Contents

List of Figures .................................................................................................................................................... v
Acknowledgements ............................................................................................................................................. xi

Chapter 1: Starting point .................................................................................................................................. 1
  1 The background to this study ...................................................................................................................... 1
  2 What is coin mould? .................................................................................................................................. 3

Chapter 2: The Literature ............................................................................................................................... 5

Chapter 3: Recording coin mould: aims and methodology ........................................................................... 18
  A Aims ............................................................................................................................................................ 18
  B Methodology ............................................................................................................................................. 18
  C Resolving the theories into testable propositions ...................................................................................... 18
  D Coin Mould Recording Protocol ........................................................................................................... 30
  E Database Key version 2.6 ......................................................................................................................... 32

Chapter 4: The Henderson Collection (Braughing) coin mould assemblage ............................................... 35
  1 General observations .................................................................................................................................. 35
  2 Tray forms .................................................................................................................................................. 37
  3 Edge Profiles ............................................................................................................................................ 37
  4 Edge markings .......................................................................................................................................... 38
  5 Evidence of elaboration .............................................................................................................................. 38
  6 Methods of hole manufacture ................................................................................................................... 38
  7 Predictable relationship between base and top hole diameters ................................................................ 39
  8 Predictable relationship between base diameter and pellet module ......................................................... 40
  9 Hole depth ................................................................................................................................................ 40
  10 Control of hole volume ............................................................................................................................. 41
  11 Calcium carbonate traces ........................................................................................................................ 42
  12 Proportions of used and unused mould fragments .................................................................................. 42
  13 Grass marks, chaff marks and matting marks ......................................................................................... 43
  14 Grain casts .............................................................................................................................................. 43
  15 Inclusions and tempers ............................................................................................................................. 43
  16 Clay caps and luting ................................................................................................................................ 43
  17 Conclusions ............................................................................................................................................ 43

Chapter 5: The Ford Bridge (Braughing) assemblage .................................................................................... 46
  1 General observations .................................................................................................................................. 46
  2 Tray forms .................................................................................................................................................. 47
  3 Edge profiles .............................................................................................................................................. 48
  4 Edge markings .......................................................................................................................................... 48
  5 Evidence of elaboration .............................................................................................................................. 49
  6 Methods of hole manufacture ................................................................................................................... 50
  7 Predictable relationship between base and top hole diameters ................................................................ 50
  8 Predictable relationship between hole base diameter and pellet module ................................................. 51
  9 Hole Depth .............................................................................................................................................. 52
  10 Control of hole volume ............................................................................................................................. 53
  11 Calcium carbonate traces ........................................................................................................................ 54
  12 Proportions of used and unused mould fragments .................................................................................. 54
  13 Grass marks, chaff marks and matting marks ......................................................................................... 55
  14 Grain casts .............................................................................................................................................. 56
  15 Inclusions and tempers ............................................................................................................................. 56
  16 Clay caps and luting ................................................................................................................................ 57
Chapter 6: The Puckeridge Assemblage

1 General observations .................................................. 62
2 Tray Forms .............................................................. 62
3 Edge Profiles .......................................................... 64
4 Edge markings ........................................................... 65
5 Evidence of elaboration ............................................... 65
6 Methods of hole manufacture ...................................... 66
7 Number of holes in a tray ............................................ 67
8 Predictable relationship between base and top hole diameters ... 67
9 Predictable relationship between hole base diameter and pellet module ... 69
10 Hole depth .............................................................. 71
11 Control of volume ..................................................... 71
12 Calcium carbonate traces .......................................... 73
13 The introduction of metal into holes ............................ 74
14 Proportions of used and unused pellet mould .................. 74
15 Grass marks, chaff marks and grain casts ....................... 77
16 Inclusions in mould fabric ......................................... 78
17 Clay caps or luting? .................................................. 79
18 Raised platform mould .............................................. 80
19 Conclusions ............................................................ 81

Chapter 7: The Wickham Kennels assemblage

1 General observations .................................................. 83
2 Tray forms .............................................................. 85
3 Edge profiles ........................................................... 85
4 Edge markings ........................................................... 86
5 Evidence of elaboration ............................................... 86
6 Methods of hole manufacture ...................................... 86
7 Predictable relationship between base and top hole diameters ... 87
8 Predictable relationship between base diameter and pellet module ... 87
9 Hole depth .............................................................. 87
10 Control of hole volume .............................................. 88
11 Calcium carbonate traces .......................................... 89
12 Proportions of used and unused mould fragments ............ 89
13 Grass marks, chaff marks and matting marks .................. 90
14 Grain casts ............................................................ 90
15 Inclusions and tempers .............................................. 90
16 Clay caps and luting .................................................. 90
17 Selective deposition considered .................................. 90
18 Conclusions ............................................................ 91

