



Institute of Archaeology

ARCL0015  
Roman Coinage  
Second/third year 15 credit option

2023–2024

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Room 204c

Assessments due November 20th 2023 and January 11th 2024.

**Important Information Regarding Assessments**

Important information regarding assessments, rules, regulations *etc.* including link to online resources at UCL is provided on page 7.



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## 1 Module overview

### 1.1 Module description

The aim of the module is to provide you with a broad understanding of the development of the Roman monetary system and the current debates which surround it, both in terms of purely “numismatic” problems, but also in the broader use of coinage evidence for archaeological purposes and in the study of Roman society and economy.

### 1.2 Aims of the module

The aim of the module is to provide you with a broad understanding of the development of the Roman monetary system and the current debates which surround it, both in terms of purely “numismatic” problems, but also in the broader use of coinage evidence for archaeological purposes and in the study of Roman society and economy.

### 1.3 Objectives of the module

This module is designed to give students

1. A history of Roman coinage as struck from the introduction of the *denarius* to the fall of Rome in the west.
2. An understanding of numismatic method and theory.
3. An understanding as to how numismatic evidence may be used in archaeological research.
4. A knowledge of the methods that can be used for the analysis of hoards and site assemblages.
5. A knowledge of some of the current debates.
6. The ability to undertake basic coin identification and cataloguing.

### 1.4 Learning Outcomes

Beyond the module specific aims and objectives, students should also gain experience in:

- critical reflection and the evaluation of arguments;
- the use of a spreadsheet in the analysis and presentation of a large data set;
- examining and undertaking a critique of analytical methodologies;
- constructing a logical argument;
- writing and referencing an academic text;
- independent problem-solving based on real data sets.

## 1.5 Method of Assessment

This module is assessed by means of two pieces of course-work: a three-part piece of written work on three significant coins (1,500 words) and a data analysis exercise with a discussion of a maximum of 2,500 words (it could be much less if you use the graphs well). The former contributes 40% to the final grade for the module, the latter 60%.

If students are unclear about the nature of an assignment, they should discuss this with the Module Co-ordinator.

The Module Co-ordinator is willing to discuss an outline of the student's approach to the assignment, provided this is planned suitably in advance of the submission date.

The nature of the assignment and possible approaches to it will be discussed in class, in advance of the submission deadline.

## 1.6 Communications

- Moodle is the main hub for this course.
- Important information will be sent to you via the QuickMail feature of Moodle.
- Please pose any general queries relating to module content, assessments and administration to the course coordinator via email.
- Do not use MS Teams for this module. It is not monitored.
- For personal queries, please contact the co-ordinator by email.

## 1.7 Week-by-week summary

**October 5th** 1. Introduction to the module: coinage, money and exchange.

2. Numismatic History: coinage during the early Republic.

**October 12th** 1. Numismatic history: coinage during the later Republic.

2. Numismatic History: the *denarius* system from Augustus to Commodus.

**October 19th** 1. Dating coins, dating with coins

2. Estimating the size of ancient coinages: the case of the Roman Republic.

**October 26th** 1. Numismatic History: the collapse of the *denarius* system from the Severans to Aurelian.

2. Numismatic History: the reforms of Aurelian and Diocletian.

**November 2nd** 1. Numismatic History: the fourth century from Constantine to the end of Fel Temp Reparatio.

2. Numismatic History: the end of Roman coinage in the west (Sam Moorhead)

**November 6th–10th** Reading week.

**November 20th** *First assessment due*

**November 16th** 1. Analysing site finds I: early methods of Casey, Reece and others.

2. Analysing site finds II: Reece's current methods and Lockyear's advanced methods.

**November 23rd** Coin identification practical (Adrian Popescu, Kris Lockyear)

**November 30th** Coin identification practical (Adrian Popescu, Kris Lockyear)

**December 7th** 1. Coin Hoards (Kris Lockyear)

2. Copies, imitations and forgeries of coins: manufacture, epidemics, use and interpretation.

**December 14th** 1. Thordeman's Law and the Lohe hoard (Kris Lockyear).

2. Roman economics beyond coinage (Kris Lockyear).

**January 11th** *Second assessment due.*

## 1.8 Teaching methods

The module is taught via 10 two-hour sessions. Of these, 16 classes will be lectures (given by KL and Sam Moorhead) and four will be practical coin identification classes given by KL and Adrian Popescu.

The lectures are designed to introduce you to the topics and provide necessary theoretical background to the subject. The practicals are designed to allow you to handle Roman coins and start to develop your coin identification skills.

## 1.9 Workload

This is a 15 unit module which equates to 150 hours of learning time including background reading, and researching and writing your assignments. With this in mind, you should expect to organise your time in roughly this way:

**Classes** These will take 20 hours.

**Background reading** You should plan on about 50 hours.

**Coin assessment** Researching and writing this should take about 30 hours.

**Data analysis assessment** Researching and writing this should take about 50 hours.

## Prerequisites

While there are no formal prerequisites for this module, students are advised that previous attendance at ARCL0001 is likely to facilitate comprehension of the material presented in this module. Note that the second assignment involves handling data and producing graphs, either in R or in Excel so some familiarity with one or other software package is needed. *Please let me know as soon as possible if you need help with the software.*

## 1.10 Basic texts

You should aim to read the entirety of *Coinage in the Roman World* (Burnett, 1987). This is a short but excellent book. It has been recently reprinted and is available from Spink (69 Southampton Row). Please do not hog the limited library copies. The *Oxford Handbook of Greek and Roman coinage* (Metcalf, 2012) has many period-based chapters which are essential reading for much of the monetary history part of the module. This book is available online

through the library catalogue. Moorhead (2013) is excellently illustrated and a great companion to the *Handbook*.

In addition, there are a number of other books worth reading, all of which are pretty short and easy going. Howgego (1995) provides a classicist's view of the usefulness of coin studies, Reece (2002) provides an overview of coinage in Roman Britain, Casey (1986) and Reece (1987a) provide information on how to analyse coin assemblages, pitfalls in interpretation and so forth. You should aim to read substantial sections (if not all) of these books.

Other useful introductions include the very short book by Burnett (1991) and the old, but still very useful book by Grierson (1975) and the introduction to numismatics by Crawford (1983). The Shire books by Casey (1994a) and Abdy (2002) are useful, not only for Roman Britain. *Coins and the Archaeologist* contains many essential papers (Casey & Reece, 1974, 1988). Kent (1978) provides a plethora of high quality images of coins and is worth looking at. The book by Reece (1970) is rather out-of-date now but has lots of useful detailed information. A good starters' guide to identifying coins was produced by Reece & James (1986, 2000). Moorhead (2015) is useful for the second assignment.

## Reading

- ABDY, R. A. 2002. *Romano-British Coin Hoards*. Shire, Princes Risborough.
- BURNETT, A. 1987. *Coinage in the Roman World*. Seaby, London. Excellent introductory book, essential reading. See review by Crawford in NC 1989, pp. 244–45. INST ARCH KM BUR (TWO AT ISSUE DESK).
- BURNETT, A. 1991. *Interpreting the Past: Coins*. British Museum, London. INST ARCH KM BUR.
- CASEY, P. J. 1986. *Understanding Ancient Coins*. Batsford, London. YATES R5 CAS; INST ARCH ISSUE DESK KM CAS.
- CASEY, P. J. 1994a. *Carausius and Allectus: the British Usurpers*. Batsford, London. INST ARCH DAA 170 CAS; INST ARCH ISSUE DESK DAA 170 CAS.
- CASEY, P. J. & R. REECE (eds.) 1974. *Coins and the Archaeologist*. British Archaeological Reports British Series 4, Oxford. INST ARCH DAA QTO SERIES BRI 4.
- CASEY, P. J. & R. REECE (eds.) 1988. *Coins and the Archaeologist*. Seaby, London, second edition. The second edition of the classic work. Contains many fundamental papers (despite original critical review by Crawford); many papers revised, and new ones added in this edition — see the review by King in NC 1990. INST ARCH KM CAS; INST ARCH ISSUE DESK KM CAS.
- CRAWFORD, M. H. 1983. 'Numismatics.' In M. H. Crawford (ed.), *Sources for Ancient History*, pp. 185–233. Cambridge University Press, Cambridge. ANCIENT HISTORY M5 CRA.
- GRIERSON, P. 1975. *Numismatics*. Oxford University Press, London. YATES R 5 GRI; INST ARCH KM GRI.
- HOWGEGO, C. 1995. *Ancient History from Coins*. Routledge, London and New York. Useful book which covers Greek as well as Roman coinage to the third century. Essential reading and a relatively cheap buy. ANCIENT HISTORY A4 HOW.



