C. Renfrew/E.B.W. Zubrow (eds), *The Ancient Mind. Elements of Cognitive Archaeology*, Cambridge, 143–151.
- Schneider, G., 1993: Chemische Analysen Trierer Sigillata aus den Depotfunden in Echzell und Langenhain, in: I. Huld-Zetsche, *Trierer Reliefsigillata. Werkstatt II*, Bonn (Materialien zur Römisch-Germanischen Keramik 11), 65–68.
- Séguier, J.-M./D. Morize, 1996: Les céramiques à revêtement argileux de Jaulges-Villiers-Vineux (Yonne). Eléments de typo-chronologie et approche de la diffusion d'après les données de l'Ile-de-France, *SFECAG Actes du congrès de Dijon*, 155–179.
- Sennett, R., 2008: *The Craftsman*, London.
- Shanks, M., 2007: Symmetrical archaeology, *World Archaeology* 39 (4), 589–596.
- Sillar, B., 1996: The dead and the drying. Techniques for transforming people and things in the Andes, *Journal of Material Culture* 1 (3), 259–89.
- Simpson, G., 1952: The Aldgate potter. A maker of Romano-British samian ware, *Journal of Roman Studies* 42, 68–71.
- Simpson, G., 1957: Metallic black slip vessels from Central Gaul with applied and moulded decoration, *The Antiquaries Journal* 37, 29–42.
- Simpson, G., 1976: Decorated terra sigillata at Montans (Tarn) from the manuscript of Elie Rossignol at Albi, *Britannia* 7, 244–273.
- Simpson, G./G. Rogers, 1969: Cinnamus de Lezoux et quelques potiers contemporains, *Gallia* 27, 3–14.
- Skibo, J.M./M.B. Schiffer, 2008: *People and Things. A Behavioral Approach to Material Culture*, New York/London.
- Slater, D., 2002a: Capturing markets from the economists, in P. du Gay/M. Pryke (eds), *Cultural Economy. Cultural Analysis and Commercial Life*, London, 59–77.
- Slater, D., 2002b: Markets, materiality and the 'new economy', in S. Metcalfe/A. Warde (eds), *Market Relations and the Competitive Process*, Manchester, 95–113.
- Slater, D., 2002c: From calculation to alienation. Disentangling economic abstractions, *Economy and Society* 31 (2), 234–249.
- Slater, D./F. Tonkiss, 2001: *Market Society. Markets and Modern Social Theory*, Cambridge.
- Smith, C.R., 1849: On the red glazed pottery of the Romans, found in this country and on the Continent, *Journal of the British Archaeological Association* 4 (1), 1–20.
- Smith, C.R., 1854: *Catalogue of the Museum of London Antiquities Collected by, and Property of, Charles Roach Smith*, London.