Chapter 8: Small finds from Braughing/Puckeridge

1 General observations .................................................. 93
2 Fragment RR/BC/5860 ................................................. 93
3 Fragment WB/SOG 5171 ............................................. 97
4 Fragments RR/RC 01 and RR/RC 02 ............................ 100
5 Fragment RR/BER 5881 .............................................. 102

Chapter 9: The Bagendon study sample

1 General observations .................................................. 107
2 Tray forms .............................................................. 108
3 Edge profiles ........................................................... 110
4 Edge markings ........................................................... 110
5 Evidence of elaboration ............................................... 111
6 Methods of hole manufacture ...................................... 111
7 Number of holes in a tray ............................................ 113
8 Predictable relationship between base and top hole diameters ... 113
Appendix I: Some experiments in the manufacture of coin mould .................................................. 185
  1 Preamble.............................................................................................................................. 185
  2 Experiment Series 1: Making trays..................................................................................... 185
  3 Experiment Series 2: Making Holes with a Single-Pronged Dibber................................. 187
  4 Experiment series 3: Making holes with a multi-pronged dibber ..................................... 190
  5 Experiment series 4: Examining how much force is required to make a hole in wet clay with a dibber ....... 194

Appendix II: A List of British Find-Sites .................................................................................. 196

Bibliography .......................................................................................................................... 198
List of Figures