- KENT, J. P. C. 1978. *Roman Coins*. Thames and Hudson, London. Not much text, but a superb set of illustrations of the best coins. INST ARCH KM QTO KEN; YATES QUARTOS R30 KEN.
- METCALF, W. E. (ed.) 2012. *The Oxford Handbook of Greek and Roman Coinage*. Oxford University Press, Oxford. ISSUE DESK IOA MET 1.
- MOORHEAD, S. 2013. *A history of Roman coinage in Britain*. Greenlight, Witham. INST ARCH KM QTO MOO.
- MOORHEAD, S. 2015. ‘A survey of Roman coin finds from Hertfordshire.’ In K. Lockyear (ed.), *Archaeology in Hertfordshire: Recent Research*, pp. 135–64. University of Hertfordshire Press, Hatfield. INST ARCH DAA 410 H.5 LOC.
- REECE, R. 1970. *Roman Coins*. Ernest Benn Ltd, London. Handbook for collectors and a bit dated, but contains useful summary of the principal types, a guide to identifying coins, and a quick summary the Roman coinage of Alexandria. INST ARCH KM REE.
- REECE, R. 1987a. *Coinage in Roman Britain*. Seaby, London. Useful summary of his methods and results up to the mid 1980s. INST ARCH DAA 170 REE; ISSUE DESK DAA 170 REE.
- REECE, R. 2002. *The Coinage of Roman Britain*. Tempus, Stroud. INST ARCH KM REE.
- REECE, R. & S. JAMES 1986. *Identifying Roman Coins*. Seaby, London. A useful practical guide for coins from Roman Britain. INST ARCH KM REE.
- REECE, R. & S. JAMES 2000. *Identifying Roman Coins*. Seaby, London, second edition. A useful practical guide for coins from Roman Britain. INST ARCH KM REE.

## 2 Coursework

### 2.1 General information

The assignment and possible approaches to it will be discussed in class, in advance of the submission deadline. If students are unclear about the nature of an assignment, they should discuss this with the module co-ordinator in advance. You will receive feedback on your written coursework via Moodle.

For more details see the ‘Assessment’ section on Moodle. The coursework coversheet is available on the course Moodle pages and here: <https://www.ucl.ac.uk/archaeology/current-studentsunder> ‘Policies, Forms and Guidelines’.

*Please make sure you enter your five-digit candidate code* (not your student ID number) on the coversheet and in the subject line when you upload your work in Moodle.

*Please use your five-digit candidate code* in the name of the file you submit.

The marking criteria for this assessment is discussed below. The IoA Study Skills Guide provides useful guidance on writing different types of assignment.

Please note that late submission, exceeding the maximum word count and academic misconduct (unacknowledged use of text generation software and plagiarism) will be penalized and can significantly reduce the mark awarded for the assignment and/or overall module result. Please do consult

- <https://www.ucl.ac.uk/archaeology/current-students/ioa-student-handbook/13-information-assessment> with sections 13.7–13.8: coursework submission, 13.10: word count, 13.12–14: academic integrity
- <https://www.ucl.ac.uk/students/exams-and-assessments/academic-integrity> for UCL’s guidance on academic integrity
- <https://library-guides.ucl.ac.uk/referencing-plagiarism/acknowledging-AI> for UCL’s guidance on how to acknowledge the use of text generation software.

Please note that for this course you may use AI tools to help improve your written English, but you *may not* use them to actively help with your assignment (for example, deciding which comparative sites or what method you should choose).

## 2.2 Assessment 1: Significant coins

**Deadline: Thursday 20th November 2023.** During this course you will be shown a large number of coin images and their significance will be discussed. For this assignment choose (either from Moodle or from other online sources) *three* coin types: one from the Roman Republic, one from the early Roman Empire (up to the early 3rd century) and one from the later Roman Empire (from the early third century until the end of the Empire in the west). You should provide images of the obverse and reverse of each coin, as well as their standard reference and the source of the image. For each coin type, write 500 words on the significance of that coin type. For some coins, you may need to concentrate on one specific aspect of that coin type.

Your choice of coin is extremely important. Some coin types you will find it impossible to write anything much about them. Avoid those! For some, there is a great deal which could be discussed. Topics you could discuss are:

1. Design and iconography: what is the importance of the design in historical and/or numismatic terms? Does it record a significant historical event? Or is it the only evidence for a specific event? Does it illustrate the use and importance of ‘propaganda’?
2. Does the coin type have importance from a numismatic point of view? For example, is it part of a coinage reform or debasement? Does it represent a new denomination?
3. Was the coin type extensively copied? If so, when did the copying occur and why?

The intention of this assignment is for you to be able to show your understanding of monetary history across seven centuries. It is intended to be flexible. If you are having problems, please discuss this with Kris. To do well in this assignment you need to (a) choose your coins carefully and (b) do not drift into bland generalities.

## 2.3 Assessment 2: site find analysis

**Deadline: Thursday 11th January 2024.** As this assignment contains a practical and computing element, the final report could be shorter than official word-limit of 2,500 words, especially if you use graphs effectively. (You will not be penalised for being under 2,500 but you will be for being over 2,500.)

Table 1 presents a list of coins from an excavation of a small rural site in central Hertfordshire at Hook’s Cross. The coins were identified by an expert and abbreviated details written on the envelope. Your task is to tidy-up this list, and produce a report on the coins. This should contain the following elements:

1. General introduction.
2. Catalogue of coins.
3. Table showing Hooks Cross coins by issue period.
4. Analysis of the Hooks Cross data with a discussion of the method chosen and the comparative data used.
5. Discussion of the results.

For the catalogue and table you will probably not be able to resolve all the problems with the list, and so must make ‘judgement’ decisions on how to deal with some of the entries. The catalogue should be of the fuller type favoured by Casey (see Casey & Hoffman, 1999) which will mean you will need to consult RIC and LRBC. Note that all the coins are bronze issues, there are *no* silver or gold coins in this assemblage.

To complete this task this you will need to look at some excavation reports and see how the task has been approached by other scholars, for example Richard Reece (there are lots of these in the reading list). The coins will have to be divided-up in issue periods (see discussion in Reece, 1987a, pp. 73–76). Reece’s latest book gives the results of his work without the methods (Reece, 2002) although he does give some suggested ‘good’ coin reports (Reece, 2002, p. 151).

You should discuss the list in relation to other sites as published by Reece (1991b). You may use any method you consider suitable, including using the tables provided by Reece, Reece’s graphical methods, or more statistical methods. You can use all Reece’s data or subsets of it (*e.g.*, Hertfordshire sites, rural sites *etc.*). You may find the article by Moorhead (2015) helpful.

For published examples using Reece’s data see (Guest, 2008b) and Garrard (2010).

You will need to download two files from the web from Moodle. The first, `hcross.xls`, is the Hook’s Cross data, the second, `cbook01.xls` is Reece’s 140 sites data. Both are Excel spreadsheets.

**NB.** HK is Reece’s abbreviation for *Late Roman Bronze Coinage*, Part I and CK for Part II (Carson *et al.*, 1978). Copies of all the catalogues are available in the library and for consultation in my room.

## References for Assessment 2

- CARSON, R. A. G., P. V. HILL & J. P. C. KENT 1978. *Late Roman Bronze Coinage*. Spink and Son, London. Originally published in two parts (Carson and Kent 1960 and Hill and Kent 1960) but later reprinted in one volume. Often abbreviated to CK and HK.
- CASEY, P. J. & B. HOFFMAN 1999. ‘Excavations at the Roman Temple in Lydney Park, Gloucestershire in 1980 and 1981.’ *The Antiquaries Journal* 79: 81–143. INST ARCH PERS.
- GARRARD, J. 2010. ‘Cathedral or granary? the Roman coins from Colchester House, City of London (PEP89).’ *Transactions of the London and Middlesex Archaeological Society* 61: 81–8.
- GUEST, P. 2008b. ‘Coins.’ In P. Booth, A.-M. Bingham & S. Lawrence (eds.), *The Roman Roadside Settlement at Westhawk Farm, Ashford, Kent, Excavations 1998–9*, Oxford Archaeology Monograph No. 2, pp. 135–48. Oxford Archaeological Unit, Oxford. INST ARCH DAA 410 QTO BOO.

MOORHEAD, S. 2015. ‘A survey of Roman coin finds from Hertfordshire.’ *In* K. Lockyear (ed.), *Archaeology in Hertfordshire: Recent Research*, pp. 135–64. University of Hertfordshire Press, Hatfield. INST ARCH DAA 410 H.5 LOC.

REECE, R. 1987a. *Coinage in Roman Britain*. Seaby, London. Useful summary of his methods and results up to the mid 1980s. INST ARCH DAA 170 REE; ISSUE DESK DAA 170 REE.

REECE, R. 1991b. *Roman Coins from 140 sites in Britain*. Cotswold Studies IV. Cotswold Press, Cirencester, provisional edition. Essential collection of data.

REECE, R. 2002. *The Coinage of Roman Britain*. Tempus, Stroud. INST ARCH KM REE.

## 2.4 Deadlines

The deadlines are: assessment 1: **deadline: Thursday November 20th 2023**; assessment 2: **deadline: Thursday 11th January 2024**.

If students are unclear about the nature of an assignment, they should discuss this with the Module Co-ordinator.

Students are not permitted to re-write and re-submit essays in order to try to improve their marks. However, students may be permitted, in advance of the deadline for a given assignment, to submit for comment a brief outline of the assignment.

## 3 Schedule and syllabus

### Teaching schedule

Lectures/practicals will be held 4–6pm on Thursdays in room 412.