- Smoothy, M.D., 1989: A Roman rural site at Rayne, Essex: excavations 1987, *Essex Archaeology and History* 20, 1–29.
- Solier, Y. (ed.), 1981: Les épaves de Gruissan, *Archaeonautica* 3, 8–264.
- Sparkes, B.A., 1996: *The Red and the Black. Studies in Greek Pottery*, London.
- Stahl, A.B., 2010: Material histories, in D. Hicks/M.C. Beaudry (eds), *The Oxford Handbook of Material Culture Studies*, Oxford, 150–172.
- Stanfield, J.A./G. Simpson, 1958: *Central Gaulish Potters*, London.
- Star, S.L., 1991: Power, technology and the phenomenology of conventions. On being allergic to onions, in J. Law (ed.), *A Sociology of Monsters. Essays on Power, Technology, and Domination*, London (*Sociological Review Monograph* 38), 26–56.
- Stenico, A., 1960: *La ceramica arretina* 1. Museo archeologico di Arezzo. Rasinius I, Milan (Collana di testi e documenti per lo studio dell' antichità 4).
- Stenico, A., 1966: *La ceramica arretina* 2. Collezioni diversi. Punzoni, modelli, calchi, ecc., Milan (Collana di testi e documenti per lo studio dell' antichità 14).
- Stieren, A. (ed.), 1943: *Die Funde von Haltern seit 1925* (Bodenaltertümer Westfalens 6), Münster.
- Strathern, M., 1991: *Partial Connections*, Savage (MD).
- Strathern, M., 1996: Cutting the network, *Journal of the Royal Anthropological Institute* 2 (3), 517–535.
- Strobel, K., 1992: Produktions- und Arbeitsverhältnisse in der südgalischen Sigillataindustrie. Zu Frage der Massenproduktion in der römischen Kaiserzeit, *Specimina ova Universitatis Quinqueecclesiensis* 8, 27–57.
- Swan, V.G., 1984: *The Pottery Kilns of Roman Britain*, London (Royal Commission on Historical Monuments Supplementary Series 5).
- Sweet, R., 2004: *Antiquaries. The Discovery of the Past in Eighteenth-Century Britain*, London.
- Swenson, E.R./J.P. Warner, 2012: Crucibles of power. Forging copper and forging subjects at the Moche ceremonial center of Huaca Colorado, Peru, *Journal of Anthropological Archaeology* 31 (3), 314–333.
- Swift, E., 2009: *Style and Function in Roman Decoration. Living With Objects and Interiors*, Aldershot.
- Swift, E., 2014: Design, function and use-wear in spoons: reconstructing everyday Roman social practice, *Journal of Roman Archaeology* 27, 203–237.
- Symonds, R.P., 1992: *Rhenish Wares. Fine Dark Coloured Pottery From Gaul and Germany*, Oxford (Oxford University Committee for Archaeology 23).
- Symonds, R./S. Wade, 1999: *Roman Pottery from Excavations in Colchester, 1971-1988*, Colchester (Colchester Archaeological Report 10).
- Tanner, J., 2013: Figuring out death. Sculpture and agency at the mausoleum of Halicarnassus and the tomb of the First Emperor of China, in L. Chua/M. Elliott (eds), *Distributed Objects. Meaning and Matter after Alfred Gell*, New York/Oxford, 58–87.
- Thomas, N., 1991: *Entangled Objects. Exchange, Material Culture, and Colonialism in the Pacific*, Cambridge (MA)/London.
- Thomas, J., 2006: Phenomenology and material culture, in C. Tilley et al. (eds), *Handbook of Material Culture*, London, 43–59.
- Thrift, N., 1996: 'Strange country'. Meaning, use and style in non-representational theories, in N. Thrift (ed.), *Spatial Formations*, London, 1–50.
- Tilley, C. et al. (eds), 2006: *Handbook of Material Culture*, London.
- Trément, F., 2010: Romanisation et dynamiques territoriales en Gaule centrale. Le cas de la cité des Arvernes (II^e s. av. J.-C. – II^e s. ap. J.-C.), in C. Corsi/F. Vermeulen (eds), *Changing Landscapes. The Impact of Roman Towns in the Western Mediterranean. Proceedings of the International Colloquium, Castelo de Vide-Marvão 15th-17th May 2008*, Bologna, 85–104.
- Trigger, B., 1980: *Gordon Childe. Revolutions in Archaeology*, London.

- Trigger, B., 2006, 2nd edn.: *A History of Archaeological Thought*, Cambridge.
- Turner, B.R.G., 1999: *Excavations of an Iron Age Settlement and Roman Religious Complex at Ivy Chimneys, Witham, Essex, 1978-1983*, Chelmsford.
- Tyers, P., 1996: *Roman Pottery in Britain*, London.
- Upex, S.G., 2001: The Roman villa at Cotterstock, Northamptonshire, *Britannia* 32, 57–91.
- Vaccaro, E., et al., forthcoming: Italic sigillata production and trade in the countryside of central Italy: new data from the Excavating the Roman Peasant Project, in T. De Haas/G. Tol (eds), *Rural Communities in a Globalizing Economy. New Perspectives on the Economic Integration of Roman Italy*.
- van der Leeuw, S.E., 1984: Dust to dust. A transformational view of the ceramic cycle, in S.E. van der Leeuw/A.C. Pritchard (eds), *The Many Dimensions of Pottery. Ceramics in Archaeology and Anthropology*, Amsterdam, 707–778.
- van der Leeuw, S. E., 1993: Giving the potter a choice. Conceptual aspects of pottery techniques, in P. Lemonnier (ed.), *Technological Choices. Transformation in material cultures since the Neolithic*, London, 238–288.
- Van Oyen, A., 2012: Knowledge systems in the production of terra sigillata. Moving beyond the local/global paradox, in M. Duggan/F. McIntosh/D.J. Rohl (eds), *TRAC 2011. Proceedings of the Twenty First Theoretical Roman Archaeology Conference, Newcastle 2011*, Oxford, 48–59.
- Van Oyen, A., 2013: Towards a postcolonial artefact analysis, *Archaeological Dialogues* 20 (1), 79–105.
- Van Oyen, A., 2014: Les acteurs-réseaux en archéologie: état de la question et perspectives futures, *Les Nouvelles de l'Archéologie* 135, 14–21.
- Van Oyen, A., 2015a: Deconstructing and reassembling the Romanization debate through the lens of postcolonial theory: from global to local and back?, *Terra Incognita* 5, 205–226.
- Van Oyen, A., 2015b: Actor-Network Theory's take on archaeological types: becoming, material agency, and historical explanation, *Cambridge Archaeological Journal* 25 (1), 63–78.
- Van Oyen, A., 2015c: Historicising material agency: from relations to relational constellations, *Journal of Archaeological Method and Theory*, doi: 10.1007/s10816-015-9244-0.
- Van Oyen, A., 2015d: The Roman city as articulated through terra sigillata, *Oxford Journal of Archaeology* 34 (3), 279–299.
- Van Oyen, A., forthcoming: Networks or work-nets? Actor-Network Theory and multiple social topologies in the production of Roman terra sigillata, in T. Brughmans/A. Collar/F. Coward (eds), *The Connected Past. Networks in Archaeology and History*, Oxford.
- Varone, A., 1995: Più terremoti a Pompei? I nuovi dati degli scavi di Via Dell'Abbondanza, in T. Fröhlich/L. Jacobelli (eds), *Archäologie und Seismologie. La regione vesuviana dal 62 al 79 D.C: problemi archeologici e sismologici. Colloquium Boscoreale 26.-27. November 1993*, München, 29–35.
- Vasunia, P., 2005: Greater Rome and greater Britain, in B. Goff (ed.), *Classics and Colonialism*, London, 38–64.
- Vasunia, P., 2011: The comparative study of empires, *Journal of Roman Studies* 101, 222–237.
- Vernhet, A., 1976: Création flavienne de six services de vaisselle à la Graufesenque, *Figlina* 1, 13–27.
- Vernhet, A., 1979: *La Graufesenque. Atelier de céramiques gallo-romain*, Millau.
- Vernhet, A./C. Bémont, 1990/1: Un nouveau compte de potiers de la Graufesenque portant mention de flamines, *Annales de Pegasus* 1, 12–14.
- Versluys, M.J., 2014: Understanding objects in motion. An archaeological dialogue on Romanization, *Archaeological Dialogues* 21 (1), 1–20.
- Vertet, H., 1967: Céramique sigillée tibérienne à Lezoux, *Revue archéologique* 2, 255–286.
- Vertet, H., 1968: Influence des céramiques italiques sur les ateliers arvernes au début du I^{er} siècle, *Revue archéologique du centre* 7 (1), 25–34.