Figure 1.1: The Ford Bridge mint trench................................................................. 2
Figure 1.2: In situ coin mould at Ford Bridge......................................................... 2
Figure 1.3: Presumed method of using pellet mould............................................. 4
Figure 3.1: A completed record card, front and back........................................... 19
Figure 3.2: 'Verulamium' form tray...................................................................... 19
Figure 3.3: Verulamium form tray from Merlin Works, Leicester...................... 19
Figure 3.4: ‘Puckeridge’ form tray......................................................................... 20
Figure 3.5: 1-section profile.................................................................................. 20
Figure 3.6: An experimental 'box-mould' with one open end.............................. 21
Figure 3.7: 'Lazy S' Profile.................................................................................. 21
Figure 3.8: An experimental 'bowl-mould' with one open end.............................. 21
Figure 3.9: 'Straight section' profile................................................................. 21
Figure 3.10: 'Angled section' profile................................................................. 21
Figure 3.11: 'Rolled edge' profile......................................................................... 21
Figure 3.12: 'Overhang' profile........................................................................... 22
Figure 3.13: 'Cut and tear' banding..................................................................... 22
Figure 3.14: Results of an experiment to produce 26 holes with a controlled depth of 5mm................................................................. 27
Figure 3.15: Comparing the average depth and standard deviation for four experimental trays attempting to achieve a hole depth of 5mm................................................................. 27
Figure 4.1: Average number of holes in rows and columns for fragments with more than 5 holes................................................................. 35
Figure 4.2: Tray average thickness in the Henderson Collection expressed as percentages................................................................. 36
Figure 4.3: Comparing composition - position types expressed as percentages of the total number of individually listed fragments. ................................................................. 36
Figure 4.4: Record-card diagram of fragment HC/30........................................... 37
Figure 4.5: Edge profile distribution.................................................................... 37
Figure 4.6: Average intra-fragment standard deviations in three hole parameters compared - How careful were the mould-makers?: 39
Figure 4.7: Variability in relationship between top and base hole diameters in the Henderson Collection and the Ford Bridge assemblages expressed as percentages of the number of holes in each assemblage exhibiting both measurements. ................................................................. 39
Figure 4.8: Top diameter distribution in the Henderson Collection.................... 39
Figure 4.9: Fragment average base diameter distribution in the Henderson Collection................................................................. 40
Figure 4.10: Fragment average base diameter distribution in the Henderson Collection expressed graphically................................................................. 40
Figure 4.11: Intra-fragment diameter variation in fragments with 2 or more measurable diameters ................................................................. 40
Figure 4.12: Fragment average hole depths in the Henderson Collection........... 40
Figure 4.13: Fragment average hole depths in the Henderson Collection expressed as percentages ................................................................. 41
Figure 4.14: Hole size variation in the Henderson Collection tabulated............... 41
Figure 4.15: Average hole volume plotted against average hole base diameter. ................................................................. 41
Figure 4.16: Average intra-fragment total variation in three hole parameters in the Henderson Collection compared with experimentally generated data... 42
Figure 5.1: Average thickness measurements from the Ford Bridge assemblage compared with study averages......................................................... 46
Figure 5.2: Fragment average thicknesses expressed as percentages................... 46
Figure 5.3: Verulamium form pediment with horizontal incised guideline. Note the deformation of the apex hole................................................................. 47
Figure 5.4: Edge profile distribution.................................................................... 48
Figure 5.5: Band and lines edge marking................................................................ 48
Figure 5.6: Mould lining mark, possibly made by bast or bark................................ 49
Figure 5.7: Possible Puckeridge form fragment with 17mm diameter holes and an incised guideline................................................................. 50
Figure 5.8: Hole slighting in two axes – arrows show the characteristic flattening ................................................................................................. 50
Figure 5.9: Variability in relationship between top and base hole diameters in the Ford Bridge Assemblage................................................................. 51
Figure 5.10: Top diameter distribution................................................................. 51
Figure 5.11: Base diameter distribution by percentage......................................... 52
Figure 5.12: Homogenous base diameter distribution. Context 00 forms the first cluster, context 03 the second, and the extended third cluster is formed from contexts 04; 06; 09 and VH. ................................................................. 52
Figure 5.13: Fragment average hole depths........................................................... 53
Figure 5.14: Fragment average hole depths expressed as percentages................ 53
Figure 5.15: Base diameter plotted against volume................................................. 53
Figure 5.16: Variation within hole size groups tabulated....................................... 53
Figure 5.17: Chalk wash in mould holes, approximately 1.5mm thick at the base. ................................................................................................. 54
Figure 5.18: Signs of extreme heating - Ford Bridge and Puckeridge compared..... 55
Figure 5.19: Grass marks on tray base..................................................................... 55
Figure 5.20: Grain cast in hole base (Frag. BRR/03/096)......................................... 56
Figure 5.21: Key to Figures 5.22 and 5.23............................................................... 56
Figure 5.22: Inclusions and tempers from Ford Bridge (BRR) and Puckeridge (PUC) expressed as % of total inclusions + tempers for each site. ................................................................. 56
Figure 5.23: Chalk and shell tempers from Ford Bridge (BRR) and Puckeridge (PUC) expressed as % of individually recorded fragments................................................................. 57
Figure 5.24: Moulded platform fragment (Frag. BRR/06/006). Note vesiculation. ................................................................................................. 57
Figure 9.10: Base diameter distribution
Figure 9.11: Average intra-fragment variation in base diameter in the Bagendon 1981 material compared
Figure 9.12: Correlating hole base diameter in mm with hole volume in mm3
Figure 9.13: Ancient or modern? – Arrows indicate channels linking holes on this fragment of possible potin mould
Figure 9.14: Differential signs of heating on base and top of a single mould fragment
Figure 9.15: Grain cast on the base of a Bagendon coin mould fragment. BAG 81/20.83/Sample 9
Figure 10.1: Fragment average thicknesses in the Old Sleaford study sample expressed as percentages
Figure 10.2: Unusual orientation of hole-row to edge and corner on Fragment OS/1684
Figure 10.3: Minimum number of corners in the Old Sleaford assemblage for a range of tray sizes
Figure 10.4: Edge profile types in the Old Sleaford study sample
Figure 10.5: Edge marking on fragment OS/1693
Figure 10.6: Diastemae expressed as percentages of hole top diameter
Figure 10.7: Average intra-fragment variation in three hole parameters compared: how careful were the mould-makers?
Figure 10.8: Comparing the range in variation between base and top hole diameters, expressed as percentages, in Old Sleaford and experimental material
Figure 10.9: Possible range of base diameters for Old Sleaford coin mould