## 4 Reading Lists and Lecture summaries

The following is an outline for the module as a whole, and identifies essential and supplementary readings relevant to each session. Information is provided as to where in the UCL library system individual readings are available; their location and Teaching Collection (TC) number, and status (whether out on loan) can also be accessed on the “Explore” computer catalogue system. Readings considered essential to keep up with the topics covered in the module are noted at the start of each section. Copies of individual articles and chapters identified as essential reading are in the Teaching Collection in the Institute Library (where permitted by copyright). Remember that many journals are now available online, *e.g.*, *The Numismatic Chronicle*, check out *jstor* via the library catalogue. A number of books, for example *The Oxford Handbook to Greek and Roman Coinage* are also available electronically via the library catalogue.

### 4.1 Introduction to the module: coinage, money and exchange

This session will introduce the module and get you to handle some coins. We will think about what we could use coinage evidence for and its limitations. We will also think about its role in the study of the economy.

Crockett (1979, chapter 1) provides the rationalist theory for the origin of money, *cf.* Crump (1981) and Gregory (1982, esp. p. 11). The other papers are an eclectic selection intended to look at exchange and money in a wide range of contexts.

Essential reading for this class is the paper by Kemmers & Myrberg (2011).

Type	Ref	Date
Urbs Roma	HK76	330–35
Tetricus II	as RIC 270	270–73
Barb Radiate	rev Mars	270–90
Barb Radiate	rev illegible	270–90
Magnentius	copy as CK8	350–60
Tetricus I	as RIC 130	270–73
Tetricus I	as RIC 121	270–73
Theodora	HK120	337–40
Constantine I	????	350–60
Carausius	rev illegible	286–93
Barb Radiate	rev Pax	270–90
Gallienus	as RIC 280	260–68
Barb Radiate	rev Altar	270–90
Constantine I	RIC 6 London 155	310–17
Carausius	RIC as 362	286–93
House of Constantine	rev illegible	330–60
illegible	illegible	200–400
Barb Radiate	rev Spes	270–90
Constantine I	as RIC 6 Trier 203a	293–305
House of Constantine	copy as HK137	345–55
House of Constantine	as HK137	345–55
House of Constantine	copy as CK25	350–60
Barb Radiate	rev Salus	270–90
Constantinopolis	copy as HK52	330–45
House of Constantine	copy as CK25	350–60
? Tetricus I	rev illegible	270–73
Carausius	as RIC 300	286–93
? Constantine I	rev illegible	307–17
Barb Radiate	rev Fides	270–90
? Claudius II	? as RIC 18	268–70
Allectus	RIC 55	293–96
Barb Radiate	rev illegible	270–90
House of Constantine	as HK447	345–48
Claudius II	RIC 266	270
? Tetricus I	as RIC 100	270–73
Maximian	RIC 6 Trier 170b	294–306
Constantine II	copy as HK88	335–45
Gallienus	RIC 330	260–68
Constans	HK148	345–48
Constantinopolis	copy as HK52	330–45
House of Constantine	copy as CK25	350–60
Constantine I	RIC 6 Trier 870	310–17
Carausius	as RIC 149	286–93
Constantinopolis	copy as HK52	330–45
Claudius II	as RIC 104	268–70
? Tetricus I	? As RIC 146	270–73
House of Constantine	copy as CK25	350–60

Table 1: The Hooks Cross find data.

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**Reading**

- AARTS, J. 2005. 'Coins, money and exchange in the Roman world. a cultural-economic perspective.' *Archaeological Dialogues* 12(1): 1–28. INST ARCH PERS.
- BOOKER, J. 1994. *Travellers' Money*. Alan Sutton, Stroud.
- CROCKETT, A. 1979. *Money. Theory, Policy and Institutions*. Nelson, Walton-on-Thames, second edition. ECONOMICS F 24 CRO.
- CRUMP, T. 1981. *The Phenomenon of Money*. Routledge and Kegan Paul, London, Boston and Henley. ANTHROPOLOGY D 220 CRU.
- DAVIES, G. 1996. *A History of Money*. University of Wales Press, Cardiff, paperback edition.
- DAVIS, J. 1992. *Exchange*. Open University Press, Buckingham. ANTHROPOLOGY D 222 DAV.
- FRAZER, E. & J. VAN DER TOUW 2010. 'The random walk': A study of coins lost and found in an urban environment.' *Numismatic Chronicle* 170: 375–405.
- GREGORY, C. A. 1982. *Gifts and Commodities*. Academic Press, London. ANTHROPOLOGY D 200 GRE.
- GRIERSON, P. 1959. 'Commerce in the Dark Ages: a critique of the evidence.' *Transactions of the Royal Historical Society*, Fifth series 9: 123–140. HISTORY PERS.
- HART, K. 1986. 'Heads or tails? Two sides of the coin.' *Man*, New series 21: 637–56. ANTHROPOLOGY PERS.
- KEMMERS, F. & N. MYRBERG 2011. 'Rethinking numismatics. the archaeology of coins.' *Archaeological Dialogues* 18(1): 87–108. INST ARCH PERS.
- MAUSS, M. 1990. *The Gift: the form and reason for exchange in archaic societies*. Routledge, London. Translated by W. D. Halls with a forward by M. Douglas. First published 1950 as *Essai sur le Don* by Presses Universitaires de France. INST ARCH BD MAU (4 ONE WEEK, TWO ISSUE DESK COPIES).
- MORRIS, I. 1986. 'Gift and commodity in archaic Greece.' *Man* 21: 1–17.
- POLANYI, K. 1957. 'The Economy as Instituted Process.' In K. Polanyi, C. M. Arensberg & H. W. Pearson (eds.), *Trade and Markets in the Early Empires*, pp. 243–270. The Free Press, Glencoe, Illinois. ANCIENT HISTORY A 68 POL; ANTHROPOLOGY D 222 POL.
- SPUFFORD, P. 1988. *Money and its use in medieval Europe*. Cambridge University Press, Cambridge. HISTORY 82 CS SPU.
- VALERI, V. 1994. 'Buying women but not selling them: gift and commodity exchange in Huaulu alliance.' *Man*, New series 29(1): 1–26. ANTHROPOLOGY PERS.

## 4.2 Numismatic History: coinage during the early Republic

This module will look at the development of coinage in Italy from the earliest Roman coins up to the introduction of the *denarius* system in 211 BC.

The essential reading for this lecture is Burnett (2012).

The standard catalogue for the Roman Republic is that by Crawford (1974) who has also produced a *corpus* of coin hoards (Crawford, 1969b). His *Coinage and Money under the Roman Republic* Crawford (1985) is an important, if controversial book (see the review by Buttrey, 1989).

### Reading

BURNETT, A. 1987. *Coinage in the Roman World*. Seaby, London. Excellent introductory book, essential reading. See review by Crawford in NC 1989, pp. 244–45. INST ARCH KM BUR (TWO AT ISSUE DESK).

BURNETT, A. 2012. ‘Early Roman coinage and its Italian context.’ In W. E. Metcalf (ed.), *The Oxford Handbook of Greek and Roman Coinage*, pp. 297–314. Oxford University Press, Oxford. ISSUE DESK IOA MET 1.

BUTTREY, T. V. 1989. ‘Review of *Coinage and Money under the Roman Republic*.’ *Classical Philology* 84(1): 68–76. CLASSICS PERS.

CRAWFORD, M. H. 1969b. *Roman Republican Coin Hoards*. Royal Numismatic Society, London. Special Publication No 4. YATES R30 CRA.

CRAWFORD, M. H. 1974. *Roman Republican Coinage*. Cambridge University Press, Cambridge. The standard catalogue of this material which should be used to reference Republican coins. YATES R30 CRA; INST ARCH ISSUE DESK KM QTO CRA.

CRAWFORD, M. H. 1985. *Coinage and Money under the Roman Republic*. Methuen, London. See review by Buttrey (1989). YATES QUARTOS R30 CRA.

MURGAN, A. M. 2014. ‘Heavy metal in hallowed contexts. continuity and change in aes deposits in Central Italy and Sicily.’ In A. Bokern & C. Rowan (eds.), *Embodying Value? The Transformation of Objects in and from the Ancient World*, volume 2592 of *International Series*, pp. 65–75, Oxford. British Archaeological Reports. INST ARCH DA QTO BOK.

## 4.3 Numismatic history: coinage during the later Republic

This lecture will look at the development of the *denarius* system under the Roman Republic. The essential reading for this lecture is Woytek (2012). Mattingly (2004, chapters 13 and 16) has some important material for the dating of issues. I have recently published a paper entitled *Mind the gap!* which looks at the pattern of coinage supply to Italy and Spain at the end of the second century BC, and the impact that has on dating (Lockyear, 2018).

### Reading

BURNETT, A. 1987. *Coinage in the Roman World*. Seaby, London. Excellent introductory book, essential reading. See review by Crawford in NC 1989, pp. 244–45. INST ARCH KM BUR (TWO AT ISSUE DESK).