- Vickers, M./D. Gill, 1994: *Artful Crafts. Ancient Greek Silverware and Pottery*, Oxford.
- Vilvorder, F., 1999: Les productions de céramiques engobées et métallescentes dans l'Est de la France, la Rhénanie et la rive droite du Rhin, in R. Brulet/R.P. Symonds/F.Vilvorder (eds), *Céramiques engobées et métallescentes gallo-romaines. Actes du colloque organisé à Louvain-la-Neuve le 18 mars 1995*, Oxford (Rei Cretariae Romanae Fautorum Acta Supplementum 8), 69–122.
- Vilvorder, F./R.P. Symonds, 1999: Les céramiques engobées et métallescentes. Deux catégories de céramiques fines, in R. Brulet/R.P. Symonds/F.Vilvorder (eds), *Céramiques engobées et métallescentes gallo-romaines. Actes du colloque organisé à Louvain-la-Neuve le 18 mars 1995*, Oxford (Rei Cretariae Romanae Fautorum Acta Supplementum 8), 5–10.
- Viveiros de Castro, E., 1998: Cosmological deixis and Amerindian perspectivism, *The Journal of the Royal Anthropological Institute* 4 (3), 469–488.
- von Hefner, J., 1863: Die römische Töpferei in Westerdorf, *Oberbayerisches Archiv* 22, 1–96.
- von Wilamowitz-Moellendorff, U., 1916: *Die Ilias und Homer*, Berlin.
- Wallace-Hadrill, A., 2008: *Rome's Cultural Revolution*, Cambridge.
- Wallaert-Pêtre, H., 2001: Learning how to make the right pots. Apprenticeship strategies and material culture, a case study in handmade pottery from Cameroon, *Journal of Anthropological Research* 57, 471–493.
- Walsh, M.T., 2006: *Pudding Pan. A Roman shipwreck and its cargo in context*, unpublished thesis for the degree of Doctor of Philosophy, University of Southampton.
- Walters, H.B., 1908: *Catalogue of the Roman Pottery in the Departments of Antiquities, British Museum*, London.
- Ward, M., 2010: Samian ware from northern Britain: models of supply, demand and occupation, in T. Saunders (ed.), *Roman North West England: Hinterland or 'Indian Country'?*, Manchester (Council for British Archaeology North West n.s. 2), 74–104.
- Weber, M., 2001 [1930], transl. T. Parsons: *The Protestant Ethic and the Spirit of Capitalism*, London.
- Webmoor, T., 2007: What about 'one more turn after the social' in archaeological reasoning? Taking things seriously, *World Archaeology* 39 (4), 563–578.
- Webmoor, T./C.L. Witmore, 2008: Things are us! A commentary on human/things relations under the banner of a 'social' archaeology, *Norwegian Archaeological Review* 41 (1), 53–70.
- Webster, P., 1975: More British samian ware by the Aldgate-Pulborough potter, *Britannia* 4, 163–170.
- Webster, P., 1996: *Roman Samian Pottery in Britain*, York (Practical Handbooks in Archaeology 13).
- Webster, P., 2001: Earth, fire and water. The making and marketing of Roman samian ware, in N.J. Higham (ed.), *Archaeology of the Roman Empire. A Tribute to the Life and Works of Professor Barri Jones*, Oxford (British Archaeological Reports International Series 940), 289–302.
- Webster, J., 2001: Creolizing the Roman Provinces, *American Journal of Archaeology* 105, 209–225.
- Wells, C.M., 1977a: Manufacture, distribution and date. Some methodological considerations on the dating of Augustan terra sigillata, *Rei Cretariae Romanae Fautorum Acta* 17/18, 132–140.
- Wells, C.M., 1977b: L'implantation des ateliers de céramique sigillée en Gaule. Problématique de la recherche, *Figlina* 2, 1–11.
- Wells, C.M., 1990: "Imitations" and the spread of sigillata manufacture, in E. Ettlinger *et al.* (eds), *Conspexus Formarum Terrae Sigillatae Italico Modo Confectae*, Bonn, 24–25.
- Wells, C.M., 1992: Pottery manufacture and military supply north of the Alps, *Rei Cretariae Romanae Fautorum Acta* 31/32, 195–205.
- Wenger, E., 1998: *Communities of Practice. Learning, Meaning and Identity*, Cambridge.
- Wengrow, D., 2008: Prehistories of commodity branding, *Current Anthropology* 49 (1), 7–34.
- Wickenden, N.P., 1988: *Excavations at Great Dunmow, Essex. A Romano-British Small Town in the Trinovantian Civitas*, Chelmsford.