Figure 10.10: Fragment average hole depths in the Old Sleaford study sample
Figure 10.11: Fragment average hole depths in the Old Sleaford study sample expressed as percentages
Figure 10.12: Hole size variation in the Old Sleaford study sample tabulated
Figure 10.13: Average hole volume plotted against average hole base diameter
Figure 11.1: Context numbering for coin mould in the Turners Hall Farm archive
Figure 11.2: Average thicknesses for the Turners Hall Farm Assemblage compared with study averages
Figure 11.3: Thickness distribution for the Turners Hall Farm assemblage
Figure 11.4: Turners Hall Farm position type distribution compared with the study averages
Figure 11.5: Fragment 1012.55/1, after Nicky Metcalf
Figure 11.6: Using the ‘minimum trays’ formula to demonstrate a shortfall in corners in the Turners Hall Farm assemblage
Figure 11.7: Turners Hall Farm edge profile types tabulated
Figure 11.8: Fragment 1012.53/1, after Nicky Metcalf, showing relation of incised guideline to corner
Figure 11.9: Variability in relationship between top and base diameters in the Turners Hall Farm material, compared with results from experimental tray manufacture
Figure 11.10: Top diameter distribution at Turners Hall Farm compared with the study average
Figure 11.11: Average intra-fragment variation in hole base diameter at Turners Hall Farm compared with the study average and experimental hole-making
Figure 11.12: Distribution of hole base diameters in the Turners Hall Farm assemblage
Figure 11.13: Distribution of hole base diameters in the Turners Hall Farm assemblage
Figure 11.14: Distribution of intra-fragment average depth measurement from the Turners Hall Farm assemblage
Figure 11.15: Variability in base diameter and hole volume in the Turners Hall Farm assemblage tabulated
Figure 11.16: Intra-fragment average hole volume tabulated against intra-fragment average base diameter
Figure 12.1: Context and size of assemblages discussed in this work, where known
Figure 12.2: Average thicknesses for the Turners Hall Farm Assemblage compared with study averages
Figure 12.3: Assemblage average fragment sizes in mm
Figure 12.4: Effectiveness of two methods of retrieval used on the same Ford Bridge, Braughton, context
Figure 12.5: Retrieval rates for larger assemblages expressed in terms of the percentage of very small fragments of coin mould
Figure 12.7: Shortfall of shortfall expressed as percentages for a range of tray forms
Figure 12.8: Corners expressed as a percentage of all fragments in three assemblages
Figure 12.9: Shortfall in corners in the Ford Bridge and Puckeridge assemblages
Figure 12.10: Maximum number of trays of varying circumferences allowed by the total edge length in the Ford Bridge assemblage
Figure 12.11: Shortfall in edge in the Ford Bridge assemblage between actual edge length and edge length required by 46 trays of varying circumferences
Figure 12.12: Edge fragments in the larger assemblages expressed as percentages of the total number of fragments
Figure 12.13: Edge fragments in the smaller assemblages expressed as percentages of the total number of fragments
Figure 12.14: Edge and corner percentages for both larger and smaller assemblages combined
Figure 12.15: Profile type distribution in the assemblages studied expressed as percentages of total profiles per assemblage (excluding 'Cut & Tear')
Figure 12.16: Study total of instances of Type 3 and Type 4 edge profiles in the Ford Bridge, Puckeridge and Wickham Kennels assemblages
Figure 12.17: The incidence of 17 categories of edge marking across six assemblages expressed as percentages of all edge fragments
Figure 12.18: Total incidence in 6 assemblages of 17 categories of edge marking expressed as percentages of all edge fragments
Figure 12.19: Number of assemblages in which each of 17 categories of edge marking occurs
Figure 12.20: The number of assemblages in which edge markings, resolved into 4 categories, occur
Figure 12.21: Incised guideline codes used in the study
Figure 12.22: Distribution of thirteen classes of incised guideline in four assemblages of coin mould
Figure 12.23: Three possible orientations for an ‘Incised guideline’ parallel with a non-pedimental edge
Figure 12.24: Incised guideline parallel with Row 1
Figure 12.25: Incised guideline parallel with pediment edge
Figure 12.26: Common combination – IGL + IGR
Figure 12.27: Common combination – IGL + IGL
Figure 12.28: Guidelines on a near-complete Verulamium form tray originally part of the Puckeridge assemblage
Figure 12.29: Combinations of ‘incised guidelines’ at Ford Bridge and Puckeridge. ................................................................. 163
Figure 12.30: Double incised guidelines parallel with a non-pedimental edge. ................................................................. 163
Figure 12.31: Double incised guidelines parallel with Row 1. ................................................................................................. 163
Figure 12.32: Incised guidelines outlining pediment. ................................................................................................. 163
Figure 12.33: The occurrence of hole slighting and boustrophedon dibbing in seven assemblages of coin mould. ................. 165
Figure 12.34: Variability in the relationship between top and base hole diameters for 7 assemblages, expressed as assemblage percentages, compared with results generated experimentally. ................................................................. 167
Figure 12.35: Amalgamated study average variation in hole diameter. ................................................................................................. 168
Figure 12.36: Hole base diameter distribution in the Ford Bridge and Puckeridge assemblages. ......................................................... 168
Figure 12.37: Average intra-fragment depth variation in mm for eight assemblages of coin mould. ........................................ 169
Figure 12.38: ‘Depth signatures’ of seven assemblages. ........................................................................................................ 170
Figure 12.39: Average intra-fragment variation in volume in 8 assemblages. ........................................................................ 170
Figure 12.40: Inter-fragment variation in volume in six assemblages. ................................................................................ 170
Figure 12.41: Percentage of fragments in each of the study assemblages classified as Burn Category 0: ‘Unclassifiable’ ................. 173
Figure 12.42: Percentage of fragments in each assemblage studied showing no sign of heating beyond the temperature necessary for firing. ................................................................. 174
Figure 12.43: Heating Category B (Reddening only) expressed as percentages of each assemblage. ......................................................... 174
Figure 12.44: Heating Category C (Slight Vitrification and/or Vesiculation) expressed as percentages of each assemblage .... 175
Figure 12.45: Heating Category D (Extreme Heating) expressed as percentages of each assemblage. ........................................ 175
Figure 12.46: Vitrification, vesiculation and other signs of heating tabulated by location, and expressed as percentages of (Both=Top only+Base only). ................................................................................................................................. 177
Figure 12.47: How were the trays dried? – Grass marks, chaff marks and matting marks tabulated by location on the fragment, and expressed as percentages of the total number of individually listed fragments in each assemblage. ................................................................................................. 177
Figure 12.48: The incidence of grain casts in eight assemblages of coin mould. Percentages are expressed in terms of the number of individually listed fragments in each assemblage. ................................................................................................................................. 178
Figure 12.49: Inclusions and tempers expressed as percentages of the total number (2837) of individually listed fragments in the study. ................................................................................................................................. 179
Figure 12.50: Rationalising edge marking categories ........................................................................................................ 158
Figure 1.1: Box-mould with three sides. ......................................................................................................................... 186
Figure 1.2: Bowl-mould with one open end. ......................................................................................................................... 186