- BURNETT, A. M. & M. H. CRAWFORD (eds.) 1987. *The Coinage of the Roman World in the Late Republic*, Oxford. British Archaeological Reports International Series No. 326. INST ARCH KM BUR; YATES QUARTOS R30 BUR.
- CRAWFORD, M. H. 1978. 'Trade and movement of coinage across the Adriatic in the Hellenistic period.' In R. A. G. Carson & C. M. Kraay (eds.), *Scripta Nummaria Romana. Essays presented to Humphrey Sutherland*, pp. 1–11. Spink and Son, London. YATES R6 SUT; INST ARCH KM SUT.
- HERSH, C. A. 1952. 'Sequence marks on the *denarii* of Publius Crepusius.' *Numismatic Chronicle* 112: 52–66. INST ARCH PERS.
- HERSH, C. A. 1976. 'A Study of the Coinage of the Moneyer C. Calpurnius Piso L. F. Frugi.' *Numismatic Chronicle* 136: 7–63. INST ARCH PERS.
- HERSH, C. A. 1977. 'Notes on the chronology and interpretation of the Roman Republican coinage.' *Numismatic Chronicle* 137: 19–36. INST ARCH PERS.
- KEMMERS, F. 2016. 'Coin use in the Roman Republic.' In F. Haymann, W. Hollstein & M. Jehne (eds.), *Neue Forschungen zur Münzprägung der Römischen Republik. Beiträge zum internationalen Kolloquium im Residenzschloss Dresden 19.-21. Juni 2014*, Nomismata 8, pp. 347–72, Bonn. Habelt Verlag. AVAILABLE FROM [HTTPS://WWW.ACADEMIA.EDU/38110372/COIN\\_USE\\_IN\\_THE\\_ROMAN\\_REPUBLIC](https://www.academia.edu/38110372/COIN_USE_IN_THE_ROMAN_REPUBLIC).
- LO CASCIO, E. 1981. 'State and coinage in the late Republic and early Empire.' *Journal of Roman Studies* 71: 76–86. CLASSICS PERS.
- LOCKYEAR, K. 2007. *Patterns and Process in Late Roman Republican coin hoards 157–2 BC*. British Archaeological Reports International Series 1733, Oxford.
- LOCKYEAR, K. 2018. 'Mind the Gap! Roman Republican coins hoards from Italy and Iberia and the end of the second century BC.' *Numismatic Chronicle* 178: 123–64. INST ARCH PERS.
- MATTINGLY, H. B. 2004. *From coins to history: selected numismatic studies*. University of Michigan Press, Ann Arbor. INST ARCH KM MAT.
- WOYTEK, B. E. 2012. 'The denarius coinage of the Roman Republic.' In W. E. Metcalf (ed.), *The Oxford Handbook of Greek and Roman Coinage*, pp. 315–34. Oxford University Press, Oxford. ISSUE DESK IOA MET 1.

#### 4.4 Numismatic History: the *denarius* system from Augustus to Commodus

This lecture will consider the changes in the coinage system implemented during the reign of Augustus, and then various changes and debasements that occurred thereafter.

The essential readings for this lecture are Wolters (2012), Carradice (2012), Amandry (2012), Beckmann (2012) and Yarrow (2012).

#### Reading

- ABDY, R. A. 2003. 'Worn *sestertii* in Roman Britain and the Longhorsley hoard.' *Numismatic Chronicle* 163: 137–46. INST ARCH PERS.



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- AMANDRY, M. 2012. 'The coinage of the Roman provinces through Hadrian.' In W. E. Metcalf (ed.), *The Oxford Handbook of Greek and Roman Coinage*, pp. 391–404. Oxford University Press, Oxford. ISSUE DESK IOA MET 1.
- BARRETT, A. A. 1999. 'The invalidation of currency in the Roman Empire: the Claudian demonetization of Caligula's aes.' In G. M. Paul & M. Ierardi (eds.), *Roman Coins and Public Life Under the Empire*, pp. 83–93. University of Michigan Press, Ann Arbor. INST ARCH KM PAU.
- BECKMANN, M. 2012. 'Trajan and Hadrian.' In W. E. Metcalf (ed.), *The Oxford Handbook of Greek and Roman Coinage*, pp. 405–22. Oxford University Press, Oxford. ISSUE DESK IOA MET 1.
- BREGLIA, L. 1968. *Roman Imperial Coins: their art and technique*. Thames and Hudson, London. INST ARCH KM BRE.
- BURNETT, A. 1987. *Coinage in the Roman World*. Seaby, London. Excellent introductory book, essential reading. See review by Crawford in NC 1989, pp. 244–45. INST ARCH KM BUR (TWO AT ISSUE DESK).
- BURNETT, A. 1999. 'Buildings and monuments on Roman coins.' In G. M. Paul & M. Ierardi (eds.), *Roman Coins and Public Life Under the Empire*, pp. 137–164. University of Michigan Press, Ann Arbor. INST ARCH KM PAU.
- BUTCHER, K. & M. PONTING 2005. 'The Roman denarius under the Julio-Claudian Emperors: Mints, metallurgy and technology.' *Oxford Journal of Archaeology* 24(2): 163–197. INST ARCH PERS, ALSO AVAILABLE ONLINE.
- CARRADICE, I. 1983. *Coinage and Finance in the Reign of Domitian AD 81–96*. British Archaeological Reports International Series 178, Oxford. INST ARCH KM CAR.
- CARRADICE, I. 2012. 'Flavian coinage.' In W. E. Metcalf (ed.), *The Oxford Handbook of Greek and Roman Coinage*, pp. 375–90. Oxford University Press, Oxford. ISSUE DESK IOA MET 1.
- COPE, L. H. 1967. 'Roman Imperial silver coinage alloy standards: the evidence.' *Numismatic Chronicle* 127: 107–127. INST ARCH PERS.
- DUNCAN, G. L. 1993. *Coin Circulation in the Danubian and Balkan Provinces of the Roman Empire*. Royal Numismatic Society, London. Special Publication No. 26. SEE KL.
- KING, C. E. 1999. 'Roman portraiture: Images of power?' In G. M. Paul & M. Ierardi (eds.), *Roman Coins and Public Life Under the Empire*, pp. 123–136. University of Michigan Press, Ann Arbor. INST ARCH KM PAU.
- KRAAY, C. M. 1956. 'The behaviour of early Imperial countermarks.' In R. A. G. Carson & C. H. V. Sutherland (eds.), *Essays in Roman Coinage presented to Harold Mattingly*, pp. 112–136. Oxford University Press, Oxford. INST ARCH KM MAT; YATES R 30 MAT.
- LEVICK, B. 1999. 'Messages on the Roman coinage: Types and inscriptions.' In G. M. Paul & M. Ierardi (eds.), *Roman Coins and Public Life Under the Empire*, pp. 41–60. University of Michigan Press, Ann Arbor. INST ARCH KM PAU.
- MACDOWALL, D. W. 1979. *The Western Coinages of Nero*. American Numismatic Society, New York. INST ARCH KM MAC.

- MATTINGLY, H., E. A. SYDENHAM, C. H. V. SUTHERLAND, R. A. G. CARSON, J. P. C. KENT & A. M. BURNETT 1926–1994. *Roman Imperial Coinage*. Spink, London. Ten volumes, first volume has two editions. INST ARCH KM SER ROM; YATES R30 MAT.
- REECE, R. 1970. *Roman Coins*. Ernest Benn Ltd, London. Handbook for collectors and a bit dated, but contains useful summary of the principal types, a guide to identifying coins, and a quick summary the Roman coinage of Alexandria. INST ARCH KM REE.
- REECE, R. 1977a. ‘Coinage and currency.’ *Bulletin of the Institute of Archaeology* 14: 167–178. INST ARCH PERS.
- REECE, R. 1983. ‘Coins and medals.’ In M. Henig (ed.), *A Handbook of Roman Art*, pp. 166–178. Phaidon, Oxford. YATES A 40 HEN; INST ARCH ISSUE DESK HEN.
- WOLTERS, R. 2012. ‘The Julio-Claudians.’ In W. E. Metcalf (ed.), *The Oxford Handbook of Greek and Roman Coinage*, pp. 335–55. Oxford University Press, Oxford. ISSUE DESK IOA MET 1.
- YARROW, L. M. 2012. ‘Antonine coinage.’ In W. E. Metcalf (ed.), *The Oxford Handbook of Greek and Roman Coinage*, pp. 423–52. Oxford University Press, Oxford. ISSUE DESK IOA MET 1.

#### 4.5 Dating coins, dating with coins

Coins are normally regarded by archaeologists as dating *evidence* without much appreciation that the coins themselves have to be dated. This lecture will briefly consider issues around dating coins, but will then examine the problems inherent in using coins *for* dating archaeological excavations. The essential reading for this topic is my 2012 paper.