- Wightman, E.M., 1970: *Roman Trier and the Treveri*, London.
- Williamson, O.E., 2000: The New Institutional Economics. Taking stock, looking ahead, *Journal of Economic Literature* 38, 595–613.
- Willis, S., 1998: Samian pottery in Britain. Exploring its distribution and archaeological potential, *The Archaeological Journal* 155, 82–133.
- Willis, S., 2005: *Samian Pottery, a Resource for the Study of Roman Britain and Beyond. The Results of the English Heritage Funded Samian Project. An E-Monograph*, Internet Archaeology, URL: <http://intarch.ac.uk/journal/issue17/1/toc.html>. Accessed on 18/03/2011.
- Willis, S., 2011: Samian ware and society in Roman Britain and beyond, *Britannia* 42, 167–242.
- Willis, S./R. Hingley, 2007: Roman finds. Context and theory, in R. Hingley/S. Willis (eds), *Roman Finds: Context and Theory. Proceedings of a Conference held at the University of Durham, July 2002*, Oxford, 2–17.
- Wilson, A.I., 2008: Large-scale manufacturing, standardization, and trade, in J.P. Oleson (ed.), *Handbook of Engineering and Technology in the Classical World*, Oxford, 393–417.
- Wilson, A.I., 2009: Approaches to quantifying Roman trade, in A. Bowman/A. Wilson (eds), *Quantifying the Roman Economy. Methods and Problems*, Oxford, 213–249.
- Wilton, A./I. Bignamini (eds), 1996: *Grand Tour. The Lure of Italy in the Eighteenth Century*, London.
- Winckelmann, J.J., transl. H.F. Mallgrave, 2006 [1764]: *History of the Art of Antiquity*, Los Angeles (CA).
- Witmore, C.L., 2007: Symmetrical archaeology. Excerpts of a manifesto, *World Archaeology* 39 (4), 546–562.
- Woolf, G., 1998: *Becoming Roman. The Origins of Provincial Civilization in Gaul*, Cambridge.
- Woolf, G., 2004: The present state and future scope of Roman archaeology: A comment, *American Journal of Archaeology* 108, 417–428.
- Yarrow, T., 2006: Perspective matters. Traversing scale through archaeological practice, in G. Lock/B.L. Molyneaux (eds), *Confronting Scale in Archaeology. Issues of Theory and Practice*, New York, 77–87.
- Zabechlicky-Scheffenecker, S., 1995: Subsidiary factories of Italian Sigillata potters: the Ephesian evidence, in H. Koester (ed.), *Ephesos: Metropolis of Asia. An Interdisciplinary Approach to its Archaeology, Religion, and Culture*, Valley Forge (PA), 217–228.