Figure 2.1: Tray 7 – Horizontal diameters in schematic representation .................................................................................. 188
Figure 2.4: Tray 7 – Vertical diameters in schematic representation .................................................................................. 188
Figure 2.5: Tray 7 – Hole depths in schematic representation. ................................................................................................. 188
Figure 2.6: Tray 8 – Horizontal diameters in schematic representation .................................................................................. 188
Figure 2.7: Tray 8 – Vertical diameters in schematic representation. ................................................................................................. 188
Figure 2.8: Tray 8 – Hole depths in schematic representation. ................................................................................................. 188
Figure 2.9: Tray 9 – Horizontal diameters in schematic representation ................................................................................................. 188
Figure 2.10: Tray 9 – Vertical diameters in schematic representation. ................................................................................................. 188
Figure 2.11: Tray 9 – Hole depths in schematic representation. ................................................................................................. 188
Figure 2.12: Variation in diameter in 63 holes made in wet clay with the same single-pronged dibber (horizontal diameter 14.45mm; vertical diameter 14.60mm) ................................................................................................................................................. 188
Figure 2.13: Control of depth – error margins expressed as percentages. ................................................................................................. 189
Figure 2.14: Control of depth – standard deviation and tray total variation for three experimental trays ................................................................................................................................................................................................................................................................................................. 189
Figure 2.15: Variation in experimental hole volumes. ........................................................................................................ 189
Figure 2.16: Intra-fragment hole variability in different samples of coin mould compared. ................................................................. 189
Figure 2.17: The distribution of deviation in diameter in two axes of holes made in wet clay from the diameter of the dibber used to make them. ................................................................................................................................................................................................................................................................................................. 189
Figure 2.18: Schematic representation of a sixteen-hole tray, with holes denoted by letters. ................................................................................................................................................................................................................................................................................................. 190
Figure 2.19: An experimental multi-pronged dibber. ........................................................................................................ 190
Figure 2.20: Experimental multi-pronged dibber – the spaces between prongs. ................................................................................................................................................................................................................................................................................................. 191
Figure 2.21: Experimental multi-pronged dibber – Horizontal and vertical diameters and prong lengths. ................................................................................................................................................................................................................................................................................................. 191
Figure 2.22: Tray 10 – Horizontal diameters in schematic representation .................................................................................. 191
Figure 2.23: Tray 10 – Vertical diameters in schematic representation .................................................................................. 191
Figure 2.24: Tray 10 – Hole depths in schematic representation .................................................................................. 191
Figure 2.25: Tray 11 – Hole spacings in the horizontal axis in schematic representation ................................................................. 192
Figure 2.26: Tray 11 – Horizontal diameters in schematic representation .................................................................................. 192
Figure 2.27: Tray 11 – Vertical diameters in schematic representation .................................................................................. 192
Figure 2.28: Tray 11 – Hole depths in schematic representation .................................................................................. 192
Figure 2.29: Tray 12 – Hole spacings in the horizontal axis in schematic representation ................................................................. 192
Figure 2.30: Horizontal and vertical diameters in schematic representation .................................................................................. 192
Figure 2.31: Tray 12 – Vertical diameters in schematic representation .................................................................................. 192
Figure 2.32: Tray 12 – Hole depths in schematic representation .................................................................................. 192
Figure 2.33: Total variation in hole spacing across eight dibbing iterations for three gaps in a fixed axis. ................................................................................................................................................................................................................................................................................................. 192
Figure 2.34: Tray 11 – Deviation from dibber spacing: dibber spacing subtracted from hole spacing. ................................................................................................................................................................................................................................................................................................. 193
Figure 2.35: Tray 12 – Deviation from dibber spacing: dibber spacing subtracted from hole spacing. ................................................................................................................................................................................................................................................................................................. 193
Figure 2.36: Standard deviation in diameter of holes made with single- and multi-pronged dibbers. ................................................................................................................................................................................................................................................................................................. 193
Figure 2.37: Tray total variation in diameter of holes made experimentally with single- and multi-pronged dibbers. ................................................................................................................................................................................................................................................................................................. 193
Figure 2.38: Standard deviation in diameter for 6 fragments of coin mould with 18 or more holes. ................................................................................................................................................................................................................................................................................................. 194
Figure 2.39: Tray Total Variation in diameter for 6 fragments of coin mould with 18 or more holes. ................................................................................................................................................................................................................................................................................................. 194
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Mark Landon
April 2016
Chapter 1
Starting point