#### Reading

- BARKER, P., R. WHITE, K. PRETTY, H. BIRD & M. CORBISHLEY 1997. *The Baths Basilica Wroxeter. Excavations 1966–90*. Archaeological Report 8. English Heritage, London. INST ARCH DAA 410 QTO BAR.
- FRERE, S. S. 1983. *Verulamium Excavations Vol. II*. Research Reports of the Society of Antiquaries of London 41. Society of Antiquaries of London, London. INST ARCH DAA 410 H.5 FRE.
- FRERE, S. S. & P. WITTS 2011. ‘The saga of Verulamium building XXVII 2.’ *Britannia* 42: 212–26.
- GUEST, P. 2008a. ‘Coins.’ In P. Booth, A. Bigham & S. Lawrence (eds.), *The Roman Roadside Settlement at Westhawk Farm, Ashford, Kent, Excavations 1998–9*, pp. 135–48. Oxford Archaeology, Oxford. INST ARCH DAA 410 QTO BOO.
- LOCKYEAR, K. 2012. ‘Dating coins, dating with coins.’ *Oxford Journal of Archaeology* 31(2): 191–211.
- NEAL, D. S. 2003. ‘Building 2, *Insula* XXVII from *Verulamium*: A reinterpretation of the evidence.’ In P. Wilson (ed.), *The Archaeology of Roman Towns*, pp. 193–202. Oxbow, Oxford.
- POULTER, A. 1995. *Nicopolis ad Istrum. A Roman, late Roman and early Byzantine City*. Society for the Promotion of Roman Studies, London.

## 4.6 Estimating the size of coin issues: the Crawford–Buttrey debate

Estimating the volume of coin production is a topic which has generated considerably more heat than light. This lecture will look at one specific case in detail, that of the production of the *denarius* during the later Republic. Unfortunately, most numismatists are uncomfortable with statistical arguments.

Essential reading is my paper (Lockyear, 1999). I have been working on a joint paper on ‘Thordeman’s Law’ which I will put on Moodle.

### Reading

- BUTTREY, S. E. & T. V. BUTTREY 1997. ‘Calculating ancient coin production, again.’ *American Journal of Numismatics*, Second series 9: 113–135.
- BUTTREY, T. V. 1989. ‘Review of *Coinage and Money under the Roman Republic*.’ *Classical Philology* 84(1): 68–76. CLASSICS PERS.
- BUTTREY, T. V. 1993. ‘Calculating ancient coin production: facts and fantasies.’ *Numismatic Chronicle* 153: 335–351. INST ARCH PERS.
- BUTTREY, T. V. 1994. ‘Calculating Ancient Coin Production II: Why it Cannot be Done.’ *Numismatic Chronicle* 154: 341–352. INST ARCH PERS.
- ESTY, W. W. 1984. ‘Estimating the size of a coinage.’ *Numismatic Chronicle* 144: 180–3. INST ARCH PERS.
- ESTY, W. W. 1986. ‘Estimation of the size of a coinage: a survey and comparison of methods.’ *Numismatic Chronicle* 146: 185–215. INST ARCH PERS.
- GRIERSON, P. 1967. ‘The volume of Anglo-Saxon coinage.’ *Economic History Review*, Second series 20: 153–160. HISTORY PERS.
- HOPKINS, K. 1980. ‘Taxes and trade in the Roman Empire.’ *Journal of Roman Studies* 70: 101–125. CLASSICS PERS.
- KINNS, P. 1983. ‘The Amphictionic coinage reconsidered.’ *Numismatic Chronicle* 143: 1–22. INST ARCH PERS.
- LOCKYEAR, K. 1999. ‘Hoard structure and coin production in antiquity — an empirical investigation.’ *Numismatic Chronicle* 159: 215–243. INST ARCH PERS; INST ARCH TEACHING COLLECTION 1921.
- LOCKYEAR, K. 2007. *Patterns and Process in Late Roman Republican coin hoards 157–2 BC*. British Archaeological Reports International Series 1733, Oxford.
- LYON, C. S. S. 1989. ‘Die estimation: some experiments with simulated samples of a coinage.’ *British Numismatic Journal* 59: 1–12.
- VOLK, T. R. 1987. ‘Mint output and coin hoards.’ In G. Depeyrot, T. Hackens & G. Moucharte (eds.), *Rythmes de la production monétaire de l’antiquité à nous jours*, Numismatica Lovaniensia, pp. 141–221. Université Catholique de Louvain, Louvain-la-Neuve. HISTORY STORE 82BS DEP.

#### 4.7 Numismatic History: the collapse of the *denarius* system from the Severans to Aurelian

This lecture will examine what happened in the third century from the introduction of a new coin, variously called the *antoninianus* or the radiate, and the reform of the coinage in the latter part of the third century.

The essential readings for this lecture are Abdy (2012a), Bland (2012) and Estiot (2012).

##### Reading

ABDY, R. 2012a. ‘The severans.’ In W. E. Metcalf (ed.), *The Oxford Handbook of Greek and Roman Coinage*, pp. 499–513. Oxford University Press, Oxford. ISSUE DESK IOA MET 1.

BLAND, R. 2012. ‘From Gordian III to the Gallic Empire.’ In W. E. Metcalf (ed.), *The Oxford Handbook of Greek and Roman Coinage*, pp. 514–37. Oxford University Press, Oxford. ISSUE DESK IOA MET 1.

BURNETT, A. 1987. *Coinage in the Roman World*. Seaby, London. Excellent introductory book, essential reading. See review by Crawford in NC 1989, pp. 244–45. INST ARCH KM BUR (TWO AT ISSUE DESK).

CASEY, P. J. 1994a. *Carausius and Allectus: the British Usurpers*. Batsford, London. INST ARCH DAA 170 CAS; INST ARCH ISSUE DESK DAA 170 CAS.

COPE, L. H. 1969. ‘The nadir of the Imperial antoninianus in the reign of Claudius II Gothicus, AD 268–270.’ *Numismatic Chronicle* 129: 145–161. INST ARCH PERS.

ESTIOT, S. 2012. ‘The later third century.’ In W. E. Metcalf (ed.), *The Oxford Handbook of Greek and Roman Coinage*, pp. 538–60. Oxford University Press, Oxford. ISSUE DESK IOA MET 1.

REECE, R. 1981a. ‘Coinage and currency in the Third Century.’ In A. King & M. Henig (eds.), *The Roman West in the Third Century*, pp. 79–88. British Archaeological Reports International Series 109(i), Oxford. INST ARCH DA 170 KIN; ANCIENT HISTORY R17 KIN.

#### 4.8 Numismatic History: the reforms of Aurelian and Diocletian

This lecture will examine the extremely important reforms of the coinage by Aurelian and Diocletian, and the various possible reconstructions of the system. Williams (1985) is good for the history of the period but his comments on the coinage are out of date, and Harl (1996) is good for references but be careful with the text.

Essential readings are Estiot (2012) and Abdy (2012b), as well as the relevant parts of the book by Hendy (1985).

##### Reading

ABDY, R. 2012b. ‘Tetrarchy and the House of Constantine.’ In W. E. Metcalf (ed.), *The Oxford Handbook of Greek and Roman Coinage*, pp. 584–600. Oxford University Press, Oxford. ISSUE DESK IOA MET 1.

- BURNETT, A. 1987. *Coinage in the Roman World*. Seaby, London. Excellent introductory book, essential reading. See review by Crawford in NC 1989, pp. 244–45. INST ARCH KM BUR (TWO AT ISSUE DESK).
- CRAWFORD, M. H. 1976. ‘Finance, coinage and money from the Severans to Constantine.’ In *Aufstieg und Niedergang der römischen Welt II/2*, pp. 560–593. ANCIENT HISTORY R 5 TEM.
- ERIM, K. T., J. REYNOLDS & M. CRAWFORD 1971. ‘Diocletian’s currency reform: a new inscription.’ *Journal of Roman Studies* 61: 171–7.
- ESTIOT, S. 2012. ‘The later third century.’ In W. E. Metcalf (ed.), *The Oxford Handbook of Greek and Roman Coinage*, pp. 538–60. Oxford University Press, Oxford. ISSUE DESK IOA MET 1.
- HARL, K. W. 1996. *Coinage in the Roman Economy, 300 B.C. to A.D. 700*. John Hopkins University Press, Baltimore and London. Excellent bibliography but many errors in the text. ANCIENT HISTORY R64 HAR.
- HENDY, M. 1985. *Studies in the Byzantine Monetary Economy*. Cambridge University Press, Cambridge.
- LO CASCIO, E. 1996. ‘How did the Romans view their coinage and its function?’ In C. E. King & D. G. Wigg (eds.), *Coin Finds and Coin Use in the Roman World*, pp. 273–288. Gebr. Mann Verlag, Berlin. INST ARCH KM KIN.
- WILLIAMS, S. 1985. *Diocletian and the Roman Recovery*. Methuen, New York.

#### 4.9 Numismatic History: Numismatic History: the fourth century from Constantine to the end of *Fel Temp Reparatio*

This lecture will look at the changes in the coinage from Constantine until the end of the *Fel Temp Reparatio* issues.

The essential reading for this lecture is Abdy (2012b).