Index

A

accounting 62, 68, 70. *See* firing lists
units 66, 73, 77
Actor–Network Theory (ANT) 2, 3, 9
adaptability 116
affordances 9, 67
African red slip ware (ARS) 14, 18
Agrippa 99, 112
alienation 64
Allier, river 38, 42, 45, 51
amphorae
Dressel 20 76, 77
Greco-Italic 72
Ampurias 75, 76, 78
apprenticeship 36, 44. *See* skill
Aquitania 38, 54
Arezzo 12, 13, 41
clays 16, 47
distribution 71
sigillata finds 16, 19, 21
Argonne wares 14
arretine 12, 19, 21, 30
artefact biographies 20, 31, 131, 132
Arverni 37
assemblage. *See* funerary assemblage
closed context 99, 100
consumption 123, 126
formation 75, 80, 82, 88
human–thing 2
in teaching 19
size 122
structured 125
Ateius 16, 45
Atkinson, Donald 27, 86, 87, 89
Aude, river 38
Augusta Treverorum 99. *See* Trier
Augustonemetum 37. *See* Clermont-Ferrand
Aulnat 38

B

Baetica 76

beer 108
production at Trier 108
bilingualism 62
Billericay 124, 126
Birch, Samuel 22, 24
Birley, Eric 29
black-boxing 56, 57
black-gloss wares 33, 35, 37, 38, 58, 134
production landscape 36
relation with sigillata 12, 13
black sigillata 29, 47, 94, 96, 125
Bolsena 29
Bordeaux 38
Boudiccan revolt 81
boundary work 98, 102
branding 51, 58
Bushe-Fox, J.P. 27
Butrio 45, 47, 50

C

Caesar 37
Cala Culip 71
cargo 76, 89, 90
location 75
route 76
calculation 36, 60, 66, 68, 70
Callon, Michel 60
Cap Creus 75. *See* Cala Culip
capital, financial 57, 72
casidanos 68, 69, 90
category
boundary 19, 94, 96, 98, 117. *See* boundary work
consequences 57, 91, 104, 105, 116, 126, 128
definition 56, 112, 134
dissolution 103, 112, 119
in practices of study 17, 18, 90
stabilisation 66, 70, 93, 98, 113
transmission 99, 102, 113
wrongly universalized 34, 44, 113, 116, 132
causality 1, 8, 64, 113, 120, 131, 132, 133, 134. *See*
historical method

- and scientific analysis 17, 23
- external 9, 113, 116, 126, 132
- centralisation 116, 117, 128, 129, 131, 134
- chaîne opératoire
 - as method 7, 133
 - at Lezoux 42, 47, 49, 94
- Chelmsford 123
- Childe, V. Gordon 24
- Cinnamus 20, 50, 51
- clays 14, 64
 - black sigillata 94
 - Colchester sigillata 116
 - for barbotine 95
 - for slip 15
 - Italian sigillata (TSI) 40
 - La Graufesenque sigillata 17, 59
 - Les Martres-de-Veyre 45
 - Lezoux 'Rhenish' wares 95
 - Lezoux sigillata 16, 46
 - Limagne 38
 - micaceous Lezoux ware 40, 43
 - pre-sigillata 34
 - Trier colour-coated wares 104
 - Trier 'Rhenish' wares 102, 104, 107, 112
 - Trier sigillata 101, 102
- Clermont-Ferrand 37, 38, 96
- Coca-Cola 129, 132
- Colchester
 - North Hill 81
 - shops 71, 81, 89
 - sigillata production 115, 116
 - supply 82, 84, 90. *See* supply
- colonization 35
- colour. *See* slip
 - ancient attitudes to 48
 - as identification criterion 16, 17, 21, 22, 26
 - functional coding 96
 - on firing lists 65
 - symbolism 12
- colour-coated wares 116
 - Colchester 117, 118
 - Cologne 107, 118. *See* hunt cups
 - Lezoux 39, 94, 97
 - Nene Valley 118
 - Trier 100
- commodity 59, 60, 70, 91, 117
- communities of practice
 - at Lezoux 54

- at Trier 100, 107, 108, 111
- comparability 57, 66, 91, 116, 131, 132
 - comparative history 132. *See* historical method
- competition 42, 53
 - and categories 33, 57, 58, 91, 129, 131
 - as explanation 120
 - conditions for 57, 120
- consumption
 - of 'Rhenish' wares 124
 - of sigillata 126, 132
- contextual analysis
 - as method 5, 8, 20, 131, 133
 - of 'Rhenish' wares 122
 - of sigillata 126
- contingency 6, 7, 20, 51, 56, 57, 58, 85, 90, 112, 113, 128, 129. *See* historical method
 - as defining parameter 112, 125
- craft
 - at Les Martres-de-Veyre 44
 - at Lezoux 38
 - at Trier 99
 - interaction 46, 100
 - knowledge 54, 120
 - tradition 38, 40, 41, 118
- craftsmanship 22, 24, 64, 70, 78, 80, 113, 129. *See* skill
- culture change 5, 113, 128, 132
- culture-historical archaeology 24, 25