1 The background to this study

In 2006, the author of this book discovered a large deposit of clay coin mould fragments eroding from a river bank in one of the Scheduled Monument Areas south of Braughing. The find was reported, and funding was provided by English Heritage for a two-day, single-trench evaluation in advance of bank stabilization work, which was carried out under the direction of Dr Jonathan Hunn of ASC Ltd. In all, nearly 10kg of mould was recovered, together with 6 kg of pottery, bone and furnace debris. Since the deposit of coin mould was increasing in thickness as it disappeared into the trench section, it is clear that much still remains in situ. Braughing Local History Society and Dr Stewart Bryant of the Hertfordshire County Council Historic Environment Unit provided funding for a programme of Energy Dispersive Spectroscopy and electron microscopy, which was carried out as part of her Masters degree by Henrietta Longden, then of Liverpool University.

However, the Ford Bridge site was not the first in Braughing to yield pellet mould.

The first assemblage to be found, the Henderson Collection, was unearthed at some point between 1935 and 1960. It comprises 64 fragments of coin mould, many of them small and abraded. Sadly, the finder has left absolutely no record of the context of the find, and only the vaguest indication of its location. A brief account, together with a short report by Craddock and Tite on the XRF analysis of the fragments for metal residues, is included in Partridge, 'Skeleton Green'. Accounts which are in some respects more detailed are included in 'Report on the Scientific Examination of Iron Age Coin Moulds' and 'The examination of refractory ceramics from metal-production and metalworking sites'.

Two small deposits of coin mould were discovered during the course of rescue excavations at Gatesbury Track and Wickham Kennels. Although most, if not all, of the Wickham Kennels material remains available for examination at Hertford Museum, it has proved impossible to locate the Gatesbury Track assemblage. Other finds from this excavation are held at Hertford Museum, but the mould is no longer with them: it has been suggested that it may have been retained by the British Museum following metal residue testing by Freestone.

Since 2006, five isolated surface finds of mould have also been made in the Braughing/Puckeridge area, all at some distance from known mint sites.

Then, in November 2008, the so-called ‘Puckeridge Assemblage’ first came to public notice. This assemblage comprises some 30 kg of coin mould fragments, 17 kg of associated pottery, around 2 kg of bone, and some fragments of white stone. It is the second largest single find of coin mould ever made. It was found, allegedly in 1999, by an anonymous amateur under circumstances that remain unclear. An unknown quantity of the material was sold on eBay, but the bulk of the material was purchased from the finder by Chris Rudd, who commissioned the full evaluation which forms the basis of Chapter 6 in the current work.

Taking all of these assemblages together, the Braughing/Puckeridge settlement becomes the largest known centre for the production of coin pellets in the whole of Europe, surpassing even Old Sleaford.

It was felt that an assemblage of the size of Ford Bridge should receive proper evaluation, and that a comparative study should be made with the other pellet mould retrieved. However, it was discovered that the literature on the manufacture and use of pellet mould is sparse, and that this was a reflection of the small amount of primary research that had taken place. As a result, for many years there has been no real progress in the subject. Claims, contentions and controversies remain unsubstantiated or unsettled since they were set out by Elsie M. Clifford in her 1960 work ‘Bagendon: A Belgic Oppidum’, and little of the continuing debate has been data-driven.