#### Reading

- ABDY, R. 2012b. ‘Tetrarchy and the House of Constantine.’ In W. E. Metcalf (ed.), *The Oxford Handbook of Greek and Roman Coinage*, pp. 584–600. Oxford University Press, Oxford. ISSUE DESK IOA MET 1.
- BRICKSTOCK, R. J. 1987. *Copies of the Fel Temp Reparatio coinage in Britain*. British Archaeological Reports British Series No. 176, Oxford. INST ARCH DAA QTO SERIES BRI 176.
- BURNETT, A. 1987. *Coinage in the Roman World*. Seaby, London. Excellent introductory book, essential reading. See review by Crawford in NC 1989, pp. 244–45. INST ARCH KM BUR (TWO AT ISSUE DESK).
- CARSON, R. A. G., P. V. HILL & J. P. C. KENT 1978. *Late Roman Bronze Coinage*. Spink and Son, London. Originally published in two parts (Carson and Kent 1960 and Hill and Kent 1960) but later reprinted in one volume. Often abbreviated to CK and HK.
- KENT, J. P. C. 1967. ‘Fel. Temp. Reparatio.’ *Numismatic Chronicle* 127: 83–90. INST ARCH PERS.

#### 4.10 Numismatic History: the last century of Roman Coinage in the West

This lecture by Sam Moorhead will survey the final century of Roman coinage in the west.

The essential reading is Moorhead (2012).

##### Reading

- ABDY, R. 2006. ‘After Patching: imported and recycled coinage in fifth and sixth-century Britain.’ In B. Cook & G. Williams (eds.), *Coinage and History in the North Sea World, c. 500–1250*, pp. 75–98. Brill, Leiden. SEE KRIS.
- BURNETT, A. 1987. *Coinage in the Roman World*. Seaby, London. Excellent introductory book, essential reading. See review by Crawford in NC 1989, pp. 244–45. INST ARCH KM BUR (TWO AT ISSUE DESK).
- GUEST, P. S. W. 2005. *The late Roman gold and silver coins from the Hoxne treasure*. British Museum Press, London. INST ARCH DAA 410 S.7 GUE.
- GUEST, P. S. W. 2008c. ‘Roman gold and Hun kings: the use and hoarding of solidi in the late fourth and fifth centuries.’ In A. Bursche, R. Ciolek & R. Wolters (eds.), *Roman Coins outside the Empire*, pp. 295–307. Moneta, Wetteren. SEE KRIS.
- MOORHEAD, S. 2012. ‘The coinage of the Later Roman Empire, 364–498.’ In W. E. Metcalf (ed.), *The Oxford Handbook of Greek and Roman Coinage*, pp. 601–32. Oxford University Press, Oxford. ISSUE DESK IOA MET 1.
- MOORHEAD, S. & P. J. WALTON 2014. ‘Coinage at the end of Roman Britain.’ In *AD 410: The History and Archaeology of late and post-Roman Britain*, pp. 99–116. Society for the Promotion of Roman Studies, London. INST ARCH DAA 170 QTO HAA.

#### 4.11 Analysing site finds I: early methods of Casey, Reece and others

This lecture will look at how assemblages of coins from excavations have been analysed up to c. 1995, and in particular the development of coinage periods by Reece, Casey and others, and the wide variety of graphical methods used in the analysis of these assemblages.

Reece (1987a) summarises his work up to that date, and his latest book gives the results (although not the methods) since then (Reece, 2002). Papers in *Coins and the Archaeologist* are represent some important early work (Casey & Reece, 1974, 1988). There is plenty of data to play with published by Reece (1991b). The remainder of the reading list consists of some of the many useful articles published on this topic, and overlaps with the next lecture.

##### Reading

- CASEY, P. J. & B. HOFFMAN 1999. ‘Excavations at the Roman Temple in Lydney Park, Gloucestershire in 1980 and 1981.’ *The Antiquaries Journal* 79: 81–143. INST ARCH PERS.
- CASEY, P. J. & R. REECE (eds.) 1974. *Coins and the Archaeologist*. British Archaeological Reports British Series 4, Oxford. INST ARCH DAA QTO SERIES BRI 4.
- CASEY, P. J. & R. REECE (eds.) 1988. *Coins and the Archaeologist*. Seaby, London, second edition. The second edition of the classic work. Contains many fundamental papers (despite original critical review by Crawford); many papers revised, and new ones added in this edition — see the review by King in NC 1990. INST ARCH KM CAS; INST ARCH ISSUE DESK KM CAS.

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- HODDER, I. & R. REECE 1977. ‘A model for the distribution of coins in the western Roman Empire.’ *Journal of Archaeological Science* 4: 1–18. INST ARCH PERS; NATURAL SCIENCES PERS.
- HODDER, I. & R. REECE 1980. ‘An analysis of the distribution of coins in the western Roman Empire.’ *Archaeo-Physika* 7: 179–192. INST ARCH AJ SERIES ARC 7 (STORES).
- MANN, J. E. & R. REECE 1983. *Roman coins from Lincoln 1970–1979*. The Archaeology of Lincoln, Volume VI–2. Lincoln Archaeological Trust, Lincoln. INST ARCH DAA 410 L.6 SERIES LIN 6/2.
- MCKAY, B. 1992. ‘The coins.’ In D. R. Evans & V. M. Metcalf (eds.), *Roman Gates Caerleon*, Oxbow Monographs 15, pp. 87–96. Oxbow Books, Oxford. INST ARCH DAA 610 EVA.
- REECE, R. 1972b. ‘A short survey of the Roman coins found on fourteen sites in Britain.’ *Britannia* 3: 269–276. INST ARCH PERS.
- REECE, R. 1973. ‘Roman coinage in the Western Empire.’ *Britannia* 4: 227–252. INST ARCH PERS.
- REECE, R. 1974a. ‘Clustering of coin finds in Britain, France and Italy.’ In P. J. Casey & R. Reece (eds.), *Coins and the Archaeologist*, pp. 64–77. British Archaeological Reports British Series 4, Oxford. INST ARCH DAA QTO SERIES BRI 4.
- REECE, R. 1975. ‘The Coins.’ In B. Cunliffe (ed.), *Excavations at Portchester Castle, volume 1*, chapter 6, pp. 188–197. Society of Antiquaries, London. INST ARCH DAA 410 H.5 CUN.
- REECE, R. 1977a. ‘Coinage and currency.’ *Bulletin of the Institute of Archaeology* 14: 167–178. INST ARCH PERS.
- REECE, R. 1977b. ‘Coins and frontiers — or supply and demand.’ In J. Fitz (ed.), *Limes. Akten des XI. Internationalen Limeskongresses*, pp. 643–646, Budapest. Akadémiai Kiadó. INST ARCH DA 170 LIM (2ND COPY IN STORE).
- REECE, R. 1978. ‘Bronze coinage in Roman Britain and the Western Provinces, A.D. 330–402.’ In R. A. G. Carson & C. M. Kraay (eds.), *Scripta Nummaria Romana. Essays presented to Humphrey Sutherland*, pp. 124–142. Spink and Son, London. YATES R6 SUT; INST ARCH KM SUT.
- REECE, R. 1979b. ‘Roman monetary impact.’ In B. C. Burnham & H. B. Johnson (eds.), *Invasion and Response: the case of Roman Britain*, pp. 211–217. British Archaeological Reports British Series, Oxford. INST ARCH DAA QTO SERIES BRI 73.
- REECE, R. 1980. ‘Religion, coins and temples.’ In W. Rodwell (ed.), *Temples, Churches and Religion: Recent Research in Roman Britain*, pp. 115–128. British Archaeological Reports British Series 77, Oxford. INST ARCH ISSUE DESK DA 170 QTO HOR; INST ARCH DAA QTO SERIES BRI 77.
- REECE, R. 1981c. ‘The Roman coins from Richborough—a summary.’ *Bulletin of the Institute of Archaeology* 18: 49–71. INST ARCH PERS.
- REECE, R. 1982a. ‘A collection of coins from the centre of Rome.’ *Papers of the British School at Rome* 50: 116–145. CLASSICS PERS.