D

- Déchelette, Joseph 25, 29
- decoration 25
 - appliqué 106
 - barbotine 95, 100, 102, 104, 106, 112, 118, 119
 - figure-types 23, 25, 26, 27, 28, 29, 46, 49, 50, 95, 101, 106, 116
 - incised 96
 - moulding 12, 14, 42, 49, 94, 96, 103, 119
 - painting 106
 - roughcasting 118, 119
 - rouletting 118, 119
- demand 5, 36, 51, 87, 89, 90, 120
- demography 60
 - description 133, 134. *See* historical method
- dining 5, 16, 56, 96, 100, 106
- distributed agency 69
- distribution. *See* networks, piggybacking,
 - shipping, transport costs
 - directionality 75, 78, 82, 86, 87, 89, 90

- La Graufesenque sigillata 72
 Lezoux 'Rhenish' wares 123
 Lezoux sigillata 51
 long-distance 36, 42, 51, 52, 76
 micaceous Lezoux ware 42
 organisation 71, 76
 parameters 59, 60, 77, 78, 90, 91
 Trier 'Rhenish' wares 110, 121, 124
 Trier sigillata 109
 Dragendorff, Hans 22, 24, 26, 30, 31
 typology 25, 26, 28
 drawing
 of sigillata 23, 24, 26, 27, 28, 29
 on firing lists 69
 on 'Rhenish' wares 106
 drinking 11, 12, 60, 94, 96, 100, 106, 108, 125
 Durobrivae 118
- E**
- Eastern sigillata 13
 economy
 anthropology of 59
 Roman 5, 54, 70, 89, 90
 embeddedness 56, 59, 98
 empire 35, 111, 129, 131, 132, 133, 134
 Essex 82, 120, 121, 122, 123, 126
 experimentation 47, 55, 58, 96, 101, 105, 123
- F**
- Fabroni, Angelo 23, 24
 fingerprints 15, 107, 109, 112, 119
 firing 15
 communal 62, 72
 kiln infrastructure 15, 24, 38, 40, 47, 48, 64, 65, 71, 99, 100, 101, 116, 118, 119
 kiln load 66, 69, 71, 73, 74, 80, 82, 85. *See* kiln load model
 kiln masters 68
 misfiring 64, 77, 90, 116
 modes 17, 34, 35, 36, 38, 40, 43, 47, 49, 64, 94, 96, 102, 104, 118
 rhythm 75, 80
 symbolism 8, 64, 67, 68
 temperatures 17, 36, 40, 46, 47, 50
 tubuli 47
 firing lists 59
 agency of 68, 70
 as accounting devices 62, 66
 contents 62, 66, 68, 73, 75
 date 62, 73
 deposition 69
 production 67, 69
flamen 68, 90
 formalism 59, 90
 fragmentation 127
 funerary assemblage 12, 125, 126
- G**
- Gallo-Belgic wares 14
 Gell, Alfred 1, 2, 3, 6
 genealogies 131. *See* trajectory
Germani 99, 113
 gifts 59, 60
 globalisation 134
 Gosden, Chris 131
 Goudineau, Christian 29
 Grand Tour 21, 22, 24
 Great Dunmow 125, 126
 Gueugnon 45, 47
- H**
- Haltern 26
 Haverfield, Francis 27
 Heidegger, Martin 2, 56
 Heiligenberg 116
 Hermet, Frédéric 69
 historical context 3, 35
 historical method 10, 26, 28, 31, 60, 96, 113, 123
 comparison 19, 27
 decentralisation 134
 explanation 2, 8, 113, 116, 117, 126, 133, 134
 interpretation 7, 120
 questions 1, 3, 4, 18, 46, 54, 57, 58, 62, 64, 126, 133
 scale 3, 4, 8, 9, 93, 128, 132, 133, 135
 Hofheim 26
 Hölder, Oskar 23
 hunt cups 116, 118, 119, 120, 128
- I**
- imperialism 134
 institutions 59, 60, 61, 111
 formal and informal 60
 in academia 134
 investment 8, 43, 44, 64, 65, 70, 72, 80, 90, 100
 and clays 101
 and distribution 36, 42, 54, 57, 124, 133

fragmented 119
source 45, 54
Isidore of Seville 21
Italian terra sigillata (TSI) 13, 15, 34, 39, 41
scholarship on 20, 29
Ivy Chimneys 122, 123, 126

J

Jaulges-Villiers-Vineux 96

K

kiln load model 75, 80, 81, 83, 84, 86, 90. *See* firing kilns. *See* firing
Knorr, Robert 27, 29

L

La Graufesenque 14, 45, 59
contacts 46
distribution 70, 71, 82, 90
firing lists 62. *See* firing lists
grand four 15, 71
location 38
output 62
rejects 65
workshops 54
La Lagaste 38
La Madeleine 14, 116
landowners 45, 54, 72, 99
Les Martres-de-Veyre 44, 45, 51, 54, 55
Lezoux
ceramic production 14, 19, 38, 39, 48, 94
history of study 16, 24, 35
site 37
workshops 39, 45, 50, 54, 100
Libertus 45, 46, 47, 49, 50
Ligennes group 39, 45, 48, 50, 54. *See* Lezoux
limes 23, 26, 100, 109, 111
locatio conductio 73
Loeschcke, Georg 26, 111
Loire, river 38, 42
London 23, 123
supply 51
Lubié 45
Ludowici, Wilhelm 27
Lyon 38
branch workshops 13, 14
clays 16, 47
link with Trier 99, 107, 110, 112