There are three main reasons for this stagnation. The first is that the study of pellet-mould morphology has been almost completely ignored. Instead, attention has been almost exclusively focussed on testing the material for metal residues. Why this should be is not clear. Were one to be facetious, one might suggest that the glamour and glitter of precious metals has perhaps bedazzled and distracted. However, even in a more serious vein, this
preoccupation is strange, not least because of the price differential: to test 1 kg of mould for metal residue will cost more than the full morphological evaluation of 14 kg. It becomes stranger still when one considers that nobody has disputed that pellet mould was made for use in a process involving molten metal. Yes, it is interesting and useful to know exactly which metals are associated with a particular assemblage, but this is only a single aspect of a class of artefacts which were part of a process which was both technologically and socially complex. The testing of pellet mould for metal residues on its own can never address many of the questions surrounding the stuff itself.

A second, and perhaps greater, obstacle to progress has been the absence of an agreed protocol for recording pellet mould. The collection and recording of morphological data has for the most part been patchy and unsystematic (although Collis\textsuperscript{12} and Bayley\textsuperscript{13} both proceeded methodically and carefully in the collection of data), at worst, nearly non-existent – to the point where it has been impossible to carry out even the most basic comparative study, because measurements have not been taken, or have not been taken using compatible methodologies.

In consequence, one of the principal aims of this study has been to evolve a recording protocol for pellet-mould designed to facilitate comparative work, and to address the major issues in the study of the manufacture and use of pellet mould.

The third reason has been the relative paucity of the material: little more than 200 kg of coin mould has been found in the whole of Europe, spread between Staštin near Bratislava in Slovakia and Bagendon in Gloucestershire, England. In the course of the present study, some 45 kg – almost 25% of all the coin mould ever found – has been examined.

\textsuperscript{12} Collis, J, in Tournaire et al. 1982.: pp. 422 – 423.
\textsuperscript{13} Bayley, J, 1979: p. 1.
Nonetheless, it should be made clear that this book is not the final word on the subject. It had been hoped originally to integrate this study of the supramicroscopic morphology of coin mould with a comprehensive programme of electron microscopy and electron dispersive spectroscopy, to be carried out by Henrietta Longden MA, then of Liverpool University. Unfortunately it proved impossible to obtain funding in time, and this book is much the poorer for it. Indeed, given the current ‘consumption of the purse’ afflicting academe, it is all too possible that this work will never take place.

Moreover, although coin mould from eight different assemblages has been studied in this work, a far larger quantity remains unexamined. Only a minute sample of the very large Old Sleaford assemblage has been subjected to the techniques evolved during this study, many other assemblages have received no attention at all, and more are coming to light at a rate of around two a year. Perhaps more seriously, no comparable work has been undertaken on coin mould from mainland Europe, and so it is not yet possible to evaluate the similarities and differences across the whole area in which coin mould was used. It is to be hoped that the recording protocol which underpins the research on which this work is based will, in due course, contribute to the resolution of these uncertainties.

In conclusion, far more information has been collected in the course of this study than has actually been used. It is to be hoped that this unused material will prove of use to future workers in this field: it will certainly be made available to anyone who wishes.

What is coin mould?

Collis, in his list of 1982, mentioned find-sites in Austria, Belgium, the Czech Republic, England, France, Germany, Luxemburg, Poland and Slovakia. Most of these discoveries have been made within the last hundred years, but the earliest recorded find of possible coin mould was apparently made in the eighteenth century at Haverhill in Suffolk - a ‘clay box’ containing coins is mentioned. It should be noted that England has so far yielded 23 assemblages, more than any other country in Europe. Possible reasons for this will be examined later in this work.

Made of clay, these moulds fall into three main types: ‘potin’ moulds, in which strips of coins joined together by sprues were cast at once, complete with the design, by pouring molten metal into holes linked by channels, and which seem in Britain to be associated with the earliest episodes of minting; ‘potsherd’ moulds, where mould-holes have been bored into a fragment of prefired ceramic, which seem to be associated with very small-scale coin manufacture; ‘pellet mould’, in which small quantities of metal were melted to make the precursors to coin flans, although this account has not been universally accepted.

It is this last type of coin mould which has been the main focus of the study which underpins this work. It is also, by a very large margin, the most common type of coin mould found.