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- REECE, R. 1982b. 'Roman coinage in the western Mediterranean: a quantitative approach.' *Opus* 1: 341–350.
- REECE, R. 1984. 'The coins.' In S. S. Frere (ed.), *Verulamium Excavations Volume III*, pp. 3–17. Oxford Committee for Archaeology, Oxford. INST ARCH DAA 410 H.5 FRE.
- REECE, R. 1987a. *Coinage in Roman Britain*. Seaby, London. Useful summary of his methods and results up to the mid 1980s. INST ARCH DAA 170 REE; ISSUE DESK DAA 170 REE.
- REECE, R. 1987b. 'The Roman coins.' In N. Crummy (ed.), *The coins from excavations in Colchester 1971–9*, pp. 17–23. Colchester Archaeological Trust, Colchester. INST ARCH DAA E.7 COL.
- REECE, R. 1988a. 'Clustering of coin finds in Britain, France and Italy.' In P. J. Casey & R. Reece (eds.), *Coins and the Archaeologist*, pp. 73–85. Seaby, London, second edition edition. INST ARCH KM CAS (TWO COPIES, ONE AT ISSUE DESK).
- REECE, R. 1988c. *My Roman Britain*. Cotswold Studies III. Cotswold Press, Cirencester. INST ARCH DAA 170 REE.
- REECE, R. 1988e. 'Theory and practice in Roman coinage.' In P. Kos & Ž. Demo (eds.), *Studia Numismatica Labacensia*, pp. 271–278. Ljubljana.
- REECE, R. 1989. 'The Roman coins and their interpretation.' In I. M. Stead & V. Rigby (eds.), *Verulamium: the King Harry Lane site*, pp. 12–15. English Heritage, London. INST ARCH DAA 410 QTO STE.
- REECE, R. 1991a. 'Portchester revisited.' *Oxford Journal of Archaeology* 10(2): 253–260. INST ARCH PERS.
- REECE, R. 1991b. *Roman Coins from 140 sites in Britain*. Cotswold Studies IV. Cotswold Press, Cirencester, provisional edition. Essential collection of data.
- REECE, R. 1993. 'British sites and their Roman coins.' *Antiquity* 67: 863–869. INST ARCH PERS.
- REECE, R. 1994. 'The regional study of coin site-finds.' *Journal of Roman Archaeology* 7: 480–490. INST ARCH PERS.
- REECE, R. 1996. 'The interpretation of site finds—a review.' In C. E. King & D. G. Wigg (eds.), *Coin Finds and Coin Use in the Roman World*, pp. 341–355. Gebr. Mann Verlag, Berlin. INST ARCH KM KIN.
- REECE, R. 2002. *The Coinage of Roman Britain*. Tempus, Stroud. INST ARCH KM REE.
- RYAN, N. S. 1988. *Fourth Century Coin Finds in Roman Britain: a Computer Analysis*. British Archaeological Reports British Series No. 183, Oxford. INST ARCH DAA SERIES QTO BRI 183.
- WALKER, D. 1988. 'The Roman coins.' In B. Cunliffe (ed.), *The Temple of Sulis Minerva at Bath. Vol. 2: the Finds from the Sacred Spring*, pp. 281–358. Oxford Committee for Archaeology, Oxford. INST ARCH DAA 410 QTO CUN.
- WALTON, P. J. 2012. *Rethinking Roman Britain: coinage and archaeology*. Moneta, Wetteren. INST ARCH DAA 170 QTO WAL.



#### 4.12 Analysing site finds II: Reece's current methods and Lockyear's advanced methods

This lecture will look at Reece's current method for analysing site finds and compare it to the use of two statistical methods, Cluster Analysis and Correspondence Analysis.

The essential readings for this lecture are the articles by Reece (1995b) and Lockyear (2000). I have a paper in press which aims to make Correspondence Analysis clear for numismatists, a draft of which is available on my Academia.edu page (*Simplifying Complexity*, <https://ucl.academia.edu/KLockyear>).

Reports using Reece's latest method includes those by Reece (1998) and Esmonde Cleary (2001). Many of the articles listed for the previous lecture are also relevant here. Other applied numismatic papers are also listed.

#### Reading

BUTCHER, K. 2003. *Small change in Ancient Beirut. The coin finds from BEY006 and BEY045: Persian, Hellenistic, Roman and Byzantine periods*. Berytus Archaeological Studies, Beirut. INST ARCH PERS BERYTUS.

ESMONDE CLEARY, S. 2001. 'Roman coins.' In P. Leach (ed.), *Excavation of a Romano-British Roadside Settlement in Somerset. Fosse Lane, Shepton Mallet 1990*, Britannia Monographs No. 18, pp. 211–25. Society for the Promotion of Roman Studies, London.

FRAZER, E. & J. VAN DER TOUW 2010. 'The random walk': A study of coins lost and found in an urban environment.' *Numismatic Chronicle* 170: 375–405.

GARRARD, J. 2010. 'Cathedral or granary? the Roman coins from Colchester House, City of London (PEP89).' *Transactions of the London and Middlesex Archaeological Society* 61: 81–8.

GUEST, P. 2008b. 'Coins.' In P. Booth, A.-M. Bingham & S. Lawrence (eds.), *The Roman Roadside Settlement at Westhawk Farm, Ashford, Kent, Excavations 1998–9*, Oxford Archaeology Monograph No. 2, pp. 135–48. Oxford Archaeological Unit, Oxford. INST ARCH DAA 410 QTO BOO.

LOCKYEAR, K. 2000. 'Site finds in Roman Britain: a comparison of techniques.' *Oxford Journal of Archaeology* 19(4): 397–423. INST ARCH PERS.

MOORHEAD, S. 2001. 'Roman coin finds from Wiltshire.' In P. Ellis (ed.), *Roman Wiltshire and After*, pp. 85–105. Wiltshire Archaeological and Natural History Society, Devizes. INST ARCH DAA 410 W.7 ELL.

MOORHEAD, S. 2007. 'The ancient and early mediaeval coins from the Triconch Palace at Butrint, c. 2nd century BC – c. AD 600.' *Numismatic Chronicle* 167: 287–384. INST ARCH PERS.

MOORHEAD, S. & P. J. WALTON 2014. 'Coinage at the end of Roman Britain.' In *AD 410: The History and Archaeology of late and post-Roman Britain*, pp. 99–116. Society for the Promotion of Roman Studies, London. INST ARCH DAA 170 QTO HAA.

REECE, R. 1995b. 'Site-finds in Roman Britain.' *Britannia* 26: 179–206. INST ARCH PERS.

REECE, R. 1998. ‘The Roman coins.’ In J. R. Timby (ed.), *Excavations at Kingscote and Wycomb, Gloucestershire*, pp. 400–421. Cotswold Archaeological Trust Ltd., Cirencester. INST ARCH DAA 410 G.4 TIM.

WALTON, P. J. 2012. *Rethinking Roman Britain: coinage and archaeology*. Moneta, Wetteren. INST ARCH DAA 170 QTO WAL.

WALTON, P. J. 2015. ‘From barbarism to civilisation? rethinking the monetisation of Roman Britain.’ *Revue Belge de Numismatique* 161: 105–120. CONTACT KL.

#### 4.13 Practicals

Four hours of coin identification practicals.

#### 4.14 Hoards and hoarding

This lecture will examine the nature of hoarding. Why do people hoard? What uses do numismatists and archaeologists use coin hoards for? What can they tell us about patterns of coinage production and use? What are the problems and pitfalls in the interpretation of coin hoard evidence?

Essential reading consists of the two papers by Crawford (1969a) and Kent (1988). A controversial opposing view to Kent has recently been published by de Callataÿ (2017). My two papers (Lockyear, 1991, 1993) build on the earlier observations by Reece (1981b). The papers by Creighton (1994), van Arsdell (1996) and Orton (1997) form an interesting sequence papers and should be read in that order. Note, however, that Creighton and van Arsdell use different typologies. Roger Bland (2018) has recently published a useful overview of hoarding in Britain (see review by Lockyear, 2020).

BLAND, R. 2018. *Coin hoards and hoarding in Roman Britain AD 43–c. 498*. BNS Special Publication No. 13. British Numismatic Society, London. INST ARCH DAA 170 BLA.

BRADLEY, R. 1990. *The Passage of Arms: an archaeological analysis of prehistoric hoards and votive deposits*. Cambridge University Press, Cambridge. INST ARCH BC 100 BRA.

CRAWFORD, M. H. 1969a. ‘Coin hoards and the pattern of violence in the late Republic.’ *Papers of the British School at Rome* 37: 76–81. CLASSICS PERS.

CREIGHTON, J. D. 1992. ‘The decline and fall of the Icenian monetary system.’ In M. Mays (ed.), *Celtic Coinage: Britain and Beyond*, pp. 83–92, Oxford. British Archaeological Reports British Series 222. INST ARCH DAA QTO SERIES BRI 222.

CREIGHTON, J. D. 1994. ‘A time of change: the Iron Age to Roman monetary transition in East Anglia.’ *Oxford Journal of Archaeology* 13(3): 325–334. INST ARCH PERS.

DE CALLATAÿ, F. 2017. ‘Coin deposits and Civil Wars in a long-term perspective (c. 400 BC–1950 AD).’ *Numismatic Chronicle* 177: 313–338. INST ARCH PERS.

GHEY, E. 2014. *The Beau Street hoard*. British Museum Press, London. INST ARCH DAA 410 A.1 GHE.

GHEY, E. 2015. *Hoards. Hidden history*. bmp, London. INST ARCH KM GHE.