M

magic 68
Marichal, Robert 68
Maringues group 39, 45, 47, 49, 50, 51, 54, 94. *See* Lezoux
market 60
location 73
model 59, 70, 89, 91
Marquardt, Joachim 22
Martberg 99
material agency 1, 6, 91, 132
different kinds 132
material culture
as history-maker 3, 6, 7, 9, 10, 58, 59, 60, 64, 65, 66, 91, 93, 113, 117, 124, 128, 133
as history-teller 1, 2, 6, 7, 9, 10, 30, 59, 60, 62, 66, 76, 89, 91, 93, 113
studies 1, 3, 135
theory 1, 6, 131
material histories 133, 134, 135
materiality 1, 3
Maximian 99
meaning 5, 6, 31, 60, 61, 126, 128, 130, 131
Medici, Giovanni de 21
Megarian bowls 13
Merleau-Ponty, Maurice 2
metal mining 45
metal vessels 12
metalworking 46, 95
migration 41, 45, 102, 116, 117
Millau 62. *See* La Graufesenque
Miller, Daniel 1, 2, 3, 6, 129
modernism 77, 78, 106, 115
Mol, Annemarie 9, 56, 131
mortaria 81, 96
Mosel, river 108, 109
mottoes, on Trier beakers 102, 103, 108, 112

N

Narbonne
distribution 72, 73, 75, 76, 90
port 71, 73. *See* Port-la-Nautique
pre-sigillata 34, 35
relief 77
Neatham 124
Nene, river 118
Nene Valley. *See* colour-coated wares
networks

Actor-Network Theory 2, 3, 60, 61
distribution 52, 71, 73, 76, 81, 83, 89
New Fresh Wharf 123. *See* London
New Institutional Economics (NIE) 60
niche, in consumption 125, 126
North, Douglas 60

O

Oberaden 26
Oelmann, Franz 124
ontology 2, 20, 31, 82
Orsett 128
Oswald, Felix 24, 27, 28, 29
Other 98, 99, 102, 113, 123, 134. *See* boundary work
Oxé, August 13, 28

P

packaging 77, 86, 88
Paternus 50, 51
Peacock, David 8
Pedroni, Luigi 13
Perennius 13, 42
personhood 65
phenomenology 2, 3, 8, 132
Pickering, Andrew 6, 7
Picon, Maurice 16, 101
 firing modes 17, 35
 investment model 36, 42, 47, 51, 54, 57, 123
piggybacking 76
Plicque, Alfred 24, 29, 39
Pliny the Elder 12, 21
Pompeii 27, 71
 earthquakes 88
 houses 88
 sigillata crate 86, 89
Pompey 13
Port-la-Nautique 71, 73, 75
 assemblages 72
 location 72
post-colonial studies 134
power 57, 61, 80, 90, 129, 131
practice 7, 9, 31
 fields of 90, 98, 123, 125, 129
 of study 11, 18, 20, 21, 24, 26, 30
 theory 9
pre-sigillata 34, 36, 46, 58
primitivism 77
production organisation 71, 80, 90. *See* workshops

contracts 72, 73
output 15, 62, 115
stamps 13, 71
study 29, 30, 62
pseudo-Herodotus 67
Pucci, Giuseppe 29

R

Rasinius 30
raven 68, 69
Rayne 126
red slip wares 13, 18
relationality 2, 6, 8, 56, 69, 125
 and agency 2, 8, 120
 and difference 98, 112
 and directionality 104, 112, 113
 between things 112
retrospection 17, 26, 30, 64, 76, 93, 112
 alternative for 7, 18, 30, 33, 60, 89, 91, 96, 113,
 130, 133
 problem with 6, 10, 36, 57, 60, 113, 116, 126, 132
Rheinzabern 14, 100, 102, 104
 excavations 27
Rhenish wares
 introduction at Trier 99, 100, 101, 102
 origin 94
 terminology 93
Rhine, river 26, 93, 99, 108, 109
Rhône, river 13, 46, 72
risk 67, 73, 77, 78, 90
Ritterling, Emile 26
ritual 12, 68, 70, 108, 124, 125, 126
Rivenhall 124
Romanization debate 25, 126, 129, 134
Rome 76
 lamps 76
 sigillata production 13, 16
rooted things 112, 113, 118, 124, 134
 consequences 129
 consumption 125
 definition 109

S

Saint Taurin group 54, 94. *See* Lezoux
samian 5, 12, 21, 22, 23, 30
Saône, river 111
scale. *See* historical method
Science and Technology Studies (STS) 6, 9, 31