In the most general terms, pellet mould was made by creating many cup-shaped depressions in a slab of wet clay 10mm – 28mm thick, itself usually formed in a mould and then fired. When completed, the slab is known as a ‘tray’. Several different forms bearing varying numbers of mould-holes are known.

Some specimens appear to have been tempered with powdered charcoal, some with vegetable matter, others with shell and crushed chalk; yet more have had the inner surfaces of the mould holes coated with calcium carbonate.

Experiments in casting coin pellets using this type of mould have assumed that measured amounts of metal were placed in each hole; that the tray was then placed on a bed of charcoal, and that charcoal was then heaped over the holes. The temperature necessary to achieve melting was created using a tuyère. It is then assumed that the resulting pellet was again heated (annealed) and beaten into a flan, and then possibly reheated before being impressed with a design by being struck between two dies.

By no means all of the pellet mould retrieved shows to the naked eye obvious signs of use, here to be understood as the effects of extreme heat such as vesiculation and vitrification. On the contrary, many specimens

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21 Most specimens thicker than 30 mm tend to be puffed up with vesiculation, although a possible fragment of mould from Micheldever Wood Banjo Enclosure (Fasham 1987, Fig 34, C.3) is around 50 mm thick (inf. Dr T. Moore of Durham University). (Although Dr Leo Webley of the University of Bristol disputes this identification).
22 See below, Chapter 3.
24 Longden, H, 2008: p. 17 and Fig. 10, p. 18.
which have given positive results for metal residue have shown no evidence of extreme heating beyond a blackening of surfaces. This stands in stark contrast to the experimentally derived finding of Gebhard his collaborators, that ‘The surface usually shows a noticeable degree of vitrification’. Of those specimens which do show clear signs of having been subjected to extreme heat, the majority appear to have been heated on the upper surface only, a significant minority show these traces on both upper and lower surfaces, and a very few examples have been heated to such a degree that the fabric of the mould has begun to slump.

It has been assumed by many that there is a direct link between the size of hole on a given fragment and the denomination of the coin to be produced from the blank cast in it, but this has not been demonstrated. Indeed, few subsequent accounts betray any awareness of the implications of the warnings of both Clifford and Tylecote about the variability they observed in the conformation of mould holes on a single fragment.

It should be noted that there is considerable variation in the material in several parameters. For this reason it would seem unwise to reason by analogy from one assemblage to another until it has been proved on the material that the analogy is valid.

Finally, the minting of coin is not an activity that takes place in a social or economic vacuum. Money is the physical expression of a mutable conceptual construct peculiar to the social unit producing it. Ideas of value and worth, the projection of power and the expression of prestige can govern the choice of metal and the design upon the coin, while the economic context might decide the weight and precise composition. The function of money is not a constant. It is constantly defined and redefined by the culture within which it is used.

Minting in the British Late Iron Age marks the start in these islands of a long road that leads ultimately to ideas of monetary value and function so complex and so abstract that it is impossible to generate a single, coherent definition. If we can begin to understand this initial point, we take a step towards understanding subsequent developments. That we now have good evidence that the use of this technique for minting persisted into the later C4th AD suggests we should look for evidence that native ideas about minting (and hence the coin itself) continued as the dominant local tradition right through the Roman period.

We know that people of the Iron Age imbued much of what we would regard as mundane and secular activity with symbolic significance and quasi-religious numen, and this clearly extended to coinage as well: not only are the designs upon the coins themselves freighted with symbols the meaning of which can often only be guessed at, but we can tell from the context from which many coin-hoards have been retrieved that the coin itself had a religious function. Given the relative complexity of the process chosen to make these coins, it would be unsurprising to discover that the process of manufacture was in turn enriched with symbolic meanings, and that the cultural and conceptual framework of the society producing the coins had influenced significantly the technique of minting. That the evidence suggests the continuance of this tradition until the last decades of the Roman occupation indicates, perhaps, the degree to which native British thinking remained unaffected by Romanitas – a useful counterpoint to the sneers of Tacitus.

If we start with the coin mould itself, note its archaeological context carefully enough, examine it closely enough, and consider it minutely enough, if we can reconstruct the process of which it was a part, we may begin to see points at which native British conceptualisation differed significantly both from the Roman and from our own, and from these hints perhaps glean some insights into the rich interconnectivity that informed areas of this vanished world of the mind.

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30 Ponting, M, 2015: pers. comm. ‘...this method of blank production is very ‘Native’ and not at all Roman. But I also think that it continues as the preferred method of blank manufacture at least up to the period of the so-called Barbarous Radiates – I am pretty certain that the blanks in the Fenny Stratford hoard were produced this way.’
32 Tacitus, Agricola, 21