- GUEST, P. 2015. 'The burial, loss and recovery of Roman coin hoards in Britain and beyond: past, present and future.' In J. Naylor & R. Bland (eds.), *Hoarding and the deposition of metalwork from the Bronze Age to the 20th century: a British perspective*, pp. 101–16. British Archaeological Reports, Oxford. INST ARCH DAA QTO SERIES BRI 615.
- HOBBS, R. 2006. *Late Roman precious metal deposits, c. AD 200–700: changes over time and space*. BAR International Series No. 1504, Oxford. INST ARCH KEA 3 QTO HOB.
- KENT, J. P. C. 1988. 'Interpreting coin finds.' In P. J. Casey & R. Reece (eds.), *Coins and the Archaeologist*, pp. 201–217. Seaby, London, second edition. INST ARCH KM CAS (TWO COPIES, ONE AT ISSUE DESK).
- LOCKYEAR, K. 1991. 'Simulating coin hoard formation.' In K. Lockyear & S. P. Q. Rahtz (eds.), *Computer Applications and Quantitative Methods in Archaeology 1990*, pp. 195–206, Oxford. British Archaeological Reports International Series 565. INST ARCH AK SERIES COM 18.
- LOCKYEAR, K. 1993. 'Coin hoard formation revisited. . . .' In J. Andresen, T. Madsen & I. Scollar (eds.), *Computer Applications and Quantitative Methods in Archaeology 1992*, pp. 367–376, Aarhus. Aarhus University Press. INST ARCH AK SERIES COM.
- LOCKYEAR, K. 1996b. *Multivariate Money. A statistical analysis of Roman Republican coin hoards with special reference to material from Romania*. Ph.D. thesis, Institute of Archaeology, University College London. UCL THESIS STORE; OR AS A PDF FILE FROM KL.
- LOCKYEAR, K. 2007. *Patterns and Process in Late Roman Republican coin hoards 157–2 BC*. British Archaeological Reports International Series 1733, Oxford.
- LOCKYEAR, K. 2020. 'Review of *The Beau Street Hoard* and *Coin hoards and hoarding in Roman Britain*.' *Britannia* 51: 527–9. INST ARCH PERS.
- MOORHEAD, S., A. BOOTH & R. BLAND 2010. *The Frome Hoard*. British Museum Press, London. ISSUE DESK IOA MOO 15.
- ORTON, C. R. 1997. 'Testing significance or testing credulity?' *Oxford Journal of Archaeology* 16(2): 219–225. INST ARCH PERS.
- REECE, R. 1974b. 'Numerical aspects of Roman coin hoards in Britain.' In P. J. Casey & R. Reece (eds.), *Coins and the Archaeologist*, pp. 78–94. British Archaeological Reports British Series 4, Oxford. INST ARCH DAA QTO SERIES BRI 4.
- REECE, R. 1981b. 'The "normal" hoard.' In C. Carcassonne & T. Hackens (eds.), *Numismatique et Statistique*, pp. 299–308. PACT 5. INST ARCH PERS.
- REECE, R. 1988b. 'Interpreting coin hoards.' *World Archaeology* 20: 261–269. INST ARCH PERS.
- REECE, R. 1988d. 'Numerical aspects of Roman coin hoards in Britain.' In P. J. Casey & R. Reece (eds.), *Coins and the Archaeologist*, pp. 86–101. Seaby, London, second edition. INST ARCH KM CAS (TWO COPIES, ONE AT ISSUE DESK).
- REECE, R. 1995a. 'Roman coin hoards in Dacia and beyond.' *Studii și Cercetări de Numismatică* 11: 107–118. Published 1997.

ROBERTSON, A. S. 1974. ‘Romano British coin hoards: their numismatic, archaeological and historical significance.’ In P. J. Casey & R. Reece (eds.), *Coins and the Archaeologist*. British Archaeological Reports British Series 4, Oxford. INST ARCH DAA QTO SERIES BRI 4.

VAN ARSDELL, R. D. 1996. ‘A statistical analysis of Icenian coin hoards.’ *Oxford Journal of Archaeology* 15(2): 235–243. INST ARCH PERS.

#### 4.15 Copies, imitations and forgeries of coins: manufacture, epidemics, use and interpretation

The copying and forgery of coins became endemic almost as soon as coinage was invented. This lecture looks at some of the aspects of the copying of coins including the technology of copying, the difference between ‘copies’ and ‘forgeries’ and periods of endemic copying.

The essential reading for this lecture is King (1996) although Boon (1988) is extremely useful.

BOON, G. C. 1988. ‘Counterfeit coins in Roman Britain.’ In P. J. Casey & R. Reece (eds.), *Coins and the Archaeologist*, pp. 102–188. Seaby, London. INST ARCH KM CAS (TWO COPIES, ONE AT ISSUE DESK).

CRAWFORD, M. H. 1968. ‘Plated coins—false coins.’ *Numismatic Chronicle*, Seventh series 128: 55–59. INST ARCH PERS.

DAVIES, J. A. 1986. ‘The Meare Heath, Somerset, hoard and the coinage of barbarous radiates.’ *Numismatic Chronicle* 146: 107–118. INST ARCH PERS.

KING, C. E. 1978. ‘The Woodeaton (Oxfordshire) hoard and the problem of Constantinian imitations.’ *Numismatic Chronicle* 138: 38–65. INST ARCH PERS.

KING, C. E. 1996. ‘Roman copies.’ In C. E. King & D. G. Wigg (eds.), *Coin Finds and Coin Use in the Roman World*, pp. 237–263. Gebr. Mann Verlag, Berlin. INST ARCH KM KIN.

MATTINGLY, H. B. 1963. ‘The Lightwood hoard and the coinage of Barbarous radiates.’ *North Staffs Journal of Field Studies*. INST ARCH PERS.

MATTINGLY, H. B. 1971. ‘The Verulamium (1960) hoard of barbarous radiates.’ *Britannia* 2: 196–199. INST ARCH PERS.

WALKER, D. 1988. ‘The Roman coins.’ In B. Cunliffe (ed.), *The Temple of Sulis Minerva at Bath. Vol. 2: the Finds from the Sacred Spring*, pp. 281–358. Oxford Committee for Archaeology, Oxford. INST ARCH DAA 410 QTO CUN.

ZEEPVAT, R. J. 1994. ‘A Roman coin manufacturing hoard from *Magiovinium*, Fenny Stratford, Bucks.’ *Britannia* 25: 1–19. INST ARCH PERS.

#### 4.16 Thordeman’s Law and the Lohe hoard.

Thordeman’s ‘Law’ has long been cited as the reason that coin *finds* can be used as a proxy for coinage *production* and forms the basis of the estimates of the size of coinages in the Ancient world. This class re-examines the Lohe hoard and Thordeman’s paper and discusses how this impacts the use of coin finds in the ancient world.

The two key papers to be read for this class are the original paper by Thordeman (1948) and my paper re-examining the problem (Lockyear *et al.*, 2022).

LOCKYEAR, K., S. AAGAARD & M. MÄRCHER 2022. ‘The Lohe hoard revisited.’ *Numismatic Chronicle* 182: 275–312. INST ARCH PERS.

THORDEMAN, B. 1948. ‘The Lohe hoard: a contribution to the methodology of numismatics.’ *Numismatic Chronicle* 108: 188–204. INST ARCH PERS.

VOLK, T. R. 1987. ‘Mint output and coin hoards.’ In G. Depeyrot, T. Hackens & G. Moucharte (eds.), *Rythmes de la production monétaire de l’antiquité à nous jours*, Numismatica Lovanien-sia, pp. 141–221. Université Catholique de Louvain, Louvain-la-Neuve. HISTORY STORE 82BS DEP.

#### 4.17 Coinage and the Roman Economy

One would think that the study of coinage would be a key component of books on the Roman economy, but often this is not the case. This class will look at some of the macro-studies and discusses the contribution of coinage.

The essential reading for this week is the opening chapter of Elliott (2020) although the whole (quite short) book is of value.

ELLIOTT, C. P. 2020. *Economic Theory and the Roman Monetary Economy*. Cambridge University Press, Cambridge. AVAILABLE ONLINE VIA THE LIBRARY.

KATSARI, C. 2011. *The Roman Monetary System: the Eastern provinces from the first to the third century AD*. Cambridge University Press, Cambridge. ANCIENT HISTORY R 69 KAT; AND ONLINE.

KAY, P. 2014. *Rome’s Economic Revolution*. Oxford studies on the Roman economy. Oxford University Press, Oxford. ANCIENT HISTORY R 64 KAY.

TEMIN, P. 2013. *The Roman Market Economy*. Princeton University Press, Princeton, N.J. ANCIENT HISTORY R 64 TEM; ALSO ONLINE.

VON REDEN, S. 2012. ‘Money and finance.’ In W. Scheidel (ed.), *The Cambridge Companion to the Roman Economy*, pp. 266–86. Cambridge University Press, Cambridge. ANCIENT HISTORY R 64 SCH.

#### 4.18 Websites

There are lots of websites but please be careful with them. Many are written by enthusiastic but ignorant amateurs, and many are for collectors and dealers. Some useful ones include the list below.

- Royal Numismatic Society (including bibliography of articles in *The Numismatic Chronicle*).  
<http://www.numismatics.org.uk/>
- The American Numismatic Society. Lots of useful pages and links including *Numismatic Literature*.  
<http://www.numismatics.org/>
- The Numismatic Bibliomania Society. Rather odd in places but some useful parts especially the bibliography.  
<http://www.coinbooks.org/>

- The Harry Bass Foundation maintains an index of numismatic journals.  
[http://www.harrybassfoundation.org/search\\_numlit.asp](http://www.harrybassfoundation.org/search_numlit.asp)
- *De Imperatoribus Romanis*: An Online Encyclopedia of Roman Rulers and their Families.  
<http://www.roman-emperors.org/>
- The Virtual Catalog of Roman Coins.  
<http://vcrc.austincollege.edu/>
- *Coin Hoards of the Roman Republic Online* is the online version of my coinage database:  
<http://numismatics.org/chrr/>.
- *Coinage of the Roman Republic Online*: <http://numismatics.org/crro/>.
- *Online Coinage of the Roman Empire* is the online version of RIC: <http://numismatics.org/crro/>.