- seasonality
 - of firing 62, 73
 - of potting 45
 - of shipping 78
 - of supply 82
 - semantics 61, 65, 113, 129
 - services 21, 26, 66, 96, 126
 - serving 11, 16, 96
 - shipping
 - cabotage* 76, 77, 78, 80
 - cargo 76, 77, 80
 - conditions 73, 76, 78
 - organisation 76
 - shipwreck. *See* Cala Culip
 - Simpson, Grace 28, 29, 47
 - Sinzig 102, 116
 - skill 95
 - as defining parameter 107, 112, 118
 - embodied 64, 117, 120
 - expertise 15, 64, 68, 116
 - learning 8, 116. *See* apprenticeship
 - slaves 13, 15, 22, 25, 61, 62, 72
 - slip
 - application 15
 - Colchester sigillata 116
 - colour of 15, 34, 41, 47, 96, 101
 - Lezoux 'Rhenish' wares 96
 - Lezoux sigillata 46
 - micaceous Lezoux ware 40
 - on firing lists 62, 67
 - sintering 11, 15
 - Trier 'Rhenish' wares 104
 - Trier sigillata 102, 103
 - Smith, Charles Roach 23, 24, 30
 - Spanish terra sigillata 14
 - specialisation 101
 - disciplinary 18, 19, 112, 134
 - in production 80, 90
 - stamps 15, 22, 26
 - anepigraphic 95
 - Cala Culip IV 78, 82, 85, 87
 - Colchester colour-coated wares 118
 - Colchester shops 82, 84, 85, 87
 - dies 71
 - function 71
 - intra-decorative 51
 - La Graufesenque 41
 - Lezoux 'Rhenish' wares 95
 - Lezoux sigillata 51
 - Lyon 41
 - micaceous Lezoux ware 41, 42
 - Pompeii 86
 - Port-la-Nautique 73, 78, 80, 82, 85, 90
 - removal of 64
 - standardisation 4, 8, 33, 56, 58, 93, 96, 105, 132
 - lack of 24
 - Stanfield, J.A. 28, 29, 47
 - Stenico, Arturo 29
 - Strobel, Karl 68
 - substantivism 59, 60
 - Suetonius 108
 - supply 51, 76, 78, 83, 87, 89, 90, 123, 125
 - rhythm 82, 90
 - state 76
 - to Britain 42, 51, 117, 119
 - to military 42
- T**
- table wares 11
 - tally lists 62, 66, 68
 - technology
 - anthropology of 8, 40, 55, 64, 65, 71
 - as institution 60
 - Gaulish terra sigillata 14
 - scientific study of 16, 17, 23, 24, 25
 - transfer 115
 - Terre-Franche 45
 - thin-walled pottery, Baetican 76, 78, 81
 - Tiberius 108
 - time 132
 - Titelberg 99
 - Toulon-sur-Allier 45
 - trade. *See* distribution
 - traders 7, 9, 36, 51, 72, 99, 100, 111, 128, 132
 - trajectory 3
 - as explanatory mechanism 6, 31, 61, 96, 116, 119, 125, 126, 129, 131
 - construction of 9, 35, 57, 58, 91, 117, 128
 - definition 131
 - in Actor-Network Theory 3
 - misalignment 117
 - transport costs 54, 77
 - Treveri* 99, 108, 111
 - Trier 14, 116
 - history 99
 - imperial capital 99, 130

- kilns 99, 100
- location 99
- Louis-Lintzstraße 100
- Pacelli-Ufer 100, 103
- workshops 100, 116
- type 36
 - etic and emic 66
- typology. *See* Dragendorff, Hans
 - as analytical tool 26, 28, 112, 134
 - black-gloss wares 33
 - black sigillata 94
 - Colchester colour-coated wares 118
 - Colchester sigillata 116
 - construction of 24
 - Lezoux 'Rhenish' wares 96
 - Lezoux sigillata 49, 51
 - micaceous Lezoux ware 39
 - Nene Valley colour-coated wares 119
 - Trier 'Rhenish' wares 104, 106, 107
 - Trier sigillata 101, 102, 104

U

- uncertainty 64, 66, 75

V

- value 60, 92
 - judgment 113
 - per unit 54
- variability
 - and practices of study 18, 19, 24, 25
 - as defining parameter 33, 35, 56, 113, 120
 - in production 40, 41, 56, 58, 93, 104
 - interpretation of 96
- von Hefner, Joseph 23

W

- Walters, H.B. 21
- warehouse 80, 82, 87
 - at Colchester 81
 - at Narbonne 72, 77
- Water Newton 118
- Wheeler, Mortimer 28
- wine 108
 - production at Trier 108, 111
- workshops 94
 - location 38, 39, 45, 50, 54, 94, 100
 - size 36
- writing 68, 